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"We're doing the best job we can": maternal experiences of facilitators and barriers to preschoolers sleeping well in Aotearoa/New Zealand

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ABSTRACT

Objectives: This study considered sleep from a social determinants of health and socioecological perspective. It aimed to explore facilitators and barriers to 4-year-old children sleeping well, as experienced by Māori and non-Māori mothers, with low and high socioeconomic position (SEP), in Aotearoa/New Zealand.
Design: Experiential qualitative research involving face-to-face, semistructured individual interviews.
Participants: Fifteen Māori (low SEP = 7; high SEP = 8) and 16 non-Māori (low SEP = 7; high SEP = 9) mothers of preschoolers.
Measurements: Interviews were guided by questions about how preschoolers slept and what mothers thought made a difference to their child's sleep. Data were analyzed inductively using thematic analysis.
Results: Four themes were identified: "health, activity, and diet"; "sleep-promoting physical environments"; "consistency"; and "doing it our way." Children being healthy and active, sleep-conducive bedroom spaces, consistent routines, and supportive social environments assisted preschoolers to sleep well. However, broader contextual factors beyond mothers' control influenced the degree of autonomy they had over implementing sleep-supporting strategies that worked for their families. External influences included access to financial resources; parental work patterns; early childhood education service practices; access to quality housing; and affordable, culturally responsive, and respectful professional sleep advice.
Conclusion: Efforts aimed at facilitating healthy sleep among preschoolers and effective preschooler sleep interventions must go beyond simply recommending individual-focused sleep-promoting tips to include actions on the social determinants of sleep and the sociopolitical drivers that influence these.

Introduction

Sleep plays a fundamental role in young children's health, development, and behavior.[1–3] Longitudinally, short sleep duration in childhood has been associated with increased odds of overweight and obesity in later childhood and adulthood.[4] Sleep problems are common in the preschool years[5–7] and may persist if left unaddressed.[2,8] Therefore, supporting preschoolers to sleep well is important for preventing potential sleep and health problems across the life course.

Children from minoritized racial/ethnic groups and those who occupy low socioeconomic position (SEP) are more likely to experience poorer sleep health than children from dominant racial/ethnic groups or those with high socioeconomic status.[9,10] A qualitative study of predominantly low-income Latino parents of preschool-aged children (n = 18) found that although most parents implemented sleep-supporting bedtime routines, a number of environmental barriers to children sleeping well were experienced, including crowded housing, disruptive parental work patterns, and noisy and unsafe neighborhoods.[11] One-fifth (20%) of preschoolers from low-income families in the United States (n = 33; 52% Black, 39% White, 9% Other) slept in suboptimal environments that were too loud, bright, hot, or cold at least 1 to 2 nights per week, which were associated with shorter sleep durations and later sleep onset times.[12] To understand how best to support preschoolers' sleep and to address sleep inequities, children's environments and socioeconomic factors contributing to these environments must therefore be taken into account.

This study considers sleep from a social determinants of health[13,14] and associated socioecological[15,16] perspective. Thus, preschooler sleep is viewed as being situated within interconnected contextual levels ranging from the family home (eg, physical housing,

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family social relationships) and community (eg, social networks, neighborhoods) through to the broader societal context (eg, economic and political systems and policies, institutional racism). Aotearoa/New Zealand (NZ) has a history of colonization, resulting in Māori (indigenous people of NZ) being disproportionately represented in the most socioeconomically deprived neighborhoods[17] and having poorer child and adult health than non-Māori.[18,19]

There is a dearth of research on families' experiences of factors that support or inhibit preschoolers sleeping well in NZ. Whether patterns of experience differ by ethnicity and socioeconomic position is unclear. Addressing this knowledge gap is important for informing public health and clinical sleep initiatives to support all preschoolers to sleep well and to help prevent ethnic and socioeconomic sleep inequities. Taking a novel approach to preschoolers' sleep, this study aimed to explore facilitators and barriers to preschool-aged children sleeping well, as experienced by Māori and non-Māori mothers, with low and high SEP.

Participants and methods

Methods

Ethical approval was granted by the New Zealand Central Health and Disability Ethics committee (CEN/09/09/070/AM05). This study is embedded in a wider research program including the *Moe Kura: Mother and Child, Sleep and Wellbeing in Aotearoa/New Zealand* (*Moe Kura*) study, which is guided by Kaupapa Māori research principles.[20] Among other things, this indigenous approach to research centralizes and prioritizes Māori needs and aspirations for health research, and aims for equal explanatory power via equal numbers of Māori and non-Māori participants and analysis of data from Māori to the same breadth and depth as for non-Māori.[21] The Kaupapa Māori approach used in this study purposely rejected "victim-blaming" and instead prioritized a structural analysis of the data.

Recruitment

Data were collected from a subsample of women who had previously completed *Moe Kura* questionnaires when their child was 3 to 4 years old. The current study aimed to recruit a purposive sample of up to 16 Māori and 16 non-Māori women, with low and high SEP, whose *Moe Kura* children were aged 4 and who lived in the Wellington region of NZ. Sample size estimates were based on guidelines for experiential qualitative interview research[22] and resource constraints while recognizing that data saturation may be reached with fewer participants depending on the richness of the interview data.[23,24] The decision to recruit equal numbers of Māori and non-Māori mothers was driven by the Kaupapa Māori framework of the broader research program.[20] The aim to recruit mothers with both low and high SEP was to enable the exploration of sleep experiences within a range of socioeconomic environments.

Maternal ethnicity was based on women's *Moe Kura* questionnaire responses to the 2006 New Zealand Census ethnicity question.[25] Women who selected Māori with or without other ethnic groups were categorized as "Māori" and all others as "non-Māori."[26] SEP was based on New Zealand Individual Deprivation Index score (NZiDep[27]) recorded in *Moe Kura* questionnaires. NZiDep is an individual-level SEP measure based on 8 deprivation characteristics experienced in the past year. To identify potential participants, scores of 1 (0 deprivation characteristics reported) were categorized as "high SEP" and scores of 3-5 (2-8 deprivation characteristics) as "low SEP."

Study packs were sent in chronological order, with mothers of children approaching their fifth birthday being posted packs first. Packs contained an invitation letter, information sheet, and consent form. All invited women were provided with the option of being interviewed by the lead researcher (DM) who is NZ European/Pākehā (non-Māori) or a Māori member of the study team. Simultaneous recruitment and data collection started in August 2015 and finished in February 2016, at which point no new concepts were raised in interviews.

Procedures

Face-to-face, semistructured individual interviews were conducted by DM and audio recorded. One participant requested to be interviewed by a Māori researcher; however, because of time availability, she subsequently opted to be interviewed by DM. Women were given a $20 gift voucher, stickers and a picture book for their child, and a packet of cookies in appreciation of their participation. Each mother completed a brief questionnaire about herself (ethnicity, education, NZiDep), her *Moe Kura* child (age, sex, ethnicity), her household (membership, number of bedrooms), her preschooler's sleep environment (bed or bedroom sharing), and potential sleep problems ("how much of a problem for you is the time it takes your child to fall asleep?," "how much of a problem for you is your child's sleeping patterns or habits?": no problem/small problem/moderate problem/large problem).

To facilitate maternal-led discussion, an interview guide was used (Appendix A) which included the questions "how would you describe (*Moe Kura* child's sleep)?" and "what do you think makes a difference to (*Moe Kura* child's) sleep?" Interviews took approximately half an hour. Notes were made during each interview, and once completed, more detailed field notes and reflections were documented by DM. A formal reflexivity statement was prepared at the completion of the interviews (not shown).

Data analysis

Descriptive statistics of preinterview questionnaire data were produced using IBM SPSS software (version 23.0). A professional service transcribed interviews verbatim, and DM checked, amended, and deidentified transcripts. Women were offered the option of receiving a copy of their transcript either as a personal record or to provide feedback. Less than half of participants requested copies (Māori = 7, non-Māori = 6), and none returned comments.

DM analyzed interview data using Braun and Clarke's method of thematic analysis, which is a 6-phase iterative process.[22] After checked transcripts were reread and field notes and reflections were reviewed, complete coding was conducted in nVivo (version 11). Codes were generated based on text content relevant to the study's aims, and data excerpts pertaining to each code were collated. Mind maps of codes were created to identify patterns across the dataset, which DM reviewed with the authors and an independent qualitative researcher. Candidate themes, consisting of groups of codes that shared a central organizing concept, were developed, and thematic maps of candidate themes were drafted. The study's theoretical view of sleep[13–16,28] informed analyses, whereby the focus was on factors influencing child sleep at multiple contextual levels. Authors discussed and reviewed the candidate themes, which informed theme refinement by DM. The final phase was writing the manuscript, which included selecting data excerpts to illustrate themes. Research rigor was ensured by using this systematic, iterative, and reflexive method of analysis.[22]

Results

Response rates were 47% for Māori women with low SEP, 62% for Māori women with high SEP, 50% for non-Māori women with low SEP, and 82% for non-Māori women with high SEP.

Participant characteristics

Characteristics of the women who were interviewed, and their *Moe Kura* child, are summarized in Table 1. On average, Māori mothers were younger than non-Māori mothers, and all women had some form of educational qualification. The majority of women lived with a partner (73% Māori, 88% non-Māori; no same-sex partners), and 3 Māori women lived with at least 1 of their preschooler's grandparents.

All mother-child pairs shared the same Māori/non-Māori ethnic group, except for 1 dyad consisting of a non-Māori mother and a Māori child. Children were aged 4, except for 2 Māori and 2 non-Māori children who turned 5 the week of interviews. Three-quarters (73%) of preschoolers of Māori mothers and half (50%) of preschoolers of non-Māori mothers had at least 1 younger sibling. All preschoolers had their own beds, and the majority had their own bedrooms. In preinterview questionnaires, no mothers reported that their child had a large sleep problem.

Table 1
Demographic, child sleep, and household characteristics of the sample based on preinterview questionnaires, reported by maternal ethnicity

	Māori mothers	Non-Māori mothers	Māori vs non-Māori[a]
	n = 15	n = 16	*P*
Maternal demographic characteristics			
Age, y (mean [SD])	32.7 (5.8)	38.1 (5.5)	.01
Age, y (range)	20-42	27-46	
SEP based on NZiDep scores (n [%])			.87
High SEP[b] (score 1-2)	8 (53%)	9 (56%)	
Low SEP (score 3-5)	7 (47%)	7 (44%)	
Highest educational qualification (n [%])			.13
Secondary school qualification	5 (33%)	2 (13%)	
Tertiary qualification	7 (47%)	13 (81%)	
Professional, trade, technical, or other	3 (20%)	1 (6%)	
Child demographic and sleep characteristics			
Child ethnicity (n [%])			<.01
Māori	15 (100%)	1 (6%)	
Non-Māori	0 (0%)	15 (94%)	
Child sex (n [%])			.87
Female	8 (53%)	9 (56%)	
Male	7 (47%)	7 (44%)	
Children that child shares a bedroom with (n [%])			.37
0	9 (60%)	12 (75%)	
1	6 (40%)	4 (25%)	
Time *Moe Kura* child takes to fall asleep (n [%])			.27
No problem	7 (47%)	12 (75%)	
Small problem	6 (40%)	3 (19%)	
Moderate problem	2 (13%)	1 (6%)	
Large problem	0 (0%)	0 (0%)	
Moe Kura child's sleeping patterns or habits (n [%])			.86
No problem	8 (53%)	8 (50%)	
Small problem	6 (40%)	6 (38%)	
Moderate problem	1 (7%)	2 (13%)	
Large problem	0 (0%)	0 (0%)	
Household characteristics			
No. of adults living at home (median [range])	2 (1-3)	2 (1-2)	.54
No. of children living at home (median [range])	2 (1-4)	2 (1-3)	.67
No. of bedrooms in the home (median [range])	3 (2-5)	3 (2-7)	.57

[a] Independent *t* test for comparison of means, Mann-Whitney *U* test for comparison of medians, and Pearson χ^2 test for comparison of proportions between Māori and non-Māori mothers.

[b] All women in the high-SEP group had NZiDep scores of 1 at the time of interviews, except for 2 women (1 Māori, 1 non-Māori) who had NZiDep scores of 1 (no deprivation characteristics) in *Moe Kura* questionnaires and increased scores of 2 (1 deprivation characteristic) in preinterview questionnaires.

Themes

Four themes were identified: "health, activity, and diet"; "sleep-promoting physical environments"; "consistency"; and "doing it our way."

Theme: health, activity and diet

Preschoolers' health and development influenced their sleep, and many mothers used sleep-supporting strategies based on activity and diet. Broader contextual influences, including access to financial resources and the role of early childhood education (ECE) services, were evident in some accounts (the NZ government funds 20 h/wk of ECE services and Kōhanga Reo total immersion Māori "language nests" for all 3- to 5-year-olds).

When preschoolers were physically unwell or during an exacerbation of a chronic health condition, they experienced difficulties initiating or maintaining sleep.

> He has eczema so that has destroyed his sleep a lot.… The nights that he has really bad itching he can be up anywhere from 2 to 3 hours scratching and kind of rubbing and dozing off and rubbing again. So he's just miserable the next day.
> *Non-Māori mother (nm13), high SEP*

Sleep was often facilitated by addressing the health issue; however, mothers' abilities to purchase items that supported children's health, and subsequently sleep, varied by SEP. A number of women with high SEP were able to independently purchase sleep-supporting products for children, whereas some women with low SEP had restricted purchasing power.

> When he was sick I found the one thing that helped the most is one of those [steam] vaporisers. Those are like a gift from God. Every time I hear of someone that's sick I'm like "you need to go and get one", because you can hire them from the pharmacy too.… Yeah it's like $110 or something. His grandparents ended up getting one when he was little, because I was always saying "can you hire it for me, can you hire it for me?"
> *Māori māmā (m7), low SEP*

> We've invested in things like a bigger bed so that we can all sleep comfortably and high quality bedding so that the kids don't have the issue with dust mites and that kind of stuff, to try and get that sleep environment really calm and healthy. That has been the key.
> *Non-Māori mother (nm13), high SEP*

Many mothers made the connection between preschoolers sleeping well and being physically active; cognitively stimulated; eating "good", healthy foods; and going to bed without feeling hungry. Conversely, insufficient activity; activity too late in the evening; not eating a sufficient dinner; and consuming junk food, sugary foods, and drinks were viewed as negatively influencing children's sleep, particularly in relation to difficulties falling asleep.

> If she hasn't had enough exercise during the day, it might be half an hour or more where she's going "I can't sleep", calling me back in every 5 minutes and finding every excuse in the book.
> *Non-Māori mother (nm4), high SEP*

Accordingly, many mothers implemented strategies that included regular physical activity, managing the timing of activities

to ensure adequate wind down time, healthy diets, healthy bedtime snacks, and minimizing sugar and junk food. For some families, ECE services played a positive role by providing activities during the day that were mentally stimulating and physically demanding and, in some instances, promoted healthy eating.

> I used to make all of her food from scratch and there were kids coming to Kōhanga [Reo] with bags of lollies and doughnuts and all of this stuff that you wouldn't expect to be feeding to a 2 or 3 year old or even a 4 year old. But then they brought in this healthy food initiative and since then I think the whole Kōhanga has grown. The kids are more focussed.… So I think it makes a big difference with sleep, eating the right food.
> *Māori māmā (m6), high SEP*

> He sleeps better being out at childcare. If he has a day off … he tends to stay up later. He′s a bit bored and there's less stimulus during the day and he's not tired out.
> *Non-Māori mother (nm2), low SEP*

Consistent with child sleep development,[2] many preschoolers experienced nighttime fears, nightmares, and sleep terrors, and across the sample, children were at various stages of transitioning out of napping and bedwetting. Although these sleep behaviors were not necessarily modifiable, women implemented strategies to minimize negative impacts on children, including investing in bedwetting and toilet training products and providing emotional comfort and reassurance.

> I don't make him feel bad about it [bed wetting]. I mean, you can't.
> *Māori māmā (m14), high SEP*

Theme: sleep-promoting physical environments

Physical places and spaces where children slept and lived, ranging from bedrooms to wider neighborhoods, played a role in supporting or inhibiting children sleeping well. Patterns of experiences differed by SEP in relation to the degree of control that some mothers had over bedroom spaces and housing quality, which in turn influenced children's sleep.

Many women described sleep-promoting bedrooms as being temperate and including comfortable beds and bedding, comfort objects, and lighting that met children's needs, such as a night light to allay fears of the dark.

> Now she's got a super duper bed.… She's got a lovely nice cushy one. It actually could be improving her sleep.… She's got a stinky old caterpillar … and she used to suck on its nose when she was little, [there's] something about it. Whenever she's upset or tired, here you go and she's all sorted.… I think her room makes it easier for her to sleep because she's got blackout curtains. The only thing is upstairs, the whole hall is like windows so it's still really light.… But I think the darker it is the easier it is to get her to sleep, or she stays asleep longer in her room.
> *Māori māmā (m9), high SEP*

Having choice and mastery over their bedroom environment supported some preschoolers' sleep, such as having a say in how their room was decorated or having control over light when they were afraid of the dark.

> He likes his room. Once we decided they've got to go into their own rooms, he had more of a say in decorating it. So he's got a Thunderbird poster up and stuff like that.… I think he is a good sleeper because he has his own identity in his room and he's having a lot more play dates, so he wants to show kids his room.
> *Māori māmā (m3), high SEP*

A number of mothers had rules around not allowing technology, including televisions and portable screen devices, in children's bedrooms to support sleep.

> She wants to go to bed with the phone, she tries to sneak the phone in there. She will put it in her underwear if she wears a nightie to bed. So the phone would be one [thing that makes sleep difficult], but she is not allowed it because she will stay up until like midnight, just on YouTube watching My Little Pony or something, or Netflix.
> *Māori māmā (m2), low SEP*

> There's no electronics upstairs [in the bedrooms].
> *Non-Māori mother (nm5), low SEP*

A number of mothers and children preferred bedroom doors to remain open when children slept to help maintain contact. Noise was not often reported as being a barrier to sleep, and for some children, a degree of noise created a sense of connection with family, which supported their sleep.

> We've got dogs next door and people talking, so they don't seem that bothered by other noise and because it's a relatively small house they can hear if we've got the radio or TV on, or if we're clattering the dishes. It doesn't seem to bother them.… They don't like having their door shut.… So they kind of like to have the contact, being able to hear that we're there.
> *Non-Māori mother (nm4), high SEP*

Some women with high SEP acknowledged the privilege of being able to provide children with sleep-promoting environments, including good quality bedding and warm sleeping spaces, and being able to offer children the choice of having their own bedroom.

> We are very fortunate in that respect, that we've got access to good bedding and good pyjamas and heaters and a moderately warm house, even though it's not fully insulated. I don't know how people do it without that.
> *Non-Māori mother (nm13), high SEP*

A number of women with high SEP described having invested in a large parental bed that was big enough for children to sleep in when they wanted to. In contrast, for a number of women with low SEP, limited housing space meant that children did not have the option of having their own bedroom.

> Definitely his own room I think would be a big thing [to help sleep]. But I just haven't got that at the moment.
> *Non-Māori mother (nm2), low SEP*

This resulted in some families developing creative solutions to minimize sleep disruptions from siblings sharing a room.

> We did have them going to sleep [at the same time] in the same room, but they were just bouncing off each other. So when she's not there (younger sibling) goes to sleep straight away and she's been hanging out in our bedroom and reading and just chilling out in there. [Then we transfer her] when he's calmed down.
> *Māori māmā (m4), low SEP*

For some women with low SEP, poorer-quality housing had negative flow on effects to children's health and sleep.

> (*Moe Kura* child) had been very sick during the winter, just from a cold house. And it took us about three years for the landlord to

actually do something about it. So this winter, he would have had probably two colds out of the whole year which was totally different. We went to the extent of actually finding the information ourselves and handing it to the landlord because it took so long. … Well with us it was having a warmer house. I'd say the majority of the time it was warmer to be outside, so we would go out and do the gardening or go out for walks just to keep warm. And they would come home, go to bed, but sort of on and off they would toss and turn. I mean you can put all of the blankets on and think "now I'm hot and now I'm cold." So I'm thankful.
Māori māmā (m11), low SEP

Theme: consistency

Regular bedtime routines and consistent people in children's lives supported many preschoolers to sleep well, whereas inconsistency created barriers to regular sleep patterns. Family support, financial resources, parental workplaces, and ECE environments influenced this.

Most mothers described implementing bedtime routines, often involving dinner in the late afternoon or early evening, playtime, a bath or shower, brushing teeth, songs, prayers, and emotional and physical comforting from parents, such as cuddles and kisses. For the majority of families, stories were a regular part of bedtime rituals, which children and parents often enjoyed.

We always read her a story. She chooses stories and you sit and read it to her, which she always really likes.
Non-Māori mother (nm12), low SEP

Consistent and calm routines and environments provided reassurance and security.

It's the same sort of routine I think [that supports his sleep]. And knowing that someone is there, he doesn't like thinking he is alone.
Māori māmā (m3), high SEP

On the other hand, disrupted or delayed routines made it more difficult for many children to sleep.

Routine, routine, yeah definitely routine. Doing the same thing. She is very much a routine sort of a child. And if the routine changes then, even if you stay up a little bit later than normal, that just puts her out of whack.
Māori māmā (m8), high SEP

Some women with low SEP described financial restrictions influencing their options for supporting children's sleep.

We're just trying to figure out another [strategy to help child not wake too early]. There's a clock, it doesn't have numbers, it's got a light and it's got stars and the moon and stuff. So there'd be lots of stars at night time and then over the night they'd gradually go away and the sun is on it. But they're just really expensive.… So we'll figure something out for him.
Māori māmā (m13), low SEP

[Bedtime routine includes] no bath every night … but probably every second night. It is not quite as nice a bathroom as we're used to and we are also trying to save a little bit of money.
Non-Māori mother (nm6), low SEP

Technology use too close to bedtime made it more difficult for preschoolers to wind down and sleep.

If she watches it [TV] before going to sleep it takes a lot longer for her to go to sleep. Where if she watches a bit of TV like ages before and then has time to settle in bed, read a book, sing a song, she goes to bed a lot faster.
Māori māmā (m8), high SEP

To maintain consistency and minimize sleep disruptions, a number of women had rules around the type, duration, and timing of technology use before bedtime.

If I let him play Xbox right before bed then he won't want to go to bed. He′s just sort of like wired and he doesn't want to sleep. So I tried to stop that but if he's just watching a movie or something then he's usually fine as long as he can finish the end of it, then he'll happily go to bed afterwards.
Non-Māori mother (nm15), low SEP

Some Māori women received support from their own parents with whom they lived, which helped to maintain their children's sleep/wake routines.

Having the support from Mum and Dad helps with (*Moe Kura* child). To be honest I could not have done it without them.
Māori māmā (m8), high SEP

And across the sample, a number of women described sharing child sleep-related tasks with their partners, which supported preschoolers' sleep and provided opportunities for mothers to have a break.

We take turns [with the bedtime routine], so we give each other a night off.
Non-Māori mother (nm3), high SEP

People and places outside of the home also influenced sleep. A number of Māori women reported having regular arrangements with extended family to have preschoolers sleep over, which was a positive part of children's sleeping and waking routines.

They usually would spend a night, every week or every fortnight on a Friday night with their grandparents.… Yeah, it's great.
Māori māmā (m4), low SEP

A number of women who were sole parents reported disruptions to their preschooler's sleep, and sometimes their own, when children's fathers who were living outside of the home were inconsistently involved or managed sleep differently when children stayed with them.

Every time she comes home from her father's she's always really emotional. Cries all the time and yes I think it's because she's tired. But if I make sure she gets enough sleep she'll be pretty much better.… I've noticed that she's always bad when she first gets back from her father's but I don't know what goes on there. I don't think he puts them to bed very early. And I also know he gives them heaps of lollies and things I don't feed them.
Non-Māori mother (nm9), low SEP

Parents working irregular hours or doing shiftwork made consistent sleep routines challenging.

It's become easier over the years I think, learning tips and strategies to make her bedtime routine better. And it made it a lot easier with me coming off shiftwork. So it was a constant routine that I was losing.
Māori māmā (m8), high SEP

I've found with (*Moe Kura* child) it helps to keep things as regular as possible. I know that there's that ad on TV, the phone ad with the two flight attendants, that says our lives may be chaotic but she's got her routine. Yeah that is basically it. (Husband) and I have our shifts, our working schedule may be all over the place,

but these guys can rely on certain things. They have their routines.
Non-Māori mother (nm7), high SEP

When napping policies at ECE were incongruent with children's developmental stage of napping or nap management at home, issues arose.

[Now] that she's not sleeping during the day it's heaps better, because at daycare they had a compulsory sleep. We stopped the daytime napping in the weekend way before they stopped the daycare naps and they were just very reluctant to, because obviously they had everyone else asleep. But she'd sleep for two hours which meant she was still up at 9.30 pm. So now she's in a different (ECE) and they don't sleep. They might have a rest time but it's heaps better.… The day sleeping at (daycare) is probably the thing that was the hardest because it affected how tired she was when we were tired.
Māori māmā (m9), high SEP

On the other hand, consistent approaches to napping at ECE environments and home meant that children's sleep patterns remained stable across the week.

I always make sure they have some down time.… If we are out and about I'll make sure they have a video or just some time at home to calm down before we ramp it up again. And they do that at daycare too.
Non-Māori mother (nm5), low SEP

Theme: doing it our way

This theme centered around women having the confidence, experience, knowledge, and support to develop and use strategies to support their preschoolers' sleep in ways that worked for their family, regardless of what others thought. Sleep strategies were often viewed as needing to be fluid over time to meet children's changing needs.

You just kind of work out what is ok for you and that this is how your family functions and actually this is ok. And we're doing the best job we can and you can't beat yourself up about stuff.… I probably wasted more hours not sleeping worrying about what people think rather than actually worrying about the actual issue of sleep because really it's not an issue.
Māori māmā (m9), high SEP

I think the big thing I've learnt about kids' sleep from having your first child and not knowing anything and therefore trying to make sure you are doing the right thing, to having your second child and just being glad when they sleep, is that we don't even care what anyone else thinks anymore. We just do whatever works.… We're conscious that (*Moe Kura* child) should be sleeping in his own bed but at the moment it works for him to sleep with us.… So we've got that kind of mentality, this works for us.
Non-Māori mother (nm13), high SEP

Women described gaining confidence over time, often learning from experience with their first child. Many narratives incorporated the importance of recognizing and responding to children's needs.

You learn from the first time. You learn a lot more.… I think the easiest way for us was their pattern came first so they sort of taught us, like I'm tired or I'm hungry, and we sort of just ran with that. Yeah, I have to teach you but they actually taught us as well.*Māori māmā (m11), low SEP*

I think because we've kind of worked with her together, instead of forcing her to sleep in her own bed. She's kind of made those decisions herself.
Non-Māori mother (nm12), low SEP

Some women described framing sleep positively to their children, which supported preschoolers to view sleep favorably and begin to self-manage their sleep and well-being.

[If] we've been out in the morning and we're tired she'll often say to me "I need to have a sleep to make me feel better." I told her that when she was younger because when I could tell she was tired and upset I would say "maybe if you have a sleep you'll feel better" and at that time she was having naps regularly so she'd go and have a nap and then she'd wake up and I'd say "how do you feel?" and she goes "I feel much better." And now she knows if she's feeling like that then maybe it means she needs to have a sleep.
Māori māmā (m6), high SEP

Child sleep information and advice came from sources including family, friends, and online articles. Some women reflected on having had negative experiences with health professionals when children were babies or toddlers, involving feeling judged, not feeling listened to, and being given advice that did not fit with their parenting views, which deterred future help seeking.

I think the only time … was in that first year and I think it was part of Plunket [free early childhood health service], they had that sleep training nurse … and she visited and it was just a really traumatic experience. She tried to make me put him in the room to cry it out and we sat in the lounge for 40 minutes and he's just screaming in the room, and I felt like, I was crying in the end. And she's like "no you've got to be strong.… I bet you when I go he's going to fall asleep" and he didn't. It just didn't work for him, he kept screaming and screaming.… It was a nightmare, yeah a bad experience. Well I learnt for next time round for (younger sibling), I'm not going through that again.
Non-Māori mother (nm14), low SEP

And the doctor just said "well you should just do cry it out and I'll give you sleeping tablets" and I kind of looked at her and I walked out. And that's the only time I ever seeked [help] and I just dealt [with it]. I did say to her I don't do that and she was like "well I did it with my kids." Yeah she kind of just wasn't really [being] a doctor.
Non-Māori mother (nm12), low SEP

The importance of reducing financial barriers and providing sleep support services with a commitment to Māori was highlighted in views expressed by one Māori mother about participating in the *Moe Kura* study.

I'm not going to pay money to [get advice] and because I thought I was in a study with (*Moe Kura* child) so no, I thought I would ask you guys for advice because it's associated with Māori things.
Māori māmā (m12), low SEP

Drawing on the 4 themes of our study, Figure 1 depicts a socioecological model of identified factors that contribute toward preschoolers' sleep.

Discussion

This is the first qualitative study to explore mothers' experiences of facilitators and barriers to preschool-aged children sleeping well in NZ. It is novel in that it provides rich information from indigenous Māori and non-Māori women from both low and high SEP. Patterns of shared experiences in regard to factors that influence sleep at the individual child level were identified across the sample. However,

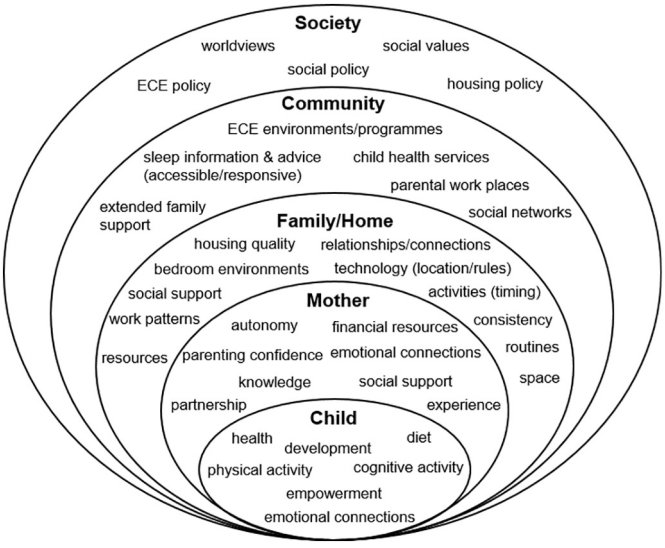

Fig. 1. Socioecological model of factors influencing preschoolers' sleep derived from the 4 themes of the study and based on socioecological models of sleep by Grandner[15] and Jackson et al.[16]

the broader social and built contexts in which children and their families lived, played, learned, worked, and connected impacted preschoolers' sleep, as did the degree of autonomy that mothers had over supporting children to sleep well.[28] Thus, we add a unique contribution to the literature by elucidating some of the mechanisms through which a mother's position in society can influence her child's sleep.

At the individual level, mothers' experiences of facilitators to preschoolers' sleep were largely consistent with common sleep-supporting recommendations such as physical activity; healthy and caffeine-free diets; consistent bedtime routines; and temperate, dark, technology-free, comfortable bedrooms.[29,30] A novel finding was that, for a number of families, a degree of noise was comforting for children and helped them to feel connected to their family and thus sleep better. This highlights some of the nuances around supporting children's sleep, which must be considered when developing sleep health promotion material. It also points to a crossover between the physical and social home environment meeting children's sleep needs.

Poor health had a negative impact on preschoolers initiating or maintaining sleep. Chronic conditions, such as eczema, affected children's and parents' sleep on a regular basis even when medical treatments and low-allergen environments were used, which is consistent with previous research.[31] Our findings highlight the clinical importance of monitoring sleep when treating chronic pediatric health conditions, which in NZ disproportionately affect Māori children and those from low SEP.[18,32] Addressing the social determinants of health is critical, as children burdened by poor health may also experience poorer sleep.

Support and advice from partners, family, and friends, and experience gained over time enhanced mothers' confidence to support their preschooler's sleep in ways that worked for them and their family. Māori women, in particular, described regular extended family support as having a positive impact on children's sleep and well-being, as well as their own. Extending beyond the nuclear family unit, the Māori collective concept of "whānau" can be viewed and defined in multiple, nonmutually exclusive ways, including shared ancestry (whakapapa whānau) and a group of people with a common purpose (kaupapa whānau).[33] One interpretation of our findings is that social policy that values, supports, and empowers social cohesion and community and family networks, including whānau, is likely to be beneficial for young children's sleep.

A number of mothers supported their preschooler's sleep in a way that empowered their child to drive what they needed to sleep well and to help children at this early age to view sleep as a positive way of managing well-being. However, the degree of control that mothers had over supporting their child's sleep varied depending on a number of external factors.

Some sole-parenting mothers faced challenges with supporting their children's sleep due to irregular involvement from, and differing approaches to sleep by, children's fathers. Ensuring that fathers and other caregivers have access to information and advice on child sleep may help to minimize sleep disruptions when children sleep across different households. Recognizing the additional challenges faced by sole parents is also important when providing clinical advice or sleep health promotion messages so as not to inadvertently burden parents with individual-level recommendations which do not take into account the wider social context. Our findings also raise the broader question of how sole parents are viewed in society and what policies and practices can be put in place to better support them.

ECE services that provided physical and cognitively stimulating activities and healthy eating programs, and implemented flexible napping policies supported preschoolers to sleep well at home. In keeping with previously reported data,[34,35] napping patterns of preschoolers ranged from napping at least part of the week to having completely stopped. Consistent with previous research,[36] when naps were enforced at ECE services but had stopped at home, children had difficulties initiating sleep at night, which was stressful for families. Our findings indicate the importance of ECE napping policies incorporating flexible approaches to napping, which are responsive to children's individual sleep needs[37] and involve good communication between the ECE and family. Ensuring that children's needs are at the center of decision making around napping and empowering parents/caregivers to drive the process are imperative. Professional development for ECE teachers and support staff that includes sleep health education[38] and a review of ECE policies at the national level is recommended to ensure that preschoolers' sleep needs can be met in a responsive fashion.

Women with high SEP, in particular, were able to invest in child sleep-promoting resources, indicating that access to financial resources is, in itself, a facilitator of preschoolers sleeping well. Addressing societal drivers of poverty and income inequities is therefore a

vital step in tackling child sleep inequities. In NZ, Māori children and children living in sole-parent homes are disproportionately burdened by poverty compared to European/Pākehā children and children living with 2 parents.[32,39] Our findings indicate that these children may be disadvantaged in sleep via a lack of financial resources available to their families to provide sleep-supporting bedrooms, which in turn may have detrimental impacts on health longer term.

Cold, damp, poorly insulated houses had a direct, detrimental impact on preschoolers' sleep, as well as an indirect influence on sleep via negative impacts on children's health. Limited space also meant that some children did not have the choice of having their own bedroom and experienced sleep disruptions due to sharing rooms with siblings. Targeted financial support for low-income families with young children, affordable housing, and improved rental housing quality may therefore be ways of supporting the sleep of preschoolers of families with low SEP. In NZ, a rental housing Warrant of Fitness tool has been developed, which assesses housing on 29 quality criteria, to address the extant issue of low-quality private rental housing.[40] Findings from the present study indicate that, although not an outcome measure in the Warrant of Fitness trial, young children's sleep may benefit from such a scheme.

Parental shiftwork and inconsistent work patterns also made implementing consistent preschooler sleep routines challenging. Mothers described having to work hard at finding ways of maintaining regular sleep/wake routines for children around changing work patterns. Young children living in shiftworking households may therefore be at a higher risk of night-to-night sleep variability or obtaining insufficient sleep. To date, research in this area is limited and results are varied. One study of 5-year-olds (n = 1818) found that maternal work patterns involving nonstandard hours were not predictive of insufficient sleep durations in children.[41] In school-aged children, associations have been found between nonstandard maternal work hours and children having longer sleep durations on week nights and later bedtimes on weekends.[42] Parental shiftwork has also been associated with children sleeping longer on weekends than children of parents with regular work hours.[43] Further investigation is needed to inform support strategies for families with nonstandard work patterns given emerging research highlighting relationships between the variability in week night to weekend sleep duration and child adiposity.[44] In NZ, Māori are more likely to be involved in night work[45] or temporary work (casual, fixed-term, seasonal, or temporary agency work: 13.0% Māori vs 8.2% European)[46] and may therefore be at greater risk of disruption to their preschoolers' sleep routines due to employment factors such as changeable work hours with limited notice. Addressing the sociopolitical drivers of why some social groups are more likely to be involved in nonstandard work hours and ensuring equitable education and work opportunities for all members of society may help prevent sleep inequities starting in early childhood.

A number of mothers did not feel listened to by health professionals and felt forced to "manage" children's sleep in ways that did not align with their parenting views, which was disempowering and lessened the likelihood of accessing support in the future. Responsiveness to Māori and affordability were also raised as important aspects of sleep services being accessible and useful. It is therefore vital that health professionals receive comprehensive training on cultural safety, implicit bias,[47] and child sleep, including a range of sleep-supporting approaches and education on the societal influences on child sleep. It is also important that indigenous sleep services are developed and that sleep support is accessible for families via existing free child health services. Given that online sleep information was accessed by a number of mothers, accurate, culturally relevant, electronic sleep resources that are freely available to parents are necessary.

Several limitations of this study must be kept in mind. Because of the qualitative nature and aims of our study, results cannot be generalized to all contexts. In preinterview questionnaires, no children were reported to have a large sleep problem; therefore, women's experiences may not be transferable to mothers of children with severe sleep problems. Families in the study predominantly lived in urban areas, so experiences in rural communities may differ. We recognize that mothers' lived experiences can only be partially understood via their narratives and that the sleep facilitators and barriers identified in our study are not exhaustive. For example, children or siblings at varying stages of development or family members with mental and physical health conditions may also influence sleep in some families. As only mothers were interviewed on this occasion, fathers' perspectives and those of other family members cannot be commented on. Data collection and analysis were influenced by DM's identity as a non-Māori woman and mother, and there was a potential power imbalance between DM as an "expert" in sleep and participants, which may have impacted mothers' accounts. Strengths of our study include the sample size, the novelty of our approach to understanding experiences and worldviews of indigenous and nonindigenous mothers, the inclusion of women who hold low SEP who are often not included in research, and the depth of understanding gained from using qualitative methodology.

Conclusions

Children being healthy and active, sleep-conducive bedroom spaces, consistent routines, and supportive social environments facilitated preschoolers in our study to sleep well. It was clear that mothers were indeed "doing the best job" they could to facilitate their preschoolers to sleep well; however, not all mothers had the same degree of autonomy over supporting their children's sleep in ways that worked for them and their family. External influences beyond women's control included access to financial resources; parental work patterns; ECE service practices; access to quality housing; and affordable, culturally responsive, and respectful professional sleep advice. Efforts aimed at facilitating healthy sleep among preschoolers and effective sleep interventions must go beyond simply recommending individual- or family-level sleep-promoting tips to include actions on the sociopolitical drivers that create inequities in the social determinants of sleep.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.sleh.2019.01.005.

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