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Original Article

A qualitative study exploring parental accounts of feeding pre-school children in two low-income populations in the UK

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Abstract

Good nutrition in the early years of life is essential, yet the diets of many pre-school children in the UK are known to be poor. Understanding the decisions parents make when feeding young children is very important in determining what type and nature of interventional support may be developed to promote good nutrition. The aim of this study was to explore using qualitative methods, parental perceptions of feeding their children in order to inform the development of a nutrition intervention. Focus groups ($n = 33$) and individual interviews ($n = 6$) were undertaken with parents, most of whom were attending children's centres in two deprived populations from one urban (Islington, north London) and one rural (Cornwall) location in England. Accounts of feeding pre-school children were primarily concerned with dealing with the practicalities of modern life, in particular the cost of food and the need to manage on a restricted household budget. Time pressures, a lack of perceived knowledge and confidence in preparing food and managing conflict over food choices between family members were also strong themes. Parents commonly reported differences between how they would like to feed their children and the reality of what they were able to do in their circumstances. These findings suggest that the poor eating habits of many pre-school children may be less a case of parental ignorance but rather the product of a range of coping strategies. Designing an intervention, which helps parents to build their confidence and self-efficacy, may enable them to make positive changes to their children's diets.

Keywords: pre-school children, parent, qualitative methods, nutrition, community-based, childhood diet.

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Introduction

Good nutrition in the early years of life is vitally important for a child's development, growth and health. A poor diet, combined with low levels of physical activity, can have a significant impact on both a child's immediate and longer-term health (World Health Organization 2003). Immediate health problems associated with a poor diet include overweight and obesity, anaemia and dental caries. Longer-term effects of a poor diet in early childhood can include an increased risk of certain cancers, heart disease and stroke, diabetes and osteoporosis (Webber *et al.* 1991). In the UK, levels of overweight and obesity are on the rise; the National Child Measurement Programme for England found that 22.6% of reception children (aged 4–5 years) and 33.4% of year 6 children (aged 10–11 years) were overweight or obese in 2010–2011 (The NHS Information Centre 2011).

Children's diets in the UK are known to be poor, particularly among socially disadvantaged groups which contributes to health inequalities (Marmot 2005, 2010). Children from lower income families tend to have lower intakes of fruit and vegetables and

higher intakes of non-milk extrinsic sugars (NMES; Nelson *et al.* 2007). The most recent data available for children aged 1.5 to 3 years from the National Diet and Nutrition Surveys demonstrated that this age group were not meeting the recommended minimum amounts of fruit and vegetables and exceeding the recommended amount of NMES (Bates *et al.* 2010, 2012). UK and international policies have highlighted the importance of focusing on the early years to tackle health inequalities.

Children spend their early years exploring and learning what, when and how much to eat. They decide their food likes and dislikes early in life, during which time there is a predisposition to develop neophobic tendencies (literally 'fear of the new'; Cooke 2004; Scaglioni *et al.* 2008). While young children try to show a degree of autonomy in what they choose to eat, ultimately the responsibility of what a young child consumes lies with the parent or carer as they shape the food environment in which the child is raised. Patterns of eating are influenced by parental food preferences and beliefs, exposure to food, role modelling, media exposure and child/parent interactions around foods (St Jeor *et al.* 2002; Cooke 2004, 2007; Savage *et al.* 2007).

As parents have such a powerful influence over children's early food experiences, it is important to understand what drives them to make their food decisions for their child. A number of qualitative studies have looked at parental food choices, particularly in low-income families with pre-school children, and have identified a range of factors as being influential; these include the cost of food, access to food, social relationships and psychological factors including feelings of control and self-efficacy as being influential (St John Alderson & Ogden 1999; Attree 2005; Lawrence & Barker 2009; Ventura *et al.* 2010; Chaidez *et al.* 2011; Pescud & Pettigrew 2012). In low-income families, practical decisions often take precedence in food choice (Attree 2005; Bates *et al.* 2010), for example, price is one of the greatest motivating factors in food choice, with 'healthy' foods frequently considered to be prohibitively expensive (Hildebrand & Shriver 2010).

Women have traditionally been the principal food providers for the family (Murcott 1983) but their role is changing as they are faced with increasingly complex and busy lives and this has begun to necessitate the introduction of time-saving solutions (Patrick & Nicklas 2005). Food is one area where the notion of 'convenience' has been introduced, particularly among low-income, lone-parent families (Attree 2005; Carnell *et al.* 2011). In a study of UK mothers exploring their routine food choices, convenience foods were seen as a way of saving time and money while still being able to fulfil the role of provider for their children and families (Carrigan *et al.* 2006).

Food can be used as a tool for discipline where parents choose foods as a bribe to promote good behaviour, to quieten and distract distressed children and to calm tantrums with a 'quick fix' (Charles & Kerr 1988; Baughcum *et al.* 1998; Carnell *et al.* 2011). Certain foods are used for 'means-end feeding', where a liked food rewards the consumption of less-liked foods (Carnell *et al.* 2011). This use of 'instrumental' feeding has been linked to maternal education level: lower levels of instrumental feeding are associated with higher levels of maternal education (Saxton *et al.* 2009). Non-food incentives may also be used to influence children's food choices particularly of less well-liked foods (Remington *et al.* 2012).

Parents can foster or hinder the development of healthy eating patterns (Scaglioni *et al.* 2008). They

Key messages

- Parental approaches to feeding pre-school children are shaped by practical considerations, social/familial influences and fussy eating behaviours, which are common at this age.
- The poor eating habits of pre-school children may be less a case of parental ignorance, but rather the product of a range of coping strategies developed in the context of modern life.
- There is a need to provide nutritional support for pre-school children and their families in a timely and sensitive manner, which aims to build parental confidence and self-efficacy.

can encourage the consumption of unfamiliar or previously disliked foods if children observe them eat a new food, teach them to trust new foods and reduce neophobic tendencies (Birch 1999; White *et al*. 2011). In a large, population-based Swedish study, mothers who were neophobic were shown to present their children with fewer new and uncommon foods, thus projecting their own food preferences onto their children (Hursti Uk & Sjoden 1997). Foods that are restricted by parents such as snack foods may result in the unintended consequence of increasing their desirability to children (Fisher & Birch 1999).

Understanding how parents make decisions on feeding their young child is important in determining what type and nature of interventional support can be developed to promote good nutrition. The aim of this study was therefore to explore, in depth using qualitative methods, parents' perceptions of feeding their children in two low-income populations (one rural and one urban) in the UK. A subsidiary question was to assess any potential differences between the two locations, which could affect the nature of support needed. The analysis focused on the reasons behind parental food practices for young children in order to inform the development of a nutrition intervention to be implemented in these two locations in the UK.

Methods

Study design

A qualitative study of parents attending children's centres in two locations (one urban, Islington, north London and one rural, Cornwall) in England was undertaken between September and December 2009. Children's centres are government-funded early-year settings where children under five and their families can receive integrated services and support, such as access to health and parenting services, advice and information on healthy lifestyles, training and return to work, and (in some areas) high-quality early years child care. The qualitative investigation was followed by a quantitative survey of a sample of parents using children's centres in both areas. The results of the quantitative questionnaire survey are reported elsewhere (Ohly *et al*. 2012). Data from both investigations were used to inform the development of a nutrition intervention delivered in children's centres across Islington and Cornwall (details and methodology of the intervention to be published separately). The study received full ethical approval from Camden and Islington Community Research Ethics Committee.

Study location and sample

Islington, an inner city London borough, and Cornwall, a rural county in South West England, were selected to provide two contrasting and diverse low-income populations in the UK, and to inform the development of a nutrition intervention for both populations. Sampling was carried out at two levels, by cluster (children's centres) and individually within each centre. Based upon a subjective assessment of their level of engagement with nutrition-related activities (including how many nutrition courses the centre had run previously and whether a food policy was in place), a maximum variation sampling method was used to purposively select the children's centres in each location (Patton 2002). This method ensured that four centres with different levels of prior experience in delivering nutrition activities were included in the study. As Cornwall has a significantly larger land area than Islington, as well as a large rural population, two additional selection criteria were used in Cornwall: centres were selected by geographical locality (one in the north and one the south of the county) and only centres serving rural populations were included in the sample. All of the selected centres in both Islington and Cornwall were located in areas of multiple deprivation (Department for Communities and Local Government 2011).

Within each children's centre, individual participants were recruited through posters displayed in the reception areas and through the help of centre staff who approached parents using the centre facilities. While no demographic or socio-economic data were collected from participants, all children's centres were located in deprived areas, which target deprived families and a particular effort was made to invite parents who centre staff considered to be vulnerable, in need of support or socially isolated. All participants were

able to communicate effectively in English and had children aged between 18 months and 5 years. As an incentive to participate in the focus groups, all parents were offered the opportunity to enter a prize draw to win £40 worth of high street vouchers. All participants signed a consent form prior to participating in the discussion groups.

Data collection

Data were collected through four focus group discussions, which took place in the selected children's centres in each location and four additional individual family interviews conducted in Cornwall. Each focus group was led by a facilitator (GR/PMc/RW) and one assistant (AH/HO), and lasted an average of 54 min.

A topic guide was initially developed by the research team and piloted with a group of 12 parents of young children to assess its suitability and clarity. Following the piloting, minor amendments were made to the guide. Open and semi-structured questions were used to explore parental accounts of the factors influencing their children's eating habits, their perceptions of feeding their children and any challenges they faced on a day-to-day basis. They were also asked what their children's 'typical' diet consisted of in order to put these concerns into context. Each focus group began with a modified version of 'Circle Time' to act as an icebreaker (Mosley 1998). Participants were shown examples of processed foods and drinks specifically marketed at young children and asked to discuss their views on these items. This process has been used successfully in other focus groups to generate effective group participation (Warren *et al*. 2008).

In Cornwall where some families live in very remote areas and have problems accessing local services such as children's centres, individual interviews were also conducted. Interviews were arranged by a health visitor, who then accompanied the researcher (HO) to the participants' homes; this allowed parents who did not wish to attend a children's centre but wished to take part in this study to be included. The same questions were used for both the individual interviews and focus groups, with the addition of some questions in the individual interviews on accessibility to services and support.

Analysis

Interviews were digitally recorded (audio only) and transcribed verbatim by one researcher (AH). Transcripts were checked for quality, coded, entered into Microsoft Excel. The data were analysed using framework analysis, the main focus of which is to keep the integrity of accounts rather than to 'fracture' the data (Ritchie & Spencer 1994; Green & Thorogood 2004). Framework analysis involves five distinct but interconnected stages of analysis: familiarization of the data, identifying and creating a thematic framework, indexing, charting and mapping and finally interpretation (Ritchie & Spencer 1994). This method is designed specifically for use in applied research and is both a deductive and inductive process thereby enabling the research questions to be examined but does not preclude the emergence of new and unexpected findings.

Initially, thematic codes were created deductively, which were generated from the questions participants were asked (for example, 'factors influencing child's diet'). On indexing the data, additional specific codes emerged (e.g. cost, time and food marketing) and were used to generate subcategories inductively. Qualitative analysis is an iterative and reflexive process; therefore, the framework was updated to fit the data throughout the analysis (Dawson *et al*. 1993; Ritchie & Spencer 1994; Green & Thorogood 2004). This process is valuable because it allows themes to be clearly identified both within, and across interviews. In line with Critical Appraisal Skills Programme quality guidelines (Public Health Resource Unit 2006), the framework was checked by a second researcher (HO) to ensure that no relevant data were inadvertently or systematically excluded, nor any irrelevant data included (Law *et al*. 1998; Graneheim & Lundman 2004).

Results

Participants

Two focus groups were held in children's centres in each location with a total of 33 participants (Table 1). In addition, four family interviews were conducted with six participants in Cornwall who were not chil-

Table 1. Characteristics of study sample

Focus group/interview	Location	Code	Number of participants (*n*)
Focus group	Islington	Isl1	4
Focus group	Islington	Isl2	13
Focus group	Cornwall	Cw1	7
Focus group	Cornwall	Cw2	9
Family interview	Cornwall	FI1	1
Family interview	Cornwall	FI2	1
Family interview	Cornwall	FI3	2
Family interview	Cornwall	FI4	2

dren's centre users. All 39 participants, three of whom were fathers, were parents of young children aged 18–39 months. All parents who were approached agreed to take part. All of the focus group participants were from different households, while two family interviews were conducted with two parents from the same household (FI3 and FI4).

Key themes

The key themes to emerge from the parents' discussions were sorted into categories (affordability of food; time constraints; supermarkets, food shopping and food marketing; lack of cooking skills and confidence; parental role modelling; family influences and challenges to parental practices; peer influences; fussy eating; food waste). Each theme is reported below and elaborated further with illustrative quotes. Parents reported various coping strategies, which enabled them to feed their children according to these circumstances; Table 2 lists these strategies and provides a summary within the context of each theme.

Affordability of food

Participants gave detailed accounts of the wide range of factors that influenced and constrained their decisions and choices in purchasing, cooking for and feeding their young families. Parents were acutely aware that they were often unable to afford food and the need to manage on a limited budget was a recurrent and dominant theme, for which a number of coping strategies were reported. One common approach was to forgo buying some foods in place of other unavoidable expenses such as nappies, rent and other household bills:

> If I've got to spend £20 on nappies, the food has to suffer that week (IS1),

> some weeks you have no money left . . . you still know the things you prioritise in your shopping trolley (FI3).

Treats for the children were seen as a something that could be sacrificed if money was scarce:

> Yeah we do [adapt our shopping], it's like if we've got a good week we do normally buy the kids treats and everything like that, but if we haven't then they don't get it (FI3).

There were foods that parents would like to buy but they felt they could not afford, for example, particular cuts of meat and fresh fruits and vegetables:

> We can't afford to eat fresh meat every day . . . Just proper cuts of meat would be nice, from the butchers, but we have to settle for Morrisons . . . value foods (FI2),

> Because we get paid monthly, so the week before it's pay day we're really skint and it's like running the cupboards and freezer down . . . so obviously for last three or four days, I don't go out and buy fresh fruit and veg for those few days, so it'll be anything . . . that's left (IS1).

Many parents had a perception that 'healthy food' was too costly, for example:

> Having fresh fruits and vegetables on a daily basis is expensive (CW1).

And while they would like to give fruit and vegetables everyday, they could not afford to. In contrast,

Table 2. Themes, parental accounts of feeding their children and their coping strategies

Theme	Accounts of feeding children	Parental coping strategies
Affordability of food	Food is expensive when on a tight budget	Prioritise essentials
		Forego children's treats
		Weekly menu plans and shopping lists to reduce food waste
	Fresh fruit and vegetables and cuts of meat are too expensive	Do not buy fruit and vegetables at end of the month
		Buy own brands and economy products
Time constraints	Not enough time to cook from scratch	Prepare food in advance on days off
		Use prepared ingredients (e.g. frozen vegetables)
		Share cooking with others
Supermarkets, food shopping, food marketing	Supermarket promotions can provide useful savings	Buy whatever is on offer
	Shopping with children is stressful	Shop alone when possible
	Advertising aimed at children results in pester power	Leave children at home
		Write shopping lists and do not deviate from them
		Shop online to avoid promotions
Lack of cooking skills and confidence	Lack of confidence is a barrier to cooking	Give children ready meals
Parental role modelling	Children copy adult behaviour	Parents eat healthier food to pass on habits to their children
		Eat together with children
Family influences, challenges to parental practices	Conflicting feeding styles of ex-partners	
	Grandparents want to spoil children with unhealthy food	Try to ignore it
Peer influences	Children copy other children's eating habits	Give similar food at home that children eat at nursery
Fussy eating	Children are fussy	Give in to it
		Ignore it
	Mealtimes feel like a battleground	Play games with food to make more appealing
	Stressful and upsetting for parents and children	
Food waste	Children may not eat new foods	Do not buy new foods
	Parents cannot afford waste	Give ready meals children are more likely to eat

some parents thought that fruits and vegetables were among the cheaper foods to buy, but these tended to be parents who had access to cheaper local markets in Islington, for example:

> The guys that sell the fruit for a pound . . . they're great (IS2).

Parents also reported making menu plans and weekly shopping lists to make their money go further in order to know exactly what they were cooking everyday:

> Every Sunday night we sit down and write out what we're going to have that week . . . it saves so much money (CW2).

Time constraints

Time constraints were mentioned frequently in both Cornwall and Islington; parents expressed conflict between knowing what they would like to do to provide food for their children and what they were able to do within the confines of busy, working lives. Preparing food from scratch suffered as a result of time pressures:

> I work three 12 hour shifts a week and by the time you get in . . . I'd love to have things all prepared but I'm working, I'm so tired . . . on a Wednesday when it's my first day off I'm so exhausted from doing all those hours in three days that I try my best just to make sure, you know that I spend time cooking, but you don't always get time to prepare (CW1).

Many of the parents interviewed had developed practical solutions to cope with the demands on their time, particularly for those who work; these included shortcuts when cooking, keeping mixed vegetables in the freezer:

That's handy for stuff like shepherd's pie, I just chuck in those mixed veg and that's fine (IS1).

Preparing food in advance:

If you've got five minutes while someone's having . . . a sleep or something like that, you can pre-cut the vegetables for later on that evening and things like that. So you don't have to rush later and think, oh my goodness I want to cook this now I haven't got the time to do it (FI1).

And sharing the cooking with a partner:

Oh he cooks sometimes but when it's his turn he just thinks a takeaway is easier! (CW2).

Supermarkets, food shopping and food marketing

Shopping for food appeared to be a stressful, time-consuming activity, which parents repeatedly expressed their dislike for, particularly when they had to take young children with them. They reported family arguments, children having tantrums and feelings of frustration and annoyance:

I hate food shopping, I really hate it, it's just really stressful and guaranteed . . . it puts me in a bad mood . . . it's so boring, and my daughter hates shopping which doesn't help, so it's just a nightmare (IS1) and

It's a nightmare, [the children] are always picking things off the shelf. I think with the kids I just want to hurry up, do the shopping and get home, because it's just, it's too much with her (FI4).

Supermarket promotions and food marketing had an effect on food shopping, some of which was positive, for example:

They have some good offers on at Tesco's (FI4).

While other aspects made food choice more complicated. Parents suffered from 'pester power', with children trying to pressurise them into buying things which were not on the shopping list:

It's harder when you take [the children] because they're 'I want this, I want that' (CW1).

Some of this seemed to be directly as a result of advertising aimed at children. Of Haribo™ sweets, one parent said:

I think when [sweets are] obviously in the shops and advertising them and [the children] can see them, it makes it very hard obviously to get away from that with them demanding things like that (FI1).

Parents described reacting to this by making shopping lists, ensuring they were disciplined and stayed focussed by shopping for what they planned to buy and what they could afford, shopping online or by shopping alone to prevent their children being exposed to, and influenced by, supermarket advertising.

Cooking skills and confidence

Confidence and the ability to cook also had an influence on whether parents cooked, and the foods they provided for their families. Parents with a lack of perceived confidence tended to revert to ready-made, convenience foods rather than cooking meals from scratch:

The confidence I think could be [a barrier to providing healthy food], yeah, thinking, oh my goodness I'm going to mess that meal up, I'm going to go for the easy option (FI1).

Acquiring these skills seemed to be related to culture and upbringing; a few parents felt that they knew what foods were healthy and how to prepare them as a result of their childhood experiences:

My mum sure took good care of me, this is the same what I do with my children now (IS1).

This was more apparent in Cornwall:

We're traditional, I like to spend a lot of time cooking. I'm always cooking' (CW2) and 'my mum used to cook all the time . . . so we know how to cook, it's just I think a lot of it is down to laziness as well isn't it? (FI4).

Parental role modelling

Parents saw themselves as role models for their children, recognizing that family eating habits (for example, parents eating the same foods as their

children and all eating together) were a way of modelling good eating behaviours and play a key role in what their children eat. It was generally agreed that parents should not expect their children to eat things that they would not eat, nor should they be allowed to eat food that they would not let their children have:

We want our children to have the best food and I've learned that children do copy us . . . when your husband is having chocolate it's not fair to expect your child to have banana or fruit (IS1) and

. . . my oldest, he wouldn't eat because he was always like, 'well why isn't mummy eating?' Like vegetables, if I don't have peas, (I hate peas), if I didn't have peas on my plate he'd be like 'why haven't you got them, I'm not going to eat them (CW2).

Parents reported changing their eating habits in an effort to act as good role models:

My husband and I have an addiction to cookies and everything bad. So because of [our son] we've started eating so much better (IS2).

Family influences and challenges to parental practices

Some parents expressed concern and frustration that their efforts to model eating behaviours and encourage their children to eat well were frequently undone by other family members, particularly ex-partners and grandparents. Parents reported other family members giving children unhealthy foods as a way of spoiling them, particularly those who did not see the children very often:

If they're at their dad's or their gran's, they eat just junk food all the time, because they don't like to say no, they like to spoil them as much as possible (CW2).

One parent said she had no authority around mealtimes and that although she was strict with meals, other family members tended to do what they wanted:

The other day . . . it was only about half hour before tea and [the children's father] went away and give them more biscuits and I was like, what's the point in that? (FI3).

These differences in parental food choice caused conflict within families, particularly where two parents have different ideas about what they should feed their children or different eating habits:

My husband's always moaning at me to stop giving them junk food, he blames every naughty thing that happens on junk food . . . it's just a nightmare really (CW2).

This was particularly apparent between ex-partners:

I find it quite hard because I've just split up with my son's dad but [his dad is] really fussy. He doesn't eat any vegetables . . . so I think when my son goes round to see [his dad] he comes back being really fussy . . . (CW1).

Inconsistency between parents led to established routines being broken. One parent felt that she wished she could get back to her old routine because:

I can do things my way because my routine is fantastic. I've got it all in my head and I can just get on with (FI1).

While others were more resigned to it and accepted it would happen:

You kind of have to accept it to a degree . . . but keep within limits (IS2).

Peer influences

Parents across both areas described how their children's eating habits were heavily influenced by other children, both positively and negatively:

Children, they just copy (IS1).

Children were encouraged to try new foods when they saw other children eating, particularly at nursery or school:

[my daughter] is eating a lot more vegetables now since she's started school dinners because she's seeing other children around her eating them (CW1) and she's slightly better at school because they've got all their friends. And they're all [eating], aren't they? (CW2).

For some, this positive influence did not always translate into better eating practices at home:

You notice that your kids won't eat stuff at our house, but when he goes to nursery . . . he'll eat it (CW2) and

They come home [from nursery and say] I had mashed potato. And it's sort of, did you like it? Yes, I want it at home now. Then you can try at home giving them mashed potato till the cows come home and you get nowhere. They say, I don't like it (CW1).

Fussy eating

Fussy eating was discussed at length, with most parents across both sites reporting some kind of fussy eating by their children, for example:

They don't really eat hardly anything (CW2), I can't find a way where I can just give it to her and make her enjoy the fruits and veg (IS1), and she doesn't eat dry food. But she wouldn't eat a puree either. I couldn't make her a puree, she wouldn't eat it . . . she'd just fling it across the floor . . . (IS2).

There were various reasons for this fussiness, which included taste and texture:

She'll eat lumps and bits but not lumpy food. She likes a smooth puree (CW2).

And whether foods were raw or cooked. Some children developed a desire to be independent as they got older and became fussier, where previously they had eaten a wide range of foods:

Unfortunately when my daughter hit about two she got ridiculously picky about what she would eat. It had to be something which she could pick up, so it would be chicken dippers and sausages and stuff. Everything else, won't touch (CW1) and

Yes she is fussy now [when she didn't use to be] because . . . in the past she used to eat the fruits and the apples and everything, now she's more aware of different tastes she's all of a sudden changed (IS1).

Across the sample, fussy eating made mealtimes stressful and tended to make them feel like a 'battleground' with both parents and children ending up upset. Parents reported children attention seeking, challenging parental authority, and wasting time resulting in long mealtimes:

It is quite a battle, because you want to give them the best of what . . . they should eat and what's good for them . . . it's hard, you can't shove it in their mouth . . . because I've tried putting it in her mouth as we're eating, and she'll just spit it out again (IS1).

There was an overarching feeling that fussy eating was a continual frustration:

It's down to their sheer determination to drive you mad . . . just because I can annoy you (IS2).

As well as a source worry for parents, in particular that their children might go without and be hungry as a result. In response to the problem, parents described a number of tactics that they employed to ensure that children would eat sufficiently, for example, playing games with food to make it more appealing:

My daughter prefers to have parmesan sprinkled on [broccoli] so she thinks it's fairy dust . . . so she'll eat it that way, but any other way she won't touch it (CW1).

Or simply ignoring the issue:

You get a child that every time you sit down to a meal says 'I don't want that, I want this'. So in my house we have Hobson's choice. This is what we're having for tea, you either eat it or you leave it (CW1).

For other parents, succumbing to the demands of their children was easier than continuing to fight over food:

If he ain't going to eat his dinner, he's getting toast at least, just so he's eaten something, and he knows that now, so I think he does that on purpose! (IS2).

Food waste

Parents voiced concerns about wasting food (and money) when they discussed ways of feeding fussy eaters on a limited budget. Some parents dealt with this by no longer giving children foods that they had previously refused to eat:

I'll stop buying something if they spit it out once because we don't want the waste (FI4).

Avoiding unfamiliar foods that their children might refuse to eat. Although some parents were keen for

their children to try new foods, this was not an option when budgets were too tight and wasting rejected food was unaffordable:

> It's like a money factor, you can't just think, oh I'll buy all that stuff because they might eat it . . . if I could write down a list of things I'd like my children to try, it would be great, but I just can't afford that on top of my weekly shop as it is (CW2).

Parents who lacked extensive cooking skills would prefer to give their children ready-meals so that:

> At least then the children are going to eat it and I haven't wasted (FI1).

Coping strategies

Parents described a range of coping strategies, which enabled them to deal with the everyday challenges of feeding a young child. A summary of the main ways of coping are presented in Table 2, linked to the key themes emerging from the interviews.

Discussion

Good nutrition in early life is an important public health issue. Few studies have however explored in detail the factors that influence the decision and practices parents make in how they feed young children. The aim of this study was to explore the range of factors that parents of pre-school children identified as influencing their feeding practices. Focus groups and individual interviews were conducted with a sample of parents living in two contrasting areas of the UK, Islington an inner city London borough, and Cornwall, a rural county in the south-west of England.

The results of this study have highlighted that a wide range of complex and interconnected factors influence the decisions and practices parents make in terms of what, and how they feed their families. Parents provided detailed accounts of how environmental, social, family and individual factors all interact to affect their shopping, cooking and feeding practices as outlined in Table 2. From the open and frank accounts given by this sample of parents, feeding a pre-school child is not a simple choice based upon the provision of dietary advice and health information but clearly a far more complex process. Parents are faced with competing and conflicting demands and influences, many of which are beyond their direct individual control (for example, the cost of food), or are perceived to be (for example, the influence of other family members). Parents described a number of coping strategies, which enabled to them to 'do the best they could' given their circumstances. Although the study participants demonstrated a strong desire and wish to provide the 'best' for their child, the reality of their daily lives meant that this was not always possible. Parents described how they perform a complex 'balancing act' dealing and responding to a wide range of factors that ultimately determines what their child eats.

An overriding factor influencing and indeed constricting parental food practices was the impact of living on a tight and restricted family budget, where cost seemed to override other factors, something which is especially pertinent in times of an economic downturn. A lack of money had a direct impact on the types of foods that could be purchased, for example, fresh fruit and vegetables, and also constrained certain practices such as offering their child new and unfamiliar food due to concerns over wasting rejected items. Previous studies with families on low incomes have highlighted the impact of restricted budgets on food choice (Dowler & Dobson 1997; Jain *et al*. 2001; Maubach *et al*. 2009; Sobal & Bisogni 2009). A lack of resources inhibits food choices and the ability to buy healthier or better quality foods, resulting in lower consumption of fruits and vegetables, increased snacking, as well as reluctance to experiment with new foods (Pollard *et al*. 2002; Lawrence & Barker 2009). Although the parents interviewed would have liked to choose healthier foods, financial pressures affected their choices, and caused them to make regular sacrifices of certain items in place of other unavoidable costs. Parents did not unanimously perceive fruits and vegetables to be prohibitively expensive, which would suggest that other parents from similar socio-economic backgrounds can be made aware that eating healthily, and including fruits and vegetables in the diet regularly, is feasible on a budget.

The majority of influences cited by our sample, which affected feeding pre-school children (as outlined in Table 2) related to other agents, rather than just parents themselves; their food choice decisions were situational, they occurred within an ecological context and were influenced by numerous other factors, such as the social and familial environment (Bisogni *et al*. 2007). Earlier sociological work shows that while it is women who tend to make the daily decisions about the foods brought into a household and eaten by the family, these decisions are situated within the wider family context, and are shaped by the preferences of their partners and children (Charles & Kerr 1988). They must act as pacifiers at mealtimes, resolving conflicts between family members and 'ensuring that mealtimes are a happy family occasion' (Charles & Kerr 1988). For the parents in our sample, food practices were the result of a compromise between knowing what foods were best for the families and being able to provide them based on what they perceive they could afford (both in terms of time and cost), negotiating with other family members (influencing ex-partners and grandparents' habits) and satisfying children's likes and dislikes.

Most parents in our sample had experienced fussy eating or neophobic tendencies to some extent by their children and believed the quality of their children's diets suffered as a result. While parents were aware that this is a common phenomenon for children to begin to go through during their second year, it made it no less distressing and parents struggled to find effective solutions to overcome it. Parents seemed to 'beat themselves up' that their inability to get their children to eat well indicated a failure as parents. There is evidence to suggest that parental control is positively associated with children's fruit and vegetable consumption (Wardle *et al*. 2005) therefore supporting parents to gain control, to successfully introduce new foods while developing skills for effective parenting could be extremely beneficial in this instance.

It is interesting to note that very few differences were found between the urban and rural participants in the study. One difference that was apparent was the higher levels of confidence and experience in cooking among the rural parents. These parents referred more to their upbringing and that being exposed to their parents cooking while growing up and being taught what was healthy had an impact on the way they now cooked and provided food for their families. The families interviewed in their homes in Cornwall seemed to be slightly more lacking in confidence, with smaller social support networks, and expressed stronger feelings of isolation. The relatively small differences in the results from our two study locations maybe because both are similarly low-income communities.

This study has collected interesting data from a diverse sample of parents using children's centres in an urban and rural setting in England. The focus groups enabled parents to describe and share their personal experiences of managing and coping with feeding their young children. In addition, a small number of family interviews were also conducted in Cornwall for parents who were not children's centre users. This provided some additional insights from more socially isolated parents. However, it is important to acknowledge the limitations of this investigation; focus groups were at times rather rushed because of the busy nature of children's centres, which may have prevented the research team from exploring key issues in sufficient depth. In some groups, it was difficult to get all participants actively engaged in discussions due to there being some dominant parents. A member of the health visiting team was present during the family interviews, which may have affected the content of these interviews. In addition, family interviews were only conducted in Cornwall, potentially enabling the exploration of some themes more in Cornwall than in Islington.

The results of this study have provided some valuable insights into the range of factors influencing parental feeding practices. The parental accounts have highlighted some of the environmental, social, family and individual influences on feeding practices and the strategies parents use to cope with these. The data have been valuable in informing the development of an early year's nutrition intervention. It is very apparent from this qualitative data that nutrition interventions designed to support parents of young children need to be multifaceted in nature. The provision of nutrition information alone will have minimal impact. Instead, practical and applied

support that focuses on developing parents' skills and ability to cope on a restricted budget are needed. Practical advice on ways of dealing with fussy eating is also clearly necessary.

This study has also highlighted the need to provide nutritional support in a timely manner. While parents reported that they received support from health visitors and midwives while their children were younger (less than 12 months), as their children got older, there was a sense that parents felt they were 'left to their own devices' until their children attended school. Based on the results of this study, the optimal time to implement a new community-based support programme and fill an apparently much needed gap could be between 18 months and starting school.

Conclusion

This research suggests the poor eating habits of many pre-school children may be less a case of parental ignorance, but rather the product of a range of coping strategies developed in the context of modern life. There is a need to design tailored interventions, which provide parents with the necessary knowledge and practical skills to feed their children on a restricted budget and with little free time, while also taking their sociocultural values into consideration. Helping parents to develop effective coping strategies, which build their confidence and self-efficacy, may enable them to make positive changes to their children's diets.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

Contributions

AH analysed and interpreted the data and wrote the initial draft of the manuscript. AD provided guidance in data analyses. RW, AD, HO, CP, PM and GR assisted in the interpretation of results. All co-authors participated in manuscript preparation and critically reviewed all sections of the text for important intellectual content.

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