

Exploring grandparents' receptivity to and preferences for a grandchild nutrition-focused intervention: A qualitative study

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Abstract

Objective: Interventions promoting healthy eating in children typically overlook the critical role of grandparent caregivers. Utilising a co-design approach, this study (i) assessed the receptiveness of grandparents to a nutrition-focused resource aimed at promoting healthy eating in their grandchildren and (ii) explored grandparents' preferences for resource delivery and dissemination.

Methods: Seventy-nine grandparents (58% female; mean age=69.37 years) who were secondary carers to a grandchild aged 3-12 years participated in one of 10 focus groups. Focus group transcripts were imported into NVivo for coding and semantic thematic analysis.

Results: The vast majority of focus groups ($n=9$) were receptive to receiving a nutrition-focused resource. Participants indicated that such a resource should contain strategies that help grandparents promote healthy eating in their grandchildren rather than outline what grandchildren should be fed. A range of delivery (pamphlets, seminars and fridge magnets) and dissemination (online, email) methods were suggested.

Conclusions: A nutrition resource that equips grandparents with the strategies they need to promote healthy eating in their grandchildren would likely be welcomed.

Implications for public health: Results provide program developers with the preliminary information required to tailor childhood lifestyle interventions to the needs of grandparents, thus helping increase acceptability and uptake.

Key words: Grandparents, grandchildren, nutrition resource, co-design, receptivity, preferences

Introduction

The prevalence of childhood overweight and obesity has been identified as a significant global health concern.¹ In Australia, the context of the present study, overweight or obesity is present in 25% of 5- to 17-year-olds,² a figure that is higher than the global average of 18%.³ Overweight and obesity can be prevented in part by a healthy diet, which is characterised by adequate consumption of fruit and vegetables and limited intake of energy-dense, nutrient-poor foods.^{4,5} Maintaining a healthy diet can also reduce the risk of multiple non-communicable diseases and all-cause mortality.⁶⁻⁹

Despite the favourable health outcomes associated with a healthy diet, the proportion of children meeting dietary guidelines for fruit and vegetable intake is low. In Australia, just 6% of 2- to 17-year-olds consume the recommended amounts of fruit and vegetables required

for optimal growth and development.¹⁰ In addition, at least one third of children's energy intake is from discretionary foods high in saturated fat, added sugars and added salt.¹¹ Efforts to improve the dietary habits of children are thus urgently needed.

Children's eating behaviours are shaped by a range of individual, familial, social and environmental factors that include food preferences, the food-related knowledge and attitudes of caregivers, social norms, the school environment and junk food advertising.¹² Accordingly, a comprehensive and multifaceted approach is needed to improve the eating behaviours of children.¹² Educating and supporting primary caregivers and other care providers is an important element of such an approach given their role as nutrition educators, models of food consumption and gatekeepers of a child's eating environment.¹³⁻¹⁵

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In Australia, many nutritional resources and programs have been developed to help parents, school educators and formal childcare providers promote healthy eating in children (e.g. The Australian Parenting Website, Crunch&Sip, the National Healthy School Canteens Resource Collection and the Healthy Eating Advisory Service Victoria). However, there is a conspicuous absence of tailored resources to support grandparent care providers who, as a result of rising costs of formal childcare and increases in maternal employment, have become a vital source of affordable childcare.^{16–19} Grandparents are increasingly becoming important nutritional gatekeepers, with recent research indicating that 98% of grandparents who provide regular care to their grandchildren supply snacks or meals at least once per week.²⁰ Grandparent caregivers have also been found to engage in feeding practices that are both adaptive, such as encouraging a balanced diet and providing a healthy nutritional environment, and maladaptive, such as pressuring children to eat and using food-based rewards.^{20–23}

Given the important role of grandparents in shaping the nutritional environment and eating behaviours of their grandchildren, calls have been made for grandparents to be considered in the design of resources that foster healthy lifestyle behaviours in children.^{20,24–26} To maximise their efficacy, these resources should be developed and disseminated with the specific needs, capacities and preferences of grandparents in mind. This objective can be achieved through co-design. Co-design is a participatory approach to product, service and policy design that utilises the active involvement of stakeholders to (i) explore and understand shared experiences; (ii) develop a product, service or policy to improve these experiences; and (iii) test the final product and incorporate feedback.^{27,28} One of the key benefits of co-design is that the end product is more likely to meet the needs and preferences of the target group, which not only increases the efficacy of the product but also its acceptability, thus driving user engagement and uptake.^{27,29}

An important component of the co-design process in terms of resource development is the ‘exploration’ or ‘discovery’ stage, where researchers draw upon the expertise of the user group to understand how they can best tailor a potential resource.^{27,30} The exploration stage allows researchers to gain insight into how receptive target group members are to such a resource, what content they desire and how it could best be delivered and disseminated. While there has been some research to inform the content of a nutritional resource targeting grandparent care providers,^{20,21,31,32} there is a lack of research informing these other aspects of resource design.

The present study

Resources that are tailored to the specific needs and preferences of grandparents would make an important contribution to the prevention of poor dietary behaviours in children and, ultimately, improved health outcomes. Accordingly, the present study sought to explore grandparent caregivers’ (i) receptiveness to a resource that supports them in promoting healthy eating in their grandchildren and (ii) preferences for resource delivery and dissemination. To increase the efficacy and acceptability of the resource, this study adopted a co-design approach, drawing upon the expertise of grandparents through a series of focus groups.

Method

Recruitment and sample

As part of a broader project exploring grandparents’ feeding and food provision practices,³³ grandparents who provided regular care (≥ 3 hours per week) to at least one grandchild aged 3–12 years were recruited via purposive sampling into one of ten focus groups. This age range of grandchildren was chosen because evidence indicates that children’s eating becomes increasingly influenced by caregiver, not hunger, cues at around three years of age, with caregiver cues becoming less important during adolescence as independence increases and other environmental factors begin to influence eating behaviour.^{34,35} Two recruitment methods were used: (i) invitations sent to adults aged 60+ years who were part of an existing research database and (ii) random digit dialling, which was conducted by a social research agency. Ethical approval to conduct this research was granted by Curtin University’s Human Research Ethics Committee.

In total, 79 grandparents (58% female; mean age=69.37 years, $SD=6.19$; 27% tertiary educated) attended the focus groups, which were conducted in locations across Western Australia. The 10 focus groups were stratified by sex (five male, five female), location (six metropolitan, four regional), and socio-economic status (SES; four low, four mid, two high). SES was determined using the Australian Bureau of Statistics’ Index of Relative Socio-economic Advantage and Disadvantage.³⁶ Focus groups ranged in size from five to 11 participants.

Procedure

All participants provided written informed consent prior to participation and completed a short survey that collected information about their demographic characteristics, eating behaviours and the frequency with which they provide their grandchildren with meals (see Jongenelis et al.³³ for results relating to this survey). The focus groups began with introductions, after which the facilitator (MJ, a research fellow and clinical psychologist) followed a semi-structured interview guide to generate discussion around two topics of interest: (i) grandparents’ perceptions of strategies and barriers to increasing healthy food consumption and decreasing unhealthy food consumption in their grandchildren and (ii) grandparents’ receptivity to and preferences for a potential nutrition-based resource targeting grandparent caregivers.

The results from discussions around the first topic of interest have been published elsewhere.³³ The focus of the present study was the discussions around the second topic. To introduce this topic, the facilitator briefly explained that a purpose of the research was to develop a nutritional resource that assists grandparents with supporting healthy eating in the grandchildren for whom they provide secondary care. The following questions were then posed:

1. What are your thoughts about this resource?
2. Would you be receptive to this information?
3. How should this information be presented?
4. Where would you go for this information?
5. How would you like this information given to you?

Probing questions were used to generate further information on specific topics of interest and clarify participant comments.

The focus groups were approximately 90 minutes in duration. All participants were reimbursed AUD\$80 for their time and costs incurred from their attendance. Discussions were audio recorded and transcribed verbatim.

Analysis

Transcriptions of the focus groups were imported into NVivo for coding and analysis. As the aim of the analysis was to develop new insights that reflect issues of most importance to participants, a semantic approach to thematic analysis was adopted, with participants' reports accepted as accurate representations of their thoughts and feelings.³⁷ Following the guidelines outlined by Braun and Clarke,³⁷ AR and MJ read all ten transcripts in full and generated an initial coding framework, which was refined upon re-reading of the transcripts and discussion. AR and MJ then coded three transcripts together and discussed points of contention until consensus was reached. The remaining seven transcripts were subsequently coded independently. Inter-rater reliability was strong (Cohen's Kappa=0.85).³⁸

Results

The vast majority of focus groups ($n=9$) were receptive to receiving a nutritional resource that assisted them with grandchild feeding. Of the few grandparents within focus groups who indicated they would not be receptive to such a resource, their reasons primarily related to relevance (e.g. they reported being uninvolved in child feeding). Many grandparents commented on the information that they and other grandparents would desire from a resource, with participants indicating they would like to receive 'educational information' and 'hints and tips' that will help them promote healthy eating. Grandparents in some focus groups also reported on content they believed would not be well received by the target audience.

Desired content

Educational information

A majority of focus groups ($n=8$; all demographic groups represented) discussed their desire for a resource that contains educational information on healthy eating. For example, several groups ($n=6$) desired information that explained how consumption of healthy vs unhealthy food can impact health in the short- and long-term. Grandparents reported that this information would not only motivate them to promote healthy food consumption but would also provide a means by which they could educate their grandchildren on the importance of eating healthy foods such as fruit and vegetables:

... kids like to know what food is going to help them with. So, you know, green food is good for your heart, it's going to build up your muscles, or this is going to make you be able to run stronger or see in the dark. I think if people can relate it back to children that way, if they have the information and know that themselves and can tell children that, then that helps the kids want to eat things. [Female, Regional, Low SES]

Hints and tips

A majority of focus groups ($n=8$) reported desiring a range of hints and tips that could assist them in promoting healthy food

consumption, with all demographic groups represented. For example, tips to help grandparents manage food fussiness were desired by several focus groups ($n=5$):

Is there any research into eliminating fussiness? ... anything new they just say no, don't want it, won't try it, won't touch it. [Male, Metropolitan, High SES]

Some focus groups ($n=4$) reported wanting a resource that provides suggestions for interactive activities in which grandparents can engage with their grandchildren to increase interest in fruit and vegetables. Recommendations for interactive activities, such as food-related arts and crafts, growing your own fruit and vegetables and taking children to farms to see how produce is grown, were provided by some groups:

Take them to the farm. Because I found that some of the kids believe that the fruits and vegies, that's Woolies and Coles. Show them where they grow and let them pick it off from the tree. [Male, Regional, Low SES].

Undesired content

Some focus groups ($n=4$; predominantly metro) reported that a resource focusing on what grandparents should feed their grandchildren would not be well received. Such a resource was perceived as condescending, with several participants noting that grandparents generally know what food is considered healthy and unhealthy:

As long as they don't treat us like idiots. Sometimes when they have these things, they absolutely think you're stupid, as if you don't know... I know it's better to give them a banana than a chocolate bar, so I don't need to be told that. [Female, Metropolitan, Low SES]

Delivery method

Participants provided numerous suggestions for how a nutrition-focused resource could best be delivered to grandparents. The most frequently mentioned delivery methods were (i) pamphlets, booklets, newsletters and brochures ($n=8$); (ii) seminars ($n=7$); and (iii) fridge magnets ($n=5$). In terms of seminars, which were suggested by all demographic groups, it was noted that in-person learning provides an opportunity to 'get out of the house' and would allow grandparents to share their experiences with each other. It was also noted that seminars would assist with information retention and increased attention to the content:

I prefer to come out like this and then you can spend the day out. [Male, Metropolitan, Low SES]

You know, we're getting the letterbox full of it [leaflets] and we'd throw it out, we don't pay attention to it. But sort of seminar more like a meeting. For now, like we're having now, a discussion, perhaps that would be more advisable. [Male, Regional, Low SES]

In terms of fridge magnets, which were primarily suggested by those living in metropolitan Perth, presenting key information or graphics in this way was considered desirable as fridge magnets are concise, easy to access, well-located and have the potential to arouse the curiosity of grandchildren:

The fridge magnets, the kids will look at them and read them and "ooh granny, we could do this with the whatever" and she would react rather than a bit of paper floating around. [Female, Metropolitan, Mid SES]

Dissemination method

In terms of how a nutrition-focused resource could best be disseminated, most focus groups ($n=8$; all demographic groups represented) suggested online means (e.g. email, website), with some noting that grandparents are becoming increasingly tech-savvy and therefore open to receiving information in this way. Traditional print media (e.g. newspapers and magazines) was also a frequently mentioned dissemination method ($n=6$; all demographic groups represented). Finally, half of the focus groups (primarily those living in metropolitan Perth) noted that having hard copies of the resource available in public places such as libraries, doctors' (or other healthcare professionals') waiting rooms or supermarkets would prompt engagement:

... I probably wouldn't be seeking it out, but if I got a letter, pamphlet in the letterbox, like all of us, I do read the pamphlet. If I saw something at the library, I'd probably be alerted to that...

[Male, Metropolitan, High SES]

Discussion

In response to calls for grandparents to be considered in the design of childhood lifestyle interventions,^{24,25} this study sought to (i) assess the receptiveness of grandparents to a resource aimed at assisting them in promoting healthy eating in their grandchildren and (ii) explore how grandparents would like such a resource to be delivered and disseminated. Grandparents in the focus groups were generally receptive to a nutrition-focused resource, with many believing that other grandparents would also be receptive. This finding is encouraging for program developers as it suggests such a resource is likely to be well received by the target audience.

The findings from the present study provided a range of insights that could be used to ensure optimal resource uptake. In terms of content matter, grandparents advised that a resource focusing on what they should feed their grandchildren would be undesirable, as most grandparents are aware of which foods are considered healthy. Previous research supports this sentiment, finding that grandparents generally provide their grandchildren with a healthy food environment.²⁰ Focus group participants instead desired content that addresses *how* they can promote healthy dietary preferences and eating habits in their grandchildren. For example, grandparents reported desiring educational content that would help them explain to their grandchildren why eating fruit and vegetables is good for health. They also desired a range of hints and tips that would equip them with strategies to overcome barriers to healthy eating, such as food fussiness. The results thus suggest that a resource equipping grandparents with the knowledge and strategies they need to promote healthy eating would be more acceptable than a resource that simply promotes dietary guidelines. Few differences emerged by demographic characteristics, suggesting that any resource that is developed may not need further tailoring based on gender, SES or location. However, as we did not target culturally and linguistically diverse grandparents during the recruitment process, research that explores the opinions of this population group is needed to determine if a nutrition-focused resource should be tailored accordingly, especially given (i) there is a strong need and desire for grandparent childcare in migrant families³⁹ and (ii) living with extended family members is more common in certain culturally and linguistically diverse groups (e.g. those with South-East Asian, Chinese Asian and South and Central Asian backgrounds).⁴⁰

Several resource delivery methods were recommended by focus group participants, with pamphlets, seminars and fridge magnets cited most often. A key benefit of presenting information in pamphlet form is that it can be provided in multiple languages and distributed both online and in hard copy, thus increasing reach. In terms of seminars, grandparents noted that these are particularly desirable as they provide opportunities for social interaction. Using seminars as a delivery method may therefore provide additional benefits to grandparents in the form of increased community engagement and social support. Seminars also provide a potential means by which all family members (e.g. parents, grandparents, aunts and uncles) can gather to expand their knowledge on adaptive feeding practices. Given the importance of schools in promoting healthy eating and physical activity,⁴¹ seminars could also be attended by school principals and teachers thus ensuring all those involved in childcare contribute to the goal of fostering healthy eating in children. Finally, in terms of fridge magnets, these were considered an attractive delivery method due to their location, which serves as a visual reminder or cue for grandparents to provide a healthy nutritional environment for their grandchildren. Program developers may wish to utilise all the aforementioned methods to optimise resource delivery (e.g. using pamphlets and fridge magnets to complement seminars).

Finally, when exploring preferred means of resource dissemination, online methods (e.g. email and websites) were the most commonly cited. This supports previous research that has found older adults are becoming increasingly comfortable performing basic online activities, such as checking emails and searching for information.⁴² An advantage of online dissemination is that it allows program developers to easily update and distribute the resource as new evidence emerges. Dissemination of hard copy resources via public places such as libraries and doctors' waiting rooms was also cited by grandparents as being preferable, with those residing in metropolitan Perth being more likely than those residing in regional locations to suggest dissemination at these locations. Program developers could utilise both online and hard copy dissemination methods to maximise the inclusivity and reach of the resource.

Limitations, strengths, and future directions

The present study has some limitations. First, due to the nature of the focus group method, participant discussions may have been influenced by social desirability bias. Few groups reported being unreceptive to a nutrition-focused resource. It is possible that grandparents who were unreceptive may have felt unable to express their opinion given the majority of grandparents were supportive. Second, the findings may not be generalisable to specific groups within the grandparent population as culturally and linguistically diverse grandparents were not targeted in recruitment. As noted above, research that assesses the nutritional resource preferences of these grandparents is warranted.

Third, the focus groups were not stratified by grandchild age or type of care. As grandparents who provide all-day care to children not yet in school may have different needs than those who provide before-and/or after-school care only, further research is required that assesses receptivity and preferences by type of care. Finally, only the preferences of grandparents were explored in the present study. As there may be other family members involved in childcare, such as aunts, uncles and older brothers and sisters, future research should explore the needs, capacities and preferences of these care providers

in relation to child feeding. Consideration should also be given to whether separate resources are needed for different family members or whether it is more appropriate to develop an intergenerational program that encourages all family members to contribute to the goal of fostering healthy dietary behaviours in children. Such programs increase the likelihood of children receiving congruent messages from all family members, provide an opportunity for family members to openly discuss diet-related expectations and offer benefits across generations.^{24,31,43}

The limitations of this study should be considered against its strengths. First, the results provide program developers with the preliminary information required to tailor childhood lifestyle interventions to the preferences of grandparents, thus helping to (i) increase the acceptability and uptake of resources and (ii) extend the reach of interventions to an important (yet often overlooked) group of nutritional gatekeepers. Second, the effective use of co-design to elicit grandparents' preferences may encourage resource developers to adopt a bottom-up approach to intervention development, thus ensuring resources are engaging, acceptable and designed with the target audience rather than for the target audience.^{27,28}

In conclusion, the findings of the present study indicate that grandparents are receptive to receiving a nutrition-based resource that assists them with promoting healthy dietary preferences and eating habits in their grandchildren. To be considered acceptable by the target audience, resources may need to focus on how grandparents could improve their grandchildren's diet rather than what grandparents should feed their grandchildren. The findings also highlight the preferences of the target group in terms of resource delivery and dissemination, thus providing the insights required to maximise resource uptake.

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Ethics

This study was approved by Curtin University's Human Research Ethics Committee (approval reference: HRE2018-0078). All participants provided informed consent.

CRedit AUTHOR STATEMENT

Abby Robinson: Formal analysis, Writing – original draft, Writing – review and editing.

Michelle I Jongenelis: Funding acquisition, Conceptualisation, Methodology, Formal analysis, Investigation, Data curation, Writing – original draft, Writing – review and editing, Supervision, Project administration.

Belinda Morley: Methodology, Writing – review and editing.

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Conflict of interest

None.

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