

Original Article

Food choices made by low-income households when feeding their pre-school children: a qualitative study

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Abstract

The growing concern about poor dietary practices among low-income families has led to a 'victim blaming' culture that excludes wider social and environmental factors, which influence household food choices. This small-scale qualitative study investigated influences on the diets of young children in families on a low income in the West Midlands, UK. Using semi-structured interview schedule, rich data was gathered through individual interviews with 11 mothers of pre-school children. Information was collected about the type and range of food given following the introduction of solid foods including factors influencing parent's knowledge and diet, sources of nutrition advice and financial constraints. Food accessibility and storage issues were also explored. Interviews were audio-recorded, transcribed and analysed using a modified grounded theory approach. Findings highlighted that parents and professionals may have different interpretations about 'cooking from scratch'. The results indicated that some parents have poor understanding of what constitutes a healthy diet. However, most parents included fruit and vegetables to varying degrees and were motivated to give their children healthy foods, suggesting that, with adequate support and information, the diets of these children could be improved. There was evidence that when striving to improve the diet of their children, many parents' diets also improved. The findings from this small-scale in-depth study highlighted a number of issues for local and national policy and practice in the area of nutrition and child health in the early years.

Keywords: qualitative, family influences, health visitor, poverty, pre-school, child nutrition.

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Introduction

The link between diet and health, independent of obesity, is well established (Kerr 1999; Maynard *et al.* 2003; Preece *et al.* 2006), with long-term consequences of poor diet on health being linked to the continued cycle of poverty and ill health among people from lower socio-economic groups (Townsend *et al.* 1992; James *et al.* 1997; DoH 1998; Wanless 2004; Cade 2008; Marmot 2010).

Although there is a wealth of evidence about the importance of food in the early years (Kerr 1999; Maynard *et al.* 2003; Preece *et al.* 2006), previous research on children's diet has predominantly focused on school-age children and obesity and utilised quantitative methodology. Large-scale national surveys (National Children's Home 1991, 2002; Joseph Rowntree Foundation 1994, 1995) give a good insight into the low-nutrient, high-calorie foods being consumed by children living in poverty but provide little

information about the reasons why the diets of these children are poorer than their higher income counterparts.

Qualitative research looking into barriers to healthier eating in disadvantaged communities has illustrated that some people had good knowledge about what constitutes a healthy diet but found difficulty in applying their knowledge with conflicting messages (O'Neill *et al.* 2004). However, Wood *et al.* (2010) in their qualitative study with 46 mothers in a socio-economically deprived communities in Wales, UK, found that although most mothers recognised that food affected health, and clearly articulated the links between poor nutrition and ill health, they stated that personal choice and pleasure were more important than nutritional value. These findings clearly indicate that food choices are complex and a number of competing and equally important issues such as skills in implementing knowledge, pleasure and choice determine what constitutes the family food basket. However, what is currently lacking from the available qualitative data is whether similar factors apply when parents decide to feed their young children, particularly those who have progressed to solid food but have not yet started school. These are important formative years for health and development of dietary preferences (Birch & Marlin 1982; Fisher & Birch 1999; Campbell *et al.* 2006; Harris 2008), and is also the time when children are most dependent on their carers for food. Therefore, exploring low-income parents' views, experiences and reasons for making food choices for their young children are important in understanding the reasons for poor dietary pattern in this group, adding to our

current knowledge about this topic, and informing policy and practice in early year nutrition and health education.

This piece of research was carried out to gather local information that could facilitate best practice in addressing and informing local policies that may have influence on parents with young children and their access to, and information about food. The study aimed to explore the food choices made by low-income families when feeding their pre-school children; to understand the socio-economic and environmental influences and constraints these families experience; and to gain an insight into the reasons why the diet of young children in poverty are generally so poor, with a view to influence health education policy and practice with regard to nutrition in early years.

Materials and methods

The study based its epistemology within the interpretative paradigm (Silverman 2005; Flick 2006), aiming to gain a deeper understanding of the socio-economic, cultural and environmental phenomena that shape mother's attitudes and behaviours in choosing food for their pre-school children. Qualitative methodology was chosen as it has the potential to provide rich data about the subjective meanings of the individual (Pope *et al.* 2002). Although qualitative data cannot be generalised because of its sampling strategy and often small number of participants (Silverman 2005; Flick 2006), it provides in-depth rich data, which can inform the debate about approaches to healthy eating messages, or interventions and

Key messages

- Mothers access a variety of sources for information regarding the introduction of solid foods; however, in the majority of cases, they still introduced these foods before the recommended age of 6 months.
- Confusion exists amongst mothers about the benefits of vitamins in children's diets and parents experienced difficulty in collecting the free vitamins they were entitled to.
- Brand loyalty led to the belief that manufacturers of baby foods automatically produced products that were 'good' for toddlers.
- The complexity of the health promotion messages needs to be translated into useful everyday menus for parents by people who understand parent's food preferences.
- Improvement in parents' diets as a result of trying to improve the diet of their children demonstrates a broader potential impact on the family's dietary pattern as a result of having children.

stimulate further research into the needs of low-income families.

Data collection and participant inclusion criteria

Using a semi-structured interview schedule, 11 mothers were individually interviewed, and information was collected about factors, which influences their decisions when making food choices and feeding their young children.

A limitation of using interviews to gather information is that of social desirability bias (Johnson & Fendrich 2002), whereby interviewees will try to portray themselves in a positive light, possibly adjusting their replies to reflect how they would like to be seen as opposed to the reality of a situation. Semi-structured interviews can help to address this by exploring inconsistencies and probing more deeply when answers are contradictory or not immediately forthcoming.

Qualitative interviewing is an interactive process and the researcher can be regarded as a research instrument (Mechanic 1989). The professional status of the interviewer and their personal characteristics, however, may affect the content and quality of the interview (Gee 1999; Pope *et al.* 2002; Denscombe 2007).

Qualitative interviews generate a large amount of material and their in-depth nature makes smaller numbers appropriate (Pope *et al.* 2002; Russell & Gregory 2003; Flick 2006). Therefore, a purposive sample of 8–12 families who met the following criteria were chosen: did not own their own home; were in receipt of income support and/or qualifying for Healthy Start vouchers; and had a child of pre-school age and no siblings of school age or greater. Health visitors' (HV) knowledge of the families was used to select participants, who fit the inclusion criteria. Eleven families were interviewed including one pilot. The mother was the primary interviewee. Fathers were present during at least part of three interviews and their contribution was noted and credited to them when the interviews were transcribed.

The interviewer is a HV and therefore participants were chosen from other HVs' caseloads with a view to redressing the potential imbalance of power relationship between the participants and somebody they

already know in a professional role (Maynard & Purvis 1994; Keddy *et al.* 1996; Oakley 2000).

Interview schedule

The interviews were constructed around seven semi-structured questions, which explored issues such as what the children eat now, how the family budget for food, how easy they find choosing, cooking and storing food, how much the children themselves exert influence and how this effects what they are given. The interview schedule was extended to include questions around food preparation and Healthy Start vouchers¹ (NHS 2011a). The interview schedule was developed, piloted and modified prior to undertaking the main study. All interviews were carried out by the researcher who also transcribed the recorded interviews.

Ethical approval

Ethical approval was obtained from the North Staffordshire Research Ethics Committee and through the Integrated Research Application System. Beauchamp & Childress' (1983) principles of ethics; respect for autonomy, beneficence, non-maleficence and confidentiality were adhered to during recruitment, data collection, analysis and reporting.

All potential participants were given letters of invitation to take part and written information about the nature of the project and all those who agreed to take part signed a consent form prior to the interview. Permission for recording interviews was also sought from participants and was granted.

¹At the time of writing, Healthy Start vouchers were available from the government and could be exchanged for fresh fruit and vegetable, fresh or some formula infant milks. They also include a voucher, which can be exchanged for free vitamin supplements. They now include frozen vegetables. They are available to pregnant women or families with children under age 4 and on certain benefits, or with an annual income of less than £16 190. More information is available at <http://www.healthystart.nhs.uk/healthy-start-vouchers/>.

Data analysis

The data generated were recorded, transcribed and then analysed using a modified grounded theory approach (Silverman 2005). All participants were interviewed by the same researcher, who also typed the transcripts; it was therefore possible to become fully immersed in the data generated. Analysis was ongoing, with transcripts typed up before any further interviews whenever possible. Themes that emerged were incorporated into the next interview and explored in greater depth. This 'constant comparative analysis' is a key feature of grounded theory analysis (Keddy *et al.* 1996; Thorne 2000; Bryman 2008).

Data was coded, and to ensure anonymity, each participant was given a unique number. A colleague with experience of grounded theory analysis reviewed the findings to ensure appropriate extraction and representation had been employed.

Results and discussion

Table 1 provides the socio-characteristics of the participants: mothers' age ranged from 19 to 25 years old, half of them were single parents ($n = 5$), only two were car owners, and the average child age was 22 months.

The following main themes emerged from data analysis:

1. Influences on the timing of introduction of solid foods,

2. Trust in commercial foods and brands,
3. Concern about fluid intake leading to consumption of 'squash' and juices,
4. Confusion about what constitutes healthy foods,
5. Barriers and incentives to healthy eating, and
6. Positive changes in parents' diets as a result of having children.

Influences on the timing of introduction of solid foods

Participants sought advice from a variety of sources before they started giving solid foods to their children; combining professional opinion with that of family members or personal knowledge was often the practice. Many parents expressed that the HV did not offer enough detailed advice:

... (the HV) spoke to us about, like, weaning him on to things but didn't talk in much detail and then we spoke to family members and just read books and things ... (6).

One mother stated that she had not been given any advice. Her sister-in-law gave her daughter solids at 10–11 weeks. Another mother relied entirely on a cookery book recommended by her sister. Current recommendations are to introduce solid foods around 6 months (NHS 2011b; UNICEF 2011). In this study, all mothers decided to introduce it earlier, usually because they felt the baby was hungry:

... he was about 3 months and then I tried him on baby rice because he was a really, really hungry baby (5).

Table 1. Socio-characteristics of the participants

Participant	Mother's age	Children's ages (months)	Car owner/access	Receiving Healthy Start vouchers	Giving vitamins	Father resident?
Pilot	23	25	Yes	No/not eligible	Yes	Yes
(Pilot) 1	25	12	Yes	Not known	Not known	Yes
2	23	13	No	No	No	No
3	19	10	No	Yes	Yes	Yes
4	33	13, 24	No	Yes (until 3 weeks ago)	No	Yes
5	22	24	No	No	No	No
6	19	12	No	No	No	Yes
7	23	37	No	No	No	No
8	21	14	Yes	Yes	Yes	Yes
9	21	2, 35	No	No	No	No
10	20	2, 14, 28	No	No	No	No

One mother mentioned that although the HV advised her to wait until the child was 6 months old, she went to the doctor for advice when the baby was around 4 months old:

She (HV) told me it was a bit too early . . . so I went to the doctor and I said 'look I can't fill him up and she told me some children go on to solids earlier . . . (1).

In response to the question about why she decided to offer solid foods at 4 months, another mother said:

That's when the stage 1(baby food) jars started (3).

These findings echo previous studies that parents rarely wait the recommended 6 months, as they believe their babies are hungry earlier than this and are influenced by family members and accepted local practice (Anderson *et al.* 2001; Alder *et al.* 2004; Morgan *et al.* 2004; Arden 2010; Wright *et al.* 2011). The UK Start for Life campaign (NHS 2011c) highlighted the issue of misinterpretation of signs of hunger. They advise that many changes in babies' behaviour, such as waking up in the night and chewing on their fist, are, in fact, part of normal development rather than indications that babies are ready for solid foods.

Trust in commercial foods and brands

Most parents fed their children manufactured baby foods before moving on to 'proper' (a commonly used word for food eaten by adults as well as children) food and trusted foods aimed at babies to be nutritionally balanced and safe:

If it's alright for babies then it's alright for him (the child) (3).

Data from our study indicated that mothers were not always aware that they can give family foods to their children; this could be either due to a lack of knowledge about suitability of family food or trust in commercial baby food or both.

. . . I didn't realise I could put her straight on to normal food . . . it wasn't until my health visitor said (4).

All except one parent stated that they thought giving baby foods from jars was cheaper than giving children

family foods. Many parents gave 'baby biscuits' and did not consider the sugar or fat content, assuming that, as these were aimed at babies they were suitable:

I thought because they were baby foods, like baby stuff, they'd be careful about what sugar and stuff they put in them (7).

Some mothers identified ease of holding as their reason for giving these baby biscuits, and were clearly aware that chocolates will damage their babies' teeth but thought baby food was safe.

. . . with things like chocolate . . . we try to avoid that because obviously it's gonna rot his teeth . . . we usually give him a couple of rusks or crisps . . . things like that (6).

Many parents gave 'baby' juice/squash initially although they stated it was very expensive. The terms juice/squash and pop were used interchangeably for diluted drinks and sometimes concentrated fruit juices.

She was on that Heinz squash for a while a quite while, it's only been like the last 6 months she's had the normal squash (7).

In response to the question about why they gave baby juice, one mother stated:

Because I thought it was the right thing to do because it was Heinz (said with added emphasis) and it was like, it was £2 a bottle . . . (1).

The issue of trust in certain commercial foods became evident when discussing whether parents were aware of salt:

I don't give her salt or anything with salt in it . . . I always buy her, like, the tinned food, like the baby ones, well not the baby ones but the Heinz, the children's ones because they ain't got nothing like that in it (8).

Further probing identified these were tins of food with high levels of salt such as baked beans and sausages.

Previous studies on nutrition and low income (Gregory *et al.* 1995; Bolling *et al.* 2007; Nelson *et al.* 2007) did not investigate very young children and therefore had not identified the reliance on jars of food. This is an important finding as babies who have jars of food are less likely to enjoy fresh foods as they

get older (Coulthard *et al.* 2009). Brand loyalty led to the belief that manufacturers of baby foods automatically produced 'juice/squash' and tins that were good for toddlers. This finding raises the question whether manufacturers are aware of this brand loyalty and may be deliberately or inadvertently, targeting inappropriate foods towards parents with young children.

A notable finding was that although many parents avoided giving sweet foods such as chocolates and sweets had given 'baby biscuits' to their children. Rusks were also considered a food that all children have regardless of sugar/fat content. Early introduction of sweet foods can affect long-term food preferences (Birch 1998) and this study has highlighted the power of the food industry to both promote and normalise foods that parents may otherwise avoid offering to their young children.

Concern about fluid intake leading to consumption of commercial drinks

Most parents gave diluting juice/squash. This was either because they thought it was good for them or they did not think the children drank enough water:

... if she's got water she'll have a couple of sips and then she'll walk off and about 20 minutes later she'll return and have a bit more ... but if you make one of those beakers of squash ... she has like a beaker of squash an hour (7).

He'll drink it (water) but only if he's really thirsty ... we tried to get him on mainly water but he wasn't drinking enough (6).

In one family, it was recognised that excessive juice/squash had negatively affected solid food:

I think basically she drunk too much pop (diluted squash). ... she's a lot better now, she still likes it now, but does eat a lot better now (9).

The low-income diet and nutrition survey (Nelson *et al.* 2007) identified that fizzy and sugary drinks are given more often to children in families on low income, though no explanation was provided. The finding from this study suggests that there is a role for health education and interventions to encourage

parents to allow their children to drink when they are thirsty rather than feel the need to push fluids.

Confusion about healthy foods

All parents were aware that children should eat fruit and vegetables and avoid salt but were not necessarily aware of what foods were high in salt:

I don't put salt in nor nothing ... She wants proper food, like chicken nuggets, waffles ... (2).

Or

I don't usually give her crisps; I'm really fussy aren't I? If she has crisps she only has things like Quavers and Wotsits, she doesn't have nothing like Walkers crisps (7).

In response to whether they look at labels before purchasing food, it became evident that although some mother were choosing to buy jars and packets with 'lower salt' or 'low sugar' written on the main label but were not looking at the contents of the label.

I don't really look, I know I should because we should look at salt and that sort of thing ... we just pick the jars we know ... we probably wouldn't give her rich bolognaise sauces or anything like that, that might upset her stomach, we'd see if we could find her a lighter sauce (4).

Similarly, there was confusion about what constitutes a high-fat diet, for example, one mother mentioned that:

... I make sure she gets her 5 a day if she can and no bad stuff like fatty foods and that (4)

but lunch was described as sausage roll and crisps, suggesting that the parent was not aware that these foods have a high-fat content.

Only two parents were giving vitamin supplements, most had not considered them. One parent felt you could tell if children were short of vitamins:

Well you can usually tell if they're not getting enough (vitamins) ... they're very pale or a bit sluggish (5).

Another parent was concerned about giving extra vitamins:

... I've always been quite wary about giving him the vitamins because he may be getting enough of what he needs and if I'm giving him extra. I don't really know (6).

In contrast to much of the literature reviewed (O'Neill *et al.* 2004; Crombie *et al.* 2008; Wood *et al.* 2010), parents in this study did not have a wide range of knowledge of what constitutes a healthy diet, although many had made efforts to change the foods they gave their children even when they could not identify the specific benefits of those changes. Others believed they were offering nutritious meals although further probing indicated most were high-fat, high-salt, low-nutrient foods.

Barriers and incentives to healthy eating

All parents expressed that they wanted to give their child a healthy diet and the following areas were explored in relation to what encouraged or discouraged this.

Healthy Start vouchers

Parents reported that Healthy Start vouchers increased the uptake and variety of fresh fruit and vegetables they gave to their children:

We bought more fruit and vegetables because we had them ... (4).

If I got normal milk (not formula) I could get normal milk and some vegetables (2).

If I've got loads of Healthy Start Vouchers that need using up ... I tend to buy like, loads of vegetables (3).

However, half the sample did not claim their vouchers. In all cases, they had applied and then the vouchers were stopped:

It's the third time it's happened to us (that the vouchers were stopped) so I just gave up because it was costing us more to ring up than they were actually worth (6).

One parent said the vouchers made no difference and she often had some leftover vouchers which had expired.

Most parents provided fruit and found their children consumed large amounts, and appeared very proud of their child's fruit and vegetable intake:

I buy loads of them when I go shopping (fruit and vegetables) but they're always gone the next day or a couple of days later (3).

She's really good actually, because all fruit and vegetables she loves that more than if I put a plate of sausages and chips in front of her (4).

Healthy Start vouchers appeared to increase the uptake of fruit and vegetables but many families were not claiming them.

Parents' diets and cooking skills

Parents described that they cooked meals 'from scratch'. However, deeper probing revealed that most used jars of sauces and only one parent had never used these. In two families, the father did the cooking because the mothers could not cook but the foods they cooked were waffles, noodles, pizza and chips, or curries made with jars of sauces.

Only one couple had not offered fruit to their child, but mentioned that he had once sampled a banana.

Although the parents did not eat or cook vegetables at home, they and the child would eat them at the grandmother's house. Another mother demonstrated that their own preferences influenced what they gave the child:

I don't know about sprouts, I've never try her with sprouts, I don't like them myself (2).

Most parents stated that they 'cooked from scratch' but meant adding jars to raw ingredients, which has a major impact on health promotion messages when using the term 'home cooked' foods. Church (2007) identified the challenge of meeting adequate nutrients with increased use of processed foods. HVs and other health professions need to be aware that parents' perceptions and food choices may not be as clear as they appear.

Influences outside the home

Parents noticed that children ate a wider variety of foods outside the home and would then add these to

the children's diets. This included venues such as toddler groups, children's centres and nurseries.

When asked about whether starting nursery changed the child's diet, one mother stated:

She used to be funny about carrots and bread sticks but they give them a snack of that at 10 o'clock every day and she comes home and asks for bread sticks now . . . she'll eat carrots and she'll eat bread sticks which she wouldn't eat before which is good (4).

Another mother mentioned that:

At his toddler group they do toast and fruit and juice . . . he'll sit at the table with the bigger kids and eat what the bigger kids do (3).

Where families attended groups such as toddler groups or children's centres that offered healthy snacks, the parents appeared to appreciate that their child tried these foods and liked them and would consequently be more likely to offer them at home.

Access to shops

Reviewed literature (Department of Health 1996, 1999; Lobstein 1997; National Children's Home 2002) indicated that many families find access to shops and storage of food barriers to healthier eating, and therefore, this was explored. However, in this study, access to shops was not highlighted by the parents as a major issue; this may be because they all lived within 2 miles of a major supermarket.

It's all from the supermarket . . . that's just down the road. If I do a massive shop I get a taxi back (5).

If we do a big shop we'll get a taxi back but if it's only like a couple of bags we'll walk back . . . Sometimes we go weekly sometimes we go fortnightly. We walk down and get a taxi back . . . (when asked about buying things between big shops) . . . there's a shop down there (points to road) that does everything (6).

Cost

When making food purchases, parents do consider cost and stated that they buy foods on offer but rarely

anything that they would not normally buy. The biggest cost that parents mentioned was 'fresh' foods, especially vegetables, stating that frozen were cheaper and so sometimes they would buy them.

Like I say I buy it (vegetables) frozen but if it's on offer I'll buy fresh (5).

When asked if fresh vegetables cost more:

Yeah, yeah, definitely more than if you just went and grabbed the frozen vegetables or something, yeah it works out a lot more (4).

The majority of parents were asked directly if cost was a factor and some identified the cost of fresh fruit and vegetables stating that they may economise by buying frozen vegetables. Parents said they were frustrated by their children wasting food; however, unlike previous studies (Joseph Rowntree Foundation 1994; Mackereth *et al.* 1999; O'Neill *et al.* 2004), it did not prevent them offering foods that had previously been refused by their child because of cost. In fact, most parents talked about the importance of offering foods repeatedly.

Positive changes in parent's diets

Several parents stated that as a result of having children, their own diets had changed for the better.

I eat what he eats now . . . we all eat the same which is excellent (1).

Before I had (child's name) . . . this sounds really bad, but the local Chinese (take away) knew me on a first name basis. I don't think I've had a take away in about 7 months (7).

For others, it made no difference, and one person said their diet had deteriorated, which they felt was due to lack of time.

Improvement in parents' diets as a result of trying to improve the diet of their children demonstrates a broader potential impact on the family's dietary pattern as a result of having children. It may therefore be possible to 'tap into' parent's ambition to offer their children healthier diets to influence the diet of other adults in the household.

Conclusion and implications for practice

Despite being a small-scale study, this research has produced a range of new findings. Some findings were contrary to those of the reviewed studies while others provided new information, in particular about parents' dependence on commercial sauces, which they consider as cooking from scratch and the trust of commercially branded foods for babies and young children. Parents overwhelmingly wanted to act in the best interests of their children but this was sometimes limited by lack of knowledge or cooking skills; although parents may have not recognised that.

There was confusion about what constitutes a healthy diet including the amounts children need to drink, which sometimes led to excessive use of diluting juice/squash. Parents found children ate different things in different settings and would try to incorporate these into their diets at home. Finally, there was evidence that by improving the diets of children, parents' diets also benefitted.

While a study of this scale cannot be generalised, there are several findings that could have an impact on practice. All parents appeared to want to offer their children a healthy diet and no evidence was found to suggest that this was entirely a factor of social desirability bias; however, few parents had sufficient knowledge to translate their wishes into practice beyond the inclusion of fruit and vegetables in the diet, and interestingly, most parents felt that they had insufficient advice from HVs. Our findings suggest that the early stage of parenthood provides an opportunity for nutrition education and developing cooking skills, as parents tend to be more receptive to improve their children's diet. This finding echoes O'Neill *et al.*'s (2004) study that people in the very deprived area of Merthyr Tydfil, Wales, thought health professionals should take a more proactive stance with healthy nutrition education. Although the government has, in part, addressed this issue with its Start4life campaign (NHS 2011c), its implementations perhaps requires further skills development in HVs and allied health professionals.

The debate over the timing of introduction of solid foods is likely to continue with the Department of

Health promoting an exclusive milk diet until 6 months of age (NHS 2011b; UNICEF 2011). However, evidence from the literature review and findings from this study suggest that parents will continue to offer solid foods earlier than this. Many of the signs parents consider to be indications of hunger have been identified as part of normal development in the Start4life literature; however, there is evidence that practitioners, as well as parents, need convincing. Recent media coverage, suggesting that in western countries, these recommendations may not meet babies' nutritional requirements, can only undermine confidence even further (BBC 2011).

This research has evidenced that many parents need far more detailed information about the early foods they give their children and potentially need ongoing support around preparation and progression over time as their children grow. Professions working with families need to be aware that in many cases, parents may have different interpretations of such basic language as 'cooking from scratch' and much greater probing is needed to clarify what parents really mean. The use of high-sugar 'baby' foods was another area of concern that was identified. Some parents stated that the biscuits aimed at babies were convenient finger foods, professionals may need to address this by reminding parents of the risk of high-sugar foods and suggest alternatives. The trust parents have in 'baby foods' and drinks needs to be addressed on a strategic level with legislation limiting the promotion of such foods towards babies and children.

Drinks were an issue with most families offering 'juices/squash', which can lead to excessive drinking and tooth decay (Tahmassebi *et al.* 2006). The power of marketing needs to be addressed both locally and nationally, and parents actively reassured about adequate hydration and the benefits of water over juices.

Offering dietary advice is part of the HV's role at routine contacts; however, most participants did not seem to consider they were receiving sufficient information. This would require independent research to confirm the actual situation; it could be a matter of interpretation with HVs including information on diet as part of an overall discussion that parents do

not perceive as advice. It is however clear that clients would like more information. Parents would appear to benefit from some very simple recipes and simple techniques to improve diet; this has been incorporated into the Start4life campaign with messages such as 'snack swaps'; however, how many parents had viewed/received these messages was not investigated, and nobody volunteered the information.

Nationally, the uptake of Healthy Start vouchers in 2010 by eligible families was estimated at 78.9% and 1.6% for Healthy Start free vitamins (Healthy Start 2010). The findings demonstrate a need for HVs to have awareness of basic benefits families may be entitled to and where to refer families for advice.

Cost was mentioned by participants, but it did not stop them offering foods that had previously been refused, and some responses implied that the high cost of some foods/drinks was used as an indicator that they were good.

However, the cost of fresh fruit and vegetables was considered prohibitive, but with Healthy Start vouchers, parents were encouraged to buy fruits that they may not have bought otherwise. Healthy Start will soon allow parents to buy frozen vegetables (National Health Executive 2010), which should increase knowledge around the health benefits of these and allow the vouchers to go further. Hopefully, this will not deter people from using them to experiment with a wider range of fresh fruits.

Recommendations

The following recommendations are aimed to offer a range of solutions to some of the issues highlighted in this small-scale in-depth study:

1. The complexity of the health promotion messages needs to be translated into useful everyday menus for parents by people who understand parent's food preferences. HVs, children's centres and allied professionals, together with voluntary organisations working with families are in an ideal position to do this.
2. HVs and other health professionals need to remain up to date in relation to both exclusive

breastfeeding and infant feeding recommendations. They also need to continue actively promoting Healthy Start vouchers and vitamins.

3. Nationally, an awareness raising campaign in relation to Healthy Start vitamins is needed and the process for claiming Healthy Start vouchers needs to be simplified.

4. At a national level, labelling needs to continue to be reviewed, extended and simplified with health promotion work undertaken to disseminate the information.

5. Linking with the above recommendation, salt and fat contents of commercial foods and advertising guidelines should continue to be addressed with the food industry. This could positively promote choices parents make when deciding to purchase 'children's food'

6. Further research would be useful to investigate whether the findings of this study are replicated in a larger group and across other cultural groups.

7. Further research into the role of fathers would be useful and health promotion interventions need to target both parents.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

Contributions

SL designed the study, collected the data and drafted the paper. FR supervised the study, contributed to the interpretation of data, critically reviewed and extensively edited the paper. Both named authors have made an active contribution to the final version of the paper and approved the submitted copy for publication.

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