

RESEARCH ARTICLE



# Food insecurity as experienced by New Zealand women and their children

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## ABSTRACT

Food insecurity, defined as uncertainty in reliably accessing adequate quantities of nutritious food, is an issue for many families and children, including in New Zealand. Drawing on the experiences of mothers, this study explored the nature, causes and impact of food insecurity for their families. Semi-structured face-to-face interviews conducted with six female sole-parents were complemented with food insecurity data from the NZ Health Survey and Youth2000 surveys. Interviews were audio-recorded, transcribed and emergent themes analysed. The major driver of food insecurity was low income relative to essential household outgoings. Coping strategies employed invariably involved reducing the quantity and quality of food consumed. Negative impacts of food insecurity included significant stress, neglect of personal needs and missing meals in favour of children. Concerns expressed for children included reduced provision of nutritious food and constrained social and recreational opportunities. Participants described the daily struggle of feeding their household despite personal sacrifices, a range of coping strategies and community support. Quantitative data showed persistent high prevalence of household food insecurity with inequity by ethnicity and disability status. Findings highlight food insecurity as an ongoing public health issue for which urgent action is required to reduce its damaging impacts on families and children.

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## Introduction

Food security is defined as regular and reliable access to sufficient nutritious food which meets cultural needs and has been acquired in a socially acceptable way (Anderson 1990). Food insecurity exists when there is limited or uncertain ability to access sufficient nutritionally-adequate food (Anderson 1990; Holben 2006). The experience of food insecurity may include relying on charitable food assistance and experiencing anxiety or stress due to difficulties obtaining food (Parnell 2005; Holben 2006; Smith et al. 2010).

As in many developed countries, food insecurity is a prominent public health issue in New Zealand. The only National Children's Nutrition Survey, conducted in 2002,

showed that nearly half of all households with children reported some degree of food insecurity (Parnell et al. 2003). National Health Survey data from 2015/16 showed 19.0% of children were living in households experiencing severe-to-moderate food insecurity (Ministry of Health 2019). Food insecurity was experienced more often in households with the largest number of children, by those living in the most deprived areas (Atkinson et al. 2019), and by children of Māori and Pacific ethnicity compared to NZ European and other ethnic groups (Russell et al. 1999; Parnell et al. 2001, 2003; Parnell 2005).

Trends from food banks operated by charitable non-governmental organisations (NGOs) in New Zealand show an alarming increase in demand for food parcels, with calls for urgent action (Auckland City Mission 2018; Johnson 2018; Auckland City Mission 2019; Child Poverty Action Group 2020; Tanielu 2021). The Auckland City Mission, a major provider, reported annual food parcel demand increased from 5,329 to 34,120 food parcels (almost 6.5-fold) between 2008–09 and 2019–20 (Child Poverty Action Group 2020).

Economic deprivation is the strongest determinant of food insecurity (Rose 1999; Tarasuk 2005; Carter et al. 2010). Research in New Zealand suggests that food insecurity is largely attributable to limited resources, with household income the strongest predictor (Carter et al. 2010; Ministry of Health 2019). Carter et al. (2010) observed a strong inverse linear relationship between income and food insecurity, with those in the lowest income quintile having four times the odds of being food insecure compared to those in the highest income quintile. Although households affected by food insecurity and low-income overlap considerably, they are not identical (Olabiyi and McIntyre 2014; Parnell and Smith 2008; Rose 1999). Volatility of disposable income has been suggested in part as an explanation for this phenomenon (Rose 1999; Chen and Che 2001; Gundersen and Gruber 2001; Schneider and Harknett 2017). However, given low-income households are the most susceptible to this volatility, and often lack savings, they are most vulnerable to food insecurity (Gundersen and Gruber 2001; Bartfield and Collins 2017).

The negative effects of food insecurity on wellbeing and health status are well documented. Food insecure adults are more likely to report poorer mental health (Siefert et al. 2001; Vozoris and Tarasuk 2003; Carter et al. 2011; Dressler and Smith 2015), higher rates of chronic disease (Vozoris and Tarasuk 2003; Tarasuk 2005) and compromised energy and nutrient intake (Rose 1999; Parnell 2005; Smith et al. 2013a; Parnell and Gray 2014). Food insecurity poses serious risks to child health, development, behaviour and academic outcomes (Cook and Frank 2008; Smith et al. 2010; Ministry of Health 2019; Schlichting et al. 2019; Oyama 2021). This is in part attributable to poor nutrition and insufficient food (Cook and Frank 2008; Zamora-Sarabia et al. 2019). Additionally, flow-on effects from parental food insecurity, including mental illness, low energy, and household stress, can impact upon children's care and development (Cook and Frank 2008; Zamora-Sarabia et al. 2019).

Previous research into food insecurity in New Zealand has focused on creating and using tools to effectively measure food insecurity (Russell et al. 1999; Parnell et al. 2001, 2003; Parnell 2005; Parnell and Gray 2014; Schlichting et al. 2019), exploring its determinants (Bowers et al. 2009; Carter et al. 2010; Child Poverty Action Group 2019; Reynolds et al. 2020), quantifying food bank usage and trends (Wynd 2005;

McPherson 2006; Johnson 2018; Auckland City Mission 2019; Child Poverty Action Group 2020), and beginning to understand the experiences, environmental factors and potential solutions for Māori and Pacific households in particular (Cheer et al. 2002; Lanumata et al. 2008; Bowers et al. 2009; Rush and Rusk 2009; Smith et al. 2010; McKerchar et al. 2015; Moeke-Pickering et al. 2015; Stein 2018; Graham et al. 2018a; Beavis et al. 2019; Oyama 2021).

There has been minimal published qualitative research exploring the complex lived experience for those who are food insecure, and the circumstances and experiences of specific household types, particularly low-income sole-parent families headed by women. Previous research has indicated such households have a high prevalence of food insecurity (Dowler and Calvert 1995; Chen and Che 2001; Parnell et al. 2003; Carter et al. 2010; McNeill 2011). Our study explored aspects of the lived experience of food insecurity among low-income female sole-parents and their children in a New Zealand city, supplemented with household food insecurity data identified in two nationwide surveys.

This study aimed to examine the interplay of factors contributing to food insecurity, investigate the impacts on the families concerned, ascertain the coping strategies adopted by the women and identify solutions that could meet the needs of food insecure families and communities. Additionally, data from the New Zealand Health Survey (NZHS) and the Youth2000 series were reviewed to provide a quantitative determination of rates of reported household food insecurity, both during and since the qualitative interviews.

## Methodology

### *Qualitative interviews*

Ethics approval for this qualitative study to investigate the lived experience of food insecurity was granted by the University of Otago Human Ethics Committee (reference D15/347) and was funded through a medical summer scholarship for the first author. Interviews were conducted between November 2015 and February 2016. Collectively, the authors brought experience in witnessing food insecurity, conducting and presenting qualitative and quantitative research related to food insecurity, child poverty and nutrition, working within low-income communities, and advocating to reduce food insecurity in Aotearoa New Zealand. Together they have experience in applying health research to facilitate solutions within communities.

Participants were female sole-parents currently or recently experiencing serious difficulty in provisioning their household (i.e. relying on food donations, going without adequate quantities of food on a regular basis) and recruited through a locally-based non-governmental social support agency in a New Zealand city. Additional inclusion criteria were having at least one child aged under 10 years in their care, not currently living with a male partner, being able to converse comfortably in English, and being available to meet face-to-face.

For the mothers' safety and comfort, agency workers approached potential participants identified from within their caseloads, explained the study using information sheets provided by the researchers, and sought permission for the researcher to meet them. Purposive sampling was used and six women met the inclusion criteria and

participated. Written informed consent was obtained prior to interviewing and free childcare was offered through the agency to facilitate participation. Interviews were conducted face-to-face either in a private meeting room at the agency office or in a participant's home, depending on their preference.

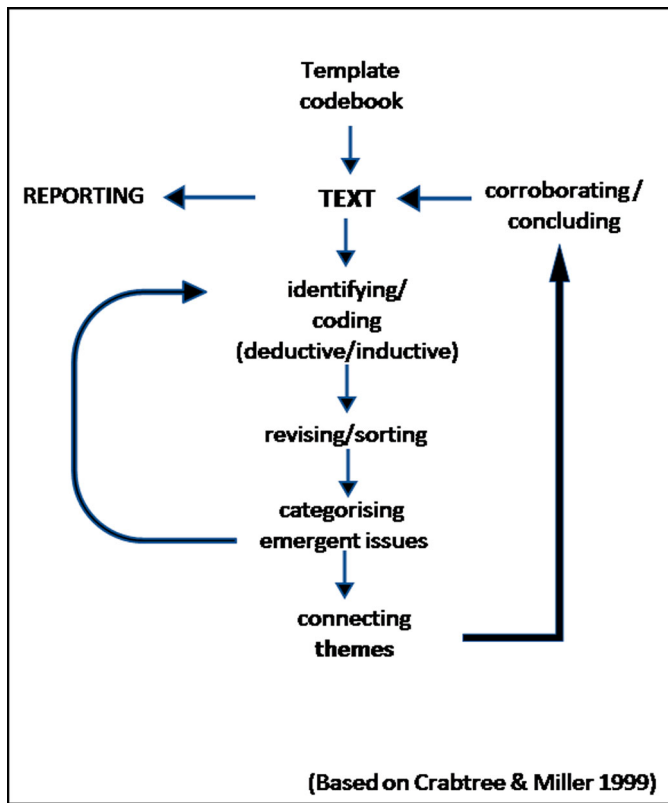
A semi-structured, open-ended and pre-tested interview schedule was used to explore mothers' experiences in providing food for their households. The interview guide drew upon previous New Zealand research on food insecurity (Parnell 2005), qualitative research on parenting insights (Simpson et al. 2009; Simpson et al. 2013), and incorporated feedback from pilot interviews on how best to maintain a flow of information. The first author undertook the responsive interviews, beginning by describing the research intent, her own background, the interview process, and how information gathered would be analysed and reported. The mothers were then engaged in conversations about their family, their living situation, food purchasing and preferences, methods for obtaining food, and prompted to reflect upon experiences of providing meals for their family, and how they managed. Short- and long-term solutions were sought by asking their advice for similarly placed mothers and ways to address food insecurity more broadly. An interpretive constructivist approach was used, which enabled both expected responses and common experiences, and diverse views and observations to emerge. Interviews ranged between 35 and 80 minutes, were audio recorded and transcribed verbatim. Participants were offered a copy of their transcript. A \$20 grocery voucher and fruit basket were offered to participants in recognition of their time.

The analysis followed the template organising style of Crabtree and Miller (1999) (Figure 1). The first two authors independently coded the narratives using contextual phrases. Coding was further revised and sorted following discussion and agreement between the coders. Deductive and inductive coding were categorised reflecting existing issues noted in food insecurity and material hardship literature as well as incorporating new or divergent findings. The categories were further examined for connections, and themes were subsequently identified. Conclusions were drawn following corroboration of the themes, the narratives themselves, and the statistical data examined in this study.

### ***Descriptive statistics: household food insecurity in surveys***

Descriptive statistics from the New Zealand Health Survey (NZHS) and Youth2022 publications were reviewed and presented to provide an indication of the magnitude of food insecurity in New Zealand, during and since the qualitative research. The New Zealand Health Survey (NZHS) collects information from a representative sample of New Zealand households to support development and evaluation of health policy (Ministry of Health 2020). The NZHS data are collected for the year 1 July to 30 June. The Youth19 Rangatahi Smart Survey (Youth19) is the most recent in the Youth2000 series of adolescent health and wellbeing surveys – undertaken since 1999 to inform policy, practice and research in New Zealand and internationally (Roy et al. 2021).

Caregivers of children aged under 15 years answered questions about household food security in the NZHS 2012/13, 2014/15, 2015/16 and 2019/20 surveys (Ministry of Health 2020). A summary index of household food insecurity was developed using food insecurity data up to and including 2015/16 (Ministry of Health 2019). A single question in the 2019/20 NZHS asked about households running out of basics like bread because they do



**Figure 1.** Template for analysis based upon Crabtree and Miller (1999).

not have enough money (Duncanson et al. 2021). As a marker of food insecurity, the Youth2000 surveys asked, ‘Do your parents, or the people who act as your parents, ever worry about ... not having enough money to buy food?’ with responses ‘sometimes’, ‘often’ or ‘all the time’ (Roy et al. 2021).

## Findings

### *Lived experience of food insecurity*

Six sole-parent women participated in individual interviews, each with between one and four dependent children in their care (aged between 0 and 13 years). The primary income for each was social assistance, either a Government Work and Income New Zealand (WINZ) benefit or a student allowance. All had faced food insecurity, with varying degrees of impact. Two had relied on weekly food donations or meals from members of their extended family, while four had relied for several weeks at a time on local food banks to meet their needs.

All the women stated they were forced to compromise the quality and quantity of the food items they purchased, and most experienced anxiety and stress trying to acquire an adequate quantity of nutritious food. Several reported regularly missing meals and occasionally experiencing significant hunger. All highlighted the complexities associated

with living on low-incomes, and some believed that the wider public neither fully understood nor cared to understand their daily plight. Most of the women were troubled by the difficulty of feeding their families and several wondered how their struggle could be so enduring, especially given New Zealand's relative affluence.

It's the third world problems that none of us should have, like let's choose, do we want to eat or do we pay that bill?

Five themes emerged from the analysis that were particularly pertinent to these women's experiences of food insecurity, namely: the reasons for their households' food insecurity, the coping strategies employed, the perceived negative effects on themselves and their children, and the factors or solutions that could improve their situation.

### ***Factors contributing to food insecurity***

Among the complex interplay of factors contributing to household food insecurity, the major driver for all women was low income relative to household costs. Other factors were also mentioned, including: the impact of unexpected expenses; the relatively high cost of basic food items; the impact of non-food items on the grocery budget; the high price of healthy foods; the logistics of purchasing food; the consequences of variability in the number, age and stage of their children; and the distinctive challenges of children being home all day in the weekends and holidays. The latter included financial and practical challenges, including keeping children entertained, occupied and fed during the day, with more limited social and recreational activities and frequent requests for food.

Low incomes relative to essential household outgoings resulted in minimal disposable income available for food. Priority was typically given to paying rent and electricity, followed by other fixed expenses, such as phone, internet, rubbish collection and debt repayments. These took precedence over food:

So basically, you've got to get into a house, and cover bond and all the weeks [of rent] in advance and pay rent off [of] nothing, and put food on your table for your kids, I just can't work out New Zealand sometimes ... 'cause who can do that? You know, it's impossible!

Unexpected or unbudgeted expenses contributed to significant fluctuations in the women's remaining disposable income. Examples included car or appliance repair costs, school trip fees, and health-related expenses including personal prescriptions or appointment charges. Most of these households had few, if any, savings and no financial buffer, so unexpected expenses caused emotional stress, exacerbated debt levels and left even less money for food.

The women regarded their grocery budget as the only significant area of financial discretion. Compromising the quality, quantity and nutritional value of food consumed became one of the few ways of balancing the weekly budget. As one said:

Like I got a [large] power bill earlier in the year and I honestly thought I was reading it wrong and was seeing the decimal point in the wrong place, and that threw an epic spanner in the works for six weeks while I sorted that one out, which meant basically halving what I had to spend on food!

The high cost of many basic food items, particularly milk, meat, fruit, and vegetables was another contributing factor. Many women were concerned that healthier food items were often more expensive than non-healthy items, impacting upon their ability to buy healthy and nutritious food. They reported regularly running out of milk, not being able to afford fresh fruit and vegetables, and having to economise significantly on the type of meat purchased. Some women rarely, if ever, purchased meat, while others could only afford limited quantities of poor quality meat which they perceived lacked appropriate nutritional value:

... you want to give your children decent meat but half of the time you're just having to buy all the crap processed stuff, like sausages ... it would be nice to be able to give your kids decent healthy meat that's all full of iron and what not ...

Accessing food was also a challenge. Half the women lacked reliable access to a car which reduced the number of trips they could make to food outlets and the quantity of food they could physically carry. Transport costs also had to come from the grocery budget and at times women lacked the funds to afford public transport even when buses were available. One participant observed that a car provided greater flexibility to seek bargains across several stores but this involved extra time and fuel costs.

For several women, the challenges of providing sufficient food were exacerbated by factors such as their children's shared-care arrangements, healthcare needs, fluctuating developmental needs, and in particular, growth spurts during childhood and adolescence. Specific costs were nappies, wet wipes and formula for infants, personal hygiene products for older girls, and regular medical visits for children with chronic conditions. The women also highlighted that the 'grocery budget' included both food and non-food items, such as cleaning products and the items mentioned above. Sometimes non-food items were prioritised over food items, further exacerbating food insecurity.

For many women, food insecurity made weekends, holidays, and birthdays particularly difficult. Paying for recreational activities, buying presents, and entertaining their children with limited resources generated additional stress and left less money for food. Several noted that food stocks often ran low towards the end of the week, making weekends especially challenging. All identified that the Christmas holidays were a time of particular hardship, as one lamented:

I've got nothing for Christmas, I've got no Christmas food, I've got no Christmas dinner ...

### ***Coping strategies in the face of food insecurity***

Women adopted coping strategies in accordance with the degree of food insecurity experienced. Among the main strategies were careful budgeting, borrowing money, relying on food donations, and being resourceful and creative with food.

All of the women emphasised the necessity for precise budgeting and careful planning. However, regularly comparing prices across and within supermarkets was time-consuming and tedious. The 'tightness' of the grocery budget was reflected in the regular use of a calculator when shopping to allow for careful tracking of expenditure and reduced the fear of a debit card being declined at the checkout. Several of the women described this latter experience as distressing and humiliating. Unsurprisingly, grocery shopping

was often described as ‘miserable’ or ‘depressing’. In some cases, women explained that they had barely enough money to cover the most basic food items:

You start shopping and it’s like oh well that’s adding up real fast. I mean some weeks you buy three or four nights’ worth of meat and that’s like \$50 already gone, and your fruit and veggies on top, that’s another \$20 or \$30, don’t worry about all the other little bits and pieces that you need ... I mean in general grocery shopping is depressing, just everything costs so much.

All participants had, at times, relied on food donations and several had borrowed money from various sources to provide for their households.

There were two weeks in which I couldn’t buy food, and [agency name] organised me food parcels ... if it hadn’t have been for those food parcels the kids wouldn’t have eaten for about a week, like it was a push to even put stuff in their lunch boxes.

Creative ways of using food were adopted as a means of managing limited budgets. Examples included buying school lunch snacks in bulk and dividing these into set portions to last the week, minimising waste, growing their own vegetables, and substituting fresh foods with powdered forms, including milk powder and potato flakes.

If I don’t have potatoes we just use instant potato because I’ve worked out that they don’t taste that bad? I don’t particularly like it but for a 500 gram bag, it’s the equivalent of 10 kg of potatoes, so that’s \$1.59 versus \$14 ...

### ***Negative effects of food insecurity on the women***

The women made sacrifices to provide for their children, including missing meals and neglecting personal needs. Where households lacked sufficient food, the mothers were the first to go without. Several regularly missed out on meals so their children had enough food, to the extent of experiencing significant hunger, and on occasion going without meals for up to four or five days. One woman noted:

On a bad week, sometimes I won’t eat at all just so there’s enough for the kids.

Another woman highlighted the negative impacts of going without food on her well-being and ability to care for her child, including feeling run-down and exhausted.

Several women made personal and medical sacrifices, for example not having appropriate warm clothing in the winter months, going without prescribed medications, missing medical appointments, and going without personal hygiene products. Forgoing self-care and appropriate medical treatment to ensure other family needs were met were viewed as detrimental to the women’s health and wellbeing, but such sacrifices were perceived to be unavoidable:

I will miss out myself first ... there’s been times when I’ve had appointments in town and I just haven’t gone because I don’t have the bus money.

Most women described significant stress related to food insecurity. Lack of money impacted upon their own social opportunities, such as being unable to host and feed extra family members and friends at their respective houses. Nearly all experienced anxiety or stress weekly in trying to provide enough food for their families. Feeding



their children was an ongoing and unrelenting daily worry, and this stress was amplified by unexpected bills, supermarket shopping and school holidays. As one woman explained:

If it comes to them or me, then they come first, but it's starting to take its toll on me I think, just looking at my cold sores, stressing, worrying about Christmas and wondering what I'm going to do?!

The stressful experience of food insecurity was exacerbated by feelings of shame and embarrassment. Some women reported feeling 'judged' by others including family members, friends, teachers, and staff at government social welfare centres regarding their need for financial and charitable food assistance. This woman felt shame, disappointment, and failure as a mother when she had to rely on food relief:

... if you can't feed them, then shit you've failed on the most basic level, it's horrible!

### ***Negative effects of food insecurity on the children***

Several women voiced concerns regarding the flow-on effects of low-income and food insecurity on children, including repeated exposure to mother's stress, reduced quantities of food, and constrained social and recreational opportunities.

The women worried about their children's exposure to financial and emotional stress and material hardship from a young age. The worst part for one woman was having to say no to her children between set mealtimes because there wasn't anything for them to eat, even though they were genuinely hungry:

Having to tell them no when they are hungry, yeah and telling them to wait till tea or something like that when I can see that they are hungry but there's really nothing to give them until tea, yeah that's probably the worst ...

Constraints on children's social and recreational opportunities were also raised, for example, not having any friends over for a birthday party, missing out on school trips, having limited opportunities to participate in sporting activities and rarely leaving the house during holidays or at weekends. Extra or unexpected expenses from schools for sporting activities and trips had an impact. One woman said:

And the kids are getting sick of it too 'cause they are missing out because I can't, I don't have the money at all, I have no money, and I can't give them the money for the school, for them to do the stuff ...

Children were also affected by not getting presents for Christmas or birthdays, wearing clothes that were too small for them, and having limited entertainment or technology access.

### ***Solutions advocated by the women***

Suggested solutions to improve their family's situation included increasing their disposable income, removing GST (Goods and Services Tax) on healthy food items, returning to paid work, and continuing to access family and community supports, such as food

banks. All thought that adding to their disposable income would make the most significant and lasting difference to addressing food insecurity:

It would be the money. Yeah. Even if I had like, instead of \$60, if I had like \$100 a week, that, we would be fine, we wouldn't have any problems but unfortunately that's not the case ...

Secondly, some women considered that changes were needed in the pricing of basic essential food items by adjusting or reducing the GST to make them more affordable. Some suggested that 'unhealthy' foods should be taxed to encourage healthier food choices. One argued:

There needs to be no GST on fresh fruit, meat, milk, yoghurt and bread, and maybe basic baseline cereals like the ones that I buy, and then [the] cost of everything else should skyrocket, because why would you buy your child a bottle of milk, when you can buy them three times as much coke for the same price?! It disturbs me, like it's all backwards!

Thirdly, most women believed that having a 'proper income' to purchase adequate nutritious food would only be possible if they were to return to paid work. However, for some this would be detrimental to the wellbeing of their young children (including infants) whom they currently cared for at home full-time, or unachievable given they were currently studying.

All women acknowledged that increased or continual support from friends, family, and charitable organisations, including food banks, was essential for the current and future provisioning of their families.

### ***Household food insecurity in surveys***

In the 2015/16 NZHS, almost one in five children aged under 15 years (19.0%, estimated 161,000–188,000 children) lived in households experiencing severe-to-moderate food insecurity (Ministry of Health 2019). Household food insecurity prevalence was higher for Māori (28.6%) and Pacific (37.1%) children, compared with European (15.4%) and Asian (8.5%) children (Ministry of Health 2019). Two-thirds (67.9%) of children in food insecure households lived in households with gross annual income under \$50,000, over half (51.8%) lived in households where their caregiver received means-tested financial assistance, and almost half (49.7%) lived in a sole-parent household (Ministry of Health 2019).

The Child Poverty Monitor Technical Report (2021) notes that in 2019/20 around one in five children lived in households that ran out of food due to cost sometimes (15.6%) or often (4.3%) with persisting inequity for Pacific (35.4% sometimes; 10.0% often) and Māori children (21.9% sometimes, 7.9% often) (Duncanson et al. 2021).

Youth2000 surveys showed that 28% of young people in 2007 reported that their parents or caregivers worried about not having enough money to buy food, and this increased to over 40% in 2012 (Utter 2020). In 2019, Youth19 researchers found Māori and Pacific young people reported more food insecurity than Pākehā young people (Roy et al. 2021). Food insecurity was higher for disabled young people or young people living with a chronic condition (Māori 51%, Pacific 55%, Pākehā 23%) compared with non-disabled young people and those with no chronic conditions (Māori 36%, Pacific 46%, Pākehā 14%) (Roy et al. 2021).

## Discussion

This New Zealand study of food insecurity focuses specifically on capturing the in-depth lived experiences of low-income sole-parent households headed by women. Previous qualitative research in New Zealand has examined varying household types or community groups (Cheer et al. 2002; Lanumata et al. 2008; McNeill 2011; Carne and Mancini 2013; Moeke-Pickering et al. 2015; Graham et al. 2018a, 2018b; Beavis et al. 2019; Neuwelt-Kearns et al. 2021), with limited analysis of, or insights into, the distinctive circumstances of female sole-parents.

Qualitative findings in this study are consistent with previous research in New Zealand (McNeill 2011), the United Kingdom (Dowler and Calvert 1995), Australia (McKenzie and McKay 2017) and North America (Tarasuk and Maclean 1990; Tarasuk 2001; McIntyre et al. 2002, 2003; Chilton and Booth 2007; Stevens 2010; Williams et al. 2012; Buck-Mc Fadyen 2015). Findings are also supported by other New Zealand evidence, both the official statistics on childhood income poverty and material deprivation (Perry 2016; Duncanson et al. 2021), and the trends and experiences of NGOs (Auckland City Mission 2018; Johnson 2018; Auckland City Mission 2019; Child Poverty Action Group 2020; Tanielu 2021). McNeill (2011), in a study of families (of varying household structure including sole-parent women) within the Waikato community, similarly found income inadequacy, fixed non-food expenditure and income volatility exacerbated food insecurity – with detrimental physical, mental and emotional impacts.

The narratives in this study illustrate the stress associated with being the sole-provider for the family, the belief that neglecting personal and medical needs encompasses a mother's sacrificial role, the shame or sense of failure experienced by mothers when requiring assistance to feed or raise their children, and the challenge of balancing child-care with other demands for time and energy, for example buying or preparing food, or undertaking paid employment. Such feelings of shame and judgement, including in requiring charitable food assistance, is reflected extensively in international literature among food bank receipts (Middleton et al. 2018).

This study illuminates some of the dynamics of food insecurity that have thus far received little attention in the literature, particularly in New Zealand, such as the challenge of feeding children during weekends and school holidays, the significant impact of non-food items on the grocery budget, and the nature and extent of maternal suffering. The distinctive difficulties of weekends, school holidays and times that schools are closed requires further investigation, not least because strategies to address food insecurity cannot depend solely on school-based interventions. It is sobering that participants regularly compromised their nutritional intake and had periodic and sometimes extended hunger likely to result in compromised health outcomes. This experience is reflected in international literature (Tarasuk 2001; McIntyre et al. 2003; Olson 2005; Williams et al. 2012; McKenzie and McKay 2017).

As reflected in existing literature, despite rigorous budgeting, careful planning, resourcefulness, and reliance on food donations or borrowed money, all the women struggled at times to secure enough nutritious food for themselves and their children (Watson et al. 2022). Such challenges were compounded by unexpected bills, creating volatility in their disposable income for food. Adjusting the grocery budget to accommodate more pressing costs, such as rent and electricity, is consistent with previous findings (Williams et al.

2012; Carne and Mancini 2013; McKenzie and McKay 2017; Neuwelt-Kearns et al. 2021). For many, a lack of savings coupled with significant debts exacerbated the difficulties experienced. The numerous coping strategies used were not only unable to achieve adequate provisioning for their households, but may have masked the full extent of hardship they face. Consistent with findings from Buck-Mc Fadyen (2015), the mothers' coping strategies and personal sacrifices proved inadequate – on occasion (and sometimes often) they simply lacked sufficient income to cover all essential household costs as well as purchase sufficient nutritious food. Such evidence brings into question what is required to overcome food insecurity, and emphasises the need for collective action and robust systemic change.

Food insecurity data from the NZ Health Survey and Youth2000 surveys supplemented and reinforced the women's narratives. The prevalence of food insecurity among children in sole-parent households, as well as those receiving social assistance has remained high. Overall, these data showed persistently high levels of household food insecurity for children and young people, and highlighted inequity by ethnicity and disability status.

Our findings support ongoing public concern in New Zealand regarding poverty and inequality (Roy Morgan New Zealand Poll 2017; Johnson 2018; Child Poverty Action Group 2019) and the extent of income inadequacy experienced by many low-income families (Perry 2016; Welfare Expert Advisory Group 2019; Duncanson et al. 2021; Royal Society Te Apārangi 2021). Income inadequacy was the fundamental driver of food insecurity, which is consistent with existing New Zealand research (Parnell et al. 2001; Bowers et al. 2009; Carter et al. 2010; Smith 2011; Smith et al. 2013b; Beavis et al. 2019; Neuwelt-Kearns et al. 2021).

New Zealand previously had relatively generous family assistance programmes during the mid-twentieth century, including comprehensive forms of housing assistance, a universal family benefit and supplementary means-tested social assistance (Boston and Chapple 2014). However, during the early 1990s substantial cuts were made in the support received by those dependent on state assistance (Boston and Chapple 2014; Royal Society Te Apārangi 2021). The proportion of dependent 0–17 year olds living in households with equivalised incomes less than 60% of the contemporary median (after housing costs) increased from 14% in 1982 to 27% in 1992 (Perry 2016). Despite various policy changes since the 1990s, the proportion of children and young people living in income-poor households has remained high (Perry 2016; Duncanson et al. 2021) and income inadequacy has persisted – with substantial deficits between household income from social assistance (in the form of benefits) and basic living costs (Welfare Expert Advisory Group 2019). Consequently, many families, including those in this study, are heavily dependent on charitable assistance, including regular food parcels.

Participants voiced concerns regarding the flow-on effects of low-income and food insecurity on their children, including limited nutritious food and constrained social and recreational opportunities. Their perceptions concur with previous evidence of significant and enduring childhood hardship in New Zealand (Perry 2016; Duncanson et al. 2021). An assessment of the relative merits of different policy options to reduce household hardship, including food insecurity, is beyond the scope of this paper. However, our findings point to the urgent need for social policy reform to ensure food security for all families in New Zealand, not least low-income sole-parents, and their children.

Fundamentally, despite various adjustments to welfare benefit rates and family assistance programmes in recent years, a further increase in financial support for low-income households is urgently required. This supports evidence, advocacy work, and expert policy advice across numerous sectors and communities within New Zealand (Welfare Expert Advisory Group 2019; Child Poverty Action Group 2020; Royal Society Te Apārangi 2021).

Several women called for GST to be removed or reduced from perceived 'healthier' foods or basic staple food items. Such requests express the very real desire for these families to be able to afford healthier food options. However, policy analysis suggests exemptions from GST are cumbersome and difficult to apply and may benefit higher income households more than low-income ones (Tax Working Group 2018).

The strengths of this paper included the ability to elicit the lived experiences of food insecurity in contemporary Aotearoa New Zealand and provided an opportunity for these women's voices to be amplified. Analysis of the in-depth interviews indicated that additional contextual data such as the women's cooking ability, nutritional literacy, having a functional kitchen and geographic location could have added further insights to the complexity of food insecurity. The inclusion of participants from diverse locations, including rural areas, would have provided a greater breadth of experience. The lack of such information, however, does not negate the value of the narratives provided. Given collection of interview data was prior to the time period of quantitative data presented, consideration should be given to the varying economic, political, and social influences present during each data collection period.

The national surveys provided snapshots of aspects of food insecurity from the perspective of parents (NZHS) and children (Youth2000 series). They provided an indication of the magnitude of household food insecurity in New Zealand where data on food insecurity have not been consistently collected and synthesised. Varying definitions of food insecurity in each survey and the lack of a consistent overall definition, however, make it difficult to quantify the extent of food insecurity in New Zealand exactly, or allow direct comparisons to the previous National Children's Nutrition Survey.

There is a need for further research on food insecurity in New Zealand. Issues requiring additional investigation include: the temporality, severity and duration of food insecurity experienced in New Zealand; the impact of non-school time periods (i.e. weekends and school holidays) on food insecurity; whether food insecurity in sole-parent families varies across the country and, if so, why; whether there are differences in food insecurity between sole-parent families headed by men and those headed by women; the extent to which children face one-off, recurrent and/or persistent food insecurity; the impact of food insecurity on the social interactions of children; and the experiences of families of children with disabilities and chronic illness.

## Conclusion

This study provides rich insights into the complex lived experience of food insecurity for a group of female sole-parents in a New Zealand city. Participants described the daily struggle of feeding a family notwithstanding a range of sacrifices, coping strategies and family and community supports. Despite the resilience and resourcefulness of the mothers and considerable efforts of NGOs including food banks, the negative impacts

of food insecurity were illustrated clearly. Data from two surveys supplemented these narratives showing persistent high prevalence of food insecurity for children and young people in sole-parent households as well as those receiving financial assistance, and highlighted inequity by ethnicity and disability status. Overall, our findings reinforce food insecurity as an ongoing public health issue in New Zealand, resulting in significant and enduring hardship and requiring coordinated and targeted systemic action. Income inadequacy was identified as the underlying root cause of household's food insecurity. This issue needs urgent attention and substantial policy reform for meaningful and lasting change.

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