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An Exploration of Dietary Practices of Young Children: A Qualitative Study with Mothers Living in a Large Metropolitan City

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Abstract

Introduction

Dietary practices in early childhood set the stage for lifelong food choices. The advent of ultra-processed foods has been linked to poor diet and poor outcomes. This study was carried out to explore the dietary practices of young children through the voices of their mothers.

Methods

This exploratory pilot qualitative study carried out one-to-one in-depth interviews with seven mothers of children between three and ten years living in an urban area of Nepal to determine the dietary habits, psychosociocultural factors and environmental factors behind such practices.

Results

Mothers were generally aware of good dietary practices. Rice was the staple grain and other grains, although consumed, were viewed more as an occasional food item or

afternoon snack. Although diversity was recognized in the fruits and vegetables, diversity in grain was not focused by all mothers. Early initiation of all the various foods was a factor that led to acceptance. Schools had a great role in influencing practice but not all schools put to practice what they had taught. Social norms and influence of other family members often went against mothers' wishes or expectations to avoid ultra-processed foods. Market forces and the nature of packaged foods attracted children uncontrollably and the ubiquity of ultra-processed foods was viewed as a problem.

Conclusion

Mothers are generally ensuring the right dietary practices for their children and take steps to ensure diversity, but social norms and cultures, the market forces often come as an obstacle to avoiding the onslaught of ultra-processed foods.

Keywords: Child, Diet, Diversity, Market, Mother, Ultra-processed Foods, Unprocessed Foods

Introduction

Dietary practices learned and adopted in early childhood set the stage for food choices and preferences practiced throughout the life of an individual. The influence of family norms and the practice adopted by mothers has a role in the practices adopted by children^[1]. Mothers have a great role in the diversity of children's diets^[2].

There has been a discernible change in dietary patterns worldwide in recent decades. Unprocessed foods have been relentlessly replaced by ultra-processed foods. The per-capita consumption of ultra-processed foods is highest in Australia and North America. Although the countries of South and Southeast Asia consume a lot less per capita, these countries are also transitioning with the rate of change probably being more accelerated than in the developed countries^[3].

Unprocessed and minimally processed foods are edible parts of whole foods modified without adding new substances to extend shelf-life, safety or palatability, for example fruits and vegetables, nuts and seeds, milled cereals, milk, eggs and meat. Ultra-processed foods are ready-to-consume and ready-to-heat formulations, made by combining substances derived from foods with cosmetic additives typically through a series of industrial processes for example soft drinks, confectionery, savory snacks, many packaged breads and sweet biscuits^[4]. It is now known that ultra-processed foods are linked to poor outcomes in the gastrointestinal, cardiovascular and psychological domains and have no beneficial effect whatsoever^[5].

Nepal, a lower-middle-income country, faces the double burden of malnutrition with persisting chronic undernutrition manifested in the form of stunting and the emergence of overweight and obesity in recent years^[6]. A study done in an urban setting in Nepal found that about 10% of schoolchildren were obese and nearly 20% overweight^[7]. Children who are overweight or obese are at higher risk of being obese in adulthood, getting hypertension and other cardiovascular diseases, glucose intolerance and type 2 diabetes and depression as they become older, eventually increasing the risk of mortality^[8].

In the context of South Asia, the chief dietary drivers of childhood obesity are frequent consumption of fast or junk food or frequent consumption of calorie dense foods, with obesity being most associated with families of a higher socioeconomic status and families with obese individuals^[9]. There have been a few studies conducted in the context of Nepal to explore dietary habits of children. One study carried out in a peri-urban setting reported that children preferred unhealthy diets over healthy ones^[10]. Another study from the same setting reported that mother's felt that they had little control over the dietary choices of their children although they understood the importance of a healthy diet^[11].

Most of the studies on nutrition in Nepal are focused in rural areas driven particularly by the problem of undernutrition, low education and poverty. There has been little research to understand dietary habits and choices in urban population of middle social status.

Given the threat of overnutrition with a lack of dietary diversity and the changing societal norms and practices, there is a need for more research to explore and determine the dietary habits of children and the reason for such dietary practice particularly in this changed context.

This exploratory qualitative study was carried out to delve deeper into the nutritional practices of children via the voices of their mothers and gain an understanding of practices, beliefs, environments and other facilitators and barriers towards optimal dietary habits of children.

Methods

Research Design

This study employed a qualitative methodology using a relativistic approach. Semi-structured interviews were conducted for data collection. The health-belief model was used in this study in order to gain the views of participants. This design was exploratory to allow for emergence of unexpected data and themes which could pave the way for further study. The study also hoped to pilot the interview method using online means and carried out with the participants being at home.

Procedure

An interview protocol was developed by the researcher after extensive literature review. A semi-structured interview guide was prepared which comprised of 10 probes. During the course of the interview additional questions were asked to explore participants experiences.

The conversation focused on what the children eat, mother's perceptions of whether their children ate healthily, the situation of packaged foods and sugary drinks, the approaches to ensuring a high-fiber diet rich in fruits and vegetables, the experiences of ensuring dietary diversity, mother's overall satisfaction, the strategies employed by mothers, and the facilitators and barriers towards healthy diets. The interview varied slightly depending on the circumstances of the mother-child dyad involved.

All the interviews were taken one-to-one. Interviews were conducted through an online meeting tool with the video turned off so that participants would not be too conscious. Thus the interviews were similar to telephone interviews. All participants were interviewed in the comfort of their homes and privacy was ensured. All the interviews were

conducted in the Nepali language, digitally recorded, transcribed verbatim and finally translated. The interviews ranged in length from 30 to 50 minutes.

All participants were informed of the purpose of the interview beforehand and voluntarily consented to participate.

Participants

Participants were eligible to participate if they were mothers to children between the ages of 3 and 10. This age range was chosen because at this time the decision on choice of diet was a mix of children's wishes and mother's choice. Older children may be more independent whereas for younger children the effect of environmental and social exposures to food choice would be more limited and the decision making and food choices usually depend on the mother or other family members. All mother-child dyads were living in the Kathmandu Metropolitan City either permanently or as long-term residents.

Sampling

A purposive sampling technique was employed to seek out articulate mothers for this study. Initially approached mothers were asked to identify and request their acquaintances to participate in the study. Diversity in profession and education was also kept in mind as well as some degree of diversity in socioeconomic status and ethnicity.

Sample Size

A target of 12 participants was set following the suggestion by Guest *et al*^[12] that data saturation can be reached in six to twelve interviews and if the topic of discussion and circumstances of the participants are similar. All participants were mothers of young children living in an urban location. None of them were abjectly poor nor extremely affluent and all had formal education of at least high school. In a study of this design, it is difficult to fix the numbers of participants beforehand.

Analysis

The analysis of the data followed a thematic analysis approach as was espoused by Braun and Clark^[13]. Data familiarization was carried out by intent listening to the records and multiple readings of the transcripts and translations. Initial codes and subthemes were generated both at the time of the interview and in a more systematic fashion after reading and re-reading the written forms of the interviews. Themes were identified within the identified codes. Data management and coding were all performed manually.

Results

A total of seven mothers participated out of a total of 12 mothers who were approached. Two denied consent whereas 3 mothers agreed to participate but could not schedule a time for the interview. The two who denied consent denied outright without even listening to the purpose of the interview. The key characteristics of the participants has been listed in Table 1. Of the seven mothers two had two children under the age of ten whereas the others had one child. Three of the mothers had only a single child whereas the other four had two children each. None of the mothers had more than two children and none of the mothers had children younger than three years old.

Table 1: Participants

Participant	Age of Mother	Age of Child	Sex of Child	Education of Mother	Employment of Mother	Type of School
1	29	6, 4	F, M	Master’s	Homemaker	Private
2	32	6, 3	F, F	Bachelor’s	Homemaker	Private
3	39	7	M	Master’s	Homemaker	Private
4	41	8	M	Master’s	Government Engineer	Private
5	36	6	F	Grade 12	Private Accountant	Private
6	26	4	F	Grade 10	Homemaker	Private
7	33	3	F	Master’s	Homemaker	Private

Themes

The generated themes and subthemes are listed in Table 2 and are elaborated below.

Table 2: Themes and subthemes

Themes	Subthemes
Dietary Knowledge and Practice	Practices at home
	Practices at school
	Issue of time
	Dietary diversity
	Sugary drinks and packaged foods
Psychosociocultural Factors	Fruits, vegetables and high-fiber foods
	Role of grandparents and other family
	Societal factors
	Child psychology
Environmental Factors	School environment
	City and media environment
	Link to villages
	Availability of amenities
	Availability of foods

Dietary Knowledge and Practice

Practices at home

Nearly all the mothers in this study said that they cooked nutritious and whole foods at home and ensured that the child had good meals. As far as regular meals were concerned, there seemed to be not much difference in the food choices of highly educated mothers and less educated mothers and also that of full-time working mothers and homemakers. Most of the dietary practices were as per Nepali food culture encompassing rice as the staple with a variety of lentil soups, potatoes, vegetables and leafy greens although not all the mothers in this study mentioned consumption of meats. Milk was regularly mentioned whereas some mothers also mentioned eggs. Some mothers replaced sugars with jaggery. Some mothers mentioned that occasionally prepared packaged cereal when there was no time or just for a change. One mother also mentioned regularly giving children a variety of seeds. Mothers identified that the home environment and the practices at home and what the parents teach their children decides the food choices the children make.

Starting children on a variety of foodstuffs right at the time of weaning was one factor that was identified as one of the reasons why children eat all the foods prepared at home and do not become picky eaters. Some mothers remarked that their children do not eat all the foodstuffs that they prepared and were confused about the reasons for such behavior.

‘My son eats everything that I cook at home including legumes, vegetables and leafy greens. He actually doesn’t like packaged food that much although his sister likes them more. I started giving all the

foodstuffs that we eat right from the time when he was started on solid foods. We do not cook anything separately for the children which is different to our food. They eat the same food that we adults eat’ (Participant 1)

Gaining knowhow about how to prepare a diversity of foodstuffs was also a factor that affected food preparation. One of the participants was taught how to germinate grains at home by a close relative who had received training on nutrition and prepare home-made porridge (*lito*). Such porridge was very well liked by children and they had the *lito*-porridge every day in the morning. Some children liked the *lito*-porridge when they were young but as they grew older they stopped taking it.

‘A cousin of mine taught me how to prepare this home-made multigrain cereal (*lito*-porridge) from germinated grain. She had been to a course in Japan and learned it there.’ (Participant 2)

Practices at school

Nearly all the children went to schools which served them meals except one child who took her own lunch. Some schools served up to three meals each day. Most of the main meals were based on a recipe of rice-lentils-vegetables while a variety of snacks were also served. The schools usually had a set menu for each day of the week. It could not be ascertained to what extent leafy greens or whole grains are served on the school menu. Some of the schools strictly discouraged any packaged foods although processed foods such as doughnuts and corn-flakes were not off the menu. Often schools also served packaged foods such as biscuits on their menus. Parents were generally happy with the school meals although they agreed that serving so many meals made the school fees go up. The need to serve snacks right before school ended was due to the long journey times between school and home. Having to eat what is served in the school menu was seen positively by some mothers because that would make them eat vegetables that they did not eat at home. Thus schools were seen as a place for discipline when it came to dietary habits.

‘He doesn’t put a single vegetable in his mouth at home. All he eats is potatoes with the rice and lentils. At school he doesn’t have a choice. I don’t know if he is eating what he is served there. At least he tells me that he eats vegetables there. During the time of COVID they stayed at home so that led to decreased discipline’ (Participant 3)

‘After her school started a few months back she started to eat many things which she did not eat before

like milk products, eggs and bananas as she saw her friends eating them too.’ (Participant 7)

Issue of time

Participants did not identify it as difficult to find enough time to prepare meals but the mothers who had been employed mothers did identify with the issues of time.

‘I used to work in a bank. I left home at eight in the morning and got back at eight at night. I had no time to prepare meals for my kids. My in-laws cooked and fed the children. I think that is the reason why my son doesn’t eat vegetables at all. Grandparents have a soft-corner. I felt guilty that I was not providing enough time for my kids so I left my job three years ago to stay at home full time.’(Participant 3)

‘Although I have a full-time job, it is a 10-5 job, therefore, I can prepare both the evening and morning meals myself.’ (Participant 4)

Dietary diversity

Participants who had links to their home villages had access to diverse grains. Participants also shared that living in the city one could not have organic food like they did in the villages. Nevertheless they tried to incorporate different grains, and fruits and vegetables in the diet. Most of the participant said that the children had multiple meals of rice and lentils. Rice predominated the meals and other grains were consumed occasionally and also as an afternoon snack (*khaja*). Families who were still attached to their rural roots may have access to and acceptance to a more diverse diet. Mothers often prepared diverse foodstuffs such as the rarer grains in the form of the afternoon snack (*khaja*) rather than having them as a part of the main meal. Some mothers ensured diversity for their children by mixing stuff that the children do not like with other foods. Although mothers ensured dietary diversity with a mixture of fruits and vegetables only a few mothers seemed to realize that whole grains and coarse grains were also a source of dietary fiber. A couple of mothers who had been brought up in childhood in rural mountainous villages remarked how the food in the villages was so diverse and tasty whereas in the city even the milk smells bad and the rice is polished. One mother felt a bit unhappy about the types of foods that her daughter had to consume in the city which was unlucky but said she was lucky in terms of the schooling she could get in the city as a compensation. Often mothers said that the reason that their child ate everything is that they were given all the foods from a very early age around the time of weaning.

‘My daughter eats everything including vegetables and all kinds of grain. We even have millet porridge. We go back to our home village during each school break and she get to eat all the foodstuffs that are locally grown over there. She even likes cornmeal and nettle soup.’ (Participant 6)

Sugary drinks and packaged foods

Mothers were well aware that consumption of sugary drinks and packaged foods were not good. Sometimes they confessed guilt at not preventing their children from eating those foods.

Generally, the consumption of such foods was regular but at a pretty low level and never alarmingly high. Some schools were also found to be serving packaged foods such as biscuits during the morning or afternoon snacks. Biscuits were a packaged food category that was not seen as very bad by some of the mothers and was even consumed regularly at home. Sugary drinks were not looked upon positively. Many mothers prepared lemonade at home. Although sugar is added to lemonade they believed that it was a safe alternative. Mothers also thought of alternatives to distract them from demanding packaged sugary drinks. One mother confessed to consuming packaged foods herself and also sharing them with her child.

‘During the time of corona we went to our hometown and there she developed the habit of drinking these sugary foods and drinks. Everyone loved her and cared for her and bought these things for her. I think it is our fault that we did not prevent her from consuming these things.’ (Participant 2)

‘We never bring packaged sugary drinks or sugary carbonated drinks to our home. When the kids return from school I give them lemonade with a little bit of sugar.’ (Participant 3)

‘I occasionally put some glucose powder in their water bottle to school. At least that is better than the sugary drinks. I have made a rule that they can only have packaged sugary drinks on Saturdays as a treat. I have to give them biscuits at home sometimes as there is nothing else to give them as a snack at home and I cannot send them to school on an empty stomach. I also make lemonade at home.’ (Participant 4)

‘I must admit that I buy packets of chips nearly every day and eat it myself. She also eats it. When it comes to sweets or sugary drinks, I don’t buy them.’ (Participant 5)

Fruits, vegetables and high-fiber foods

Mothers generally offered fruits to their children and it may be summarized that nearly all the children had seasonal fruits regularly. Vegetables were a problem for some of the children. Some mothers remarked how their children ate all the leafy greens (*sag*) and even demanded that she cook it for them whereas she lamented that they did not eat any other vegetable.

‘My son and his elder sister like green leafy vegetables. If it is green they will eat it. They often asked me why I didn’t cook the green leafy vegetable. But despite that they don’t like other vegetables.’(Participant 4)

Psychosociocultural Factors

Role of grandparents and other family

Often family members other than mothers were noted to break rules set by the mothers. Grandparents were often noted for pampering their grandkids with sweet treats and drinks. Often mothers claimed that even though they are very strict and make concessions only once in a while, grandparents who stay with the family or guests who come

to the home to visit are relaxed about controlling packaged food.

‘Sometimes their father asks me why I didn’t even buy them such a small thing as a sweet that they asked for.’(Participant 4)

‘Although I do not buy such stuff when I am away at work during the day, she presses her grandmother who cannot say no to the young child’s request.’ (Participant 5)

Societal factors

Mothers often remarked that although they set certain rules or practices social factors come into play. One of them is society’s beliefs about what foods should be eaten by whom.

‘My son is eight years old. Once, some close family members were visiting our home and one of them mockingly remarked that even such an old child is eating lito (lito is traditionally viewed as consumed by infants and toddlers or the older people). Since then they became ashamed and stopped eating the lito altogether.’ (Participant 4)

The social norm to bring gifts when visiting friends and relatives was another factor because in a home with young children people often brought candy, chocolates, packaged chips, biscuits, ready to eat noodles, or sugary drinks. Bringing such gifts is taken positively in society and is a sign of generosity.

‘We never buy or keep packaged foods like packaged crisps or chips but when guests visit our home they often bring such things for the children when guests bring such stuff we cannot deny them. She has now learned to identify these foods and asks for them. Sometimes we even eat those foods ourselves to prevent her from eating them.’ (Participant 7)

‘Although I never buy sweets, somehow there are always some sweets at home and he likes them so he eats maybe one or two sweets each day.’(Participant 1)

Child psychology

Some mothers claimed that they kept away from sugary drinks even during wedding or birthday dinner-parties to set an example to their children as role models. They however didn’t want their children to feel deprived and wanted to be treated as other children so they made concessions once in a while in a weekly or biweekly basis. One mother claimed that she didn’t teach her daughter about avoiding sweets but she learned it the hard way when she had to undergo painful dental treatment. Giving examples of elder siblings and using them as role models also were seen to work. Sometime telling children that eating all kinds of fruits and vegetables would help in her studies and help them do well in class was a strategy that was employed. Mothers often reported that although they knew that such foods were bad they couldn’t be strict all the time and made concessions due to their love for their children.

‘I once drank a glass of coke as the food at that dinner party was very salty. When my daughter saw me doing that she exclaimed, ‘Mom, you are also drinking coke!’ in surprise, as she had never seen me drink coke or other sugary drinks. I have been able to impress upon them that such drinks are bad.’(Participant 4)

‘I don’t want them to feel that their mom just prevented them from eating so many foods that they liked so I bring such stuff (one or two packets of packaged chips or sweet cookies) on Saturdays. I don’t want them to feel that they were deprived and may compare me with other mothers.’(Participant 4)

‘I divert her when she demands certain foods by offering to buy her balloons or other stuff rather than packaged foods.’(Participant 7)

‘When she had to go to the dentist for RCT she realized that she should avoid such sugary foods.’(Participant 2)

‘Sometimes on the way back from school she cries and begs me to buy certain stuff and I cannot hold back.’(Participant 2)

‘Sometimes she cries and I have to buy her the stuff. I feel bad at hurting her.’(Participant 6)

Environmental Factors

School environment

While some mothers stated that school rules enforce discipline and make the children eat the foodstuffs that they would forbid at home others stated that although schools teach healthful habits in the classroom they do not translate such teaching to real life practice. Some schools actually banned packaged foods completely while some allowed packaged food such as biscuits every day in the school tiffin menu which was compulsory for all students. It was noted that mothers of children whose schools served three meals daily remarked that the child doesn’t eat anything at home and is hardly hungry. Some mothers said that although schools teach a lot about theoretical stuff regarding healthy stuff, they do not put it to practice. Schools were variously reported to influence children’s eating behavior.

‘She doesn’t eat anything in the evening. She has milk that is it.’(Participant 5)

‘The school teaches them to eat healthily but they still allow kids to bring sweets and biscuits. Once there was a school field trip and all the kids were asked to bring homemade food, but most of them brought packaged food such as chips and biscuits. Once my daughter came home with some sugar coated biscuits saying a friend of hers gave it to her.’ (Participant 2)

‘My daughter who is now just over ten years old learned about green leafy vegetables while in nursery school (3 years old go to nursery level). She was taught that she should eat leafy vegetables and one day came home and told me to make it in her childhood accent although she could not pronounce the word

properly. Now her brother also follows her and they both like green leafy vegetables.’ (Participant 4)

City and media environment

The role of advertising and the colorful packets that are hanging in the shops were factors that attracted the children. The presence of shops lining the streets were themselves factors that attracted children. Television advertising was also important. Mothers generally said that if there was a will among mothers and family members to provide the best nutrition for their child it could easily be achieved and outside influences would only be secondary.

‘We have the television here and she learns about things like coke from the TV. She got the habit of drinking coke from her elder cousin sisters. Coke is her favorite, she doesn’t demand other packaged food or sweets. But now all her front teeth are worn or broken. She often demands that I buy, so when I bring her back from school I bring her through an alternate lane without shops’ (Participant 6)

‘When she learned about these stuffs that can be found in the shops she started demanding them. Sometimes she just stands there adamantly. At that time we have to buy the stuff.’ (Participant 7)

Link to villages

Those families who were primarily from another town often sourced multiple type of grains from there. Children who visited relatives in such villages also learn to eat a variety of foodstuffs there.

‘They prepare the multigrain flour for *lito*-porridge in our hometown and send it over to us.’ (Participant 7)

‘My mother sends me bags of millet flour from the village. We eat millet porridge. Even my daughter eats it.’ (Participant 6)

Availability of amenities

A few mothers said that they roasted the grains themselves at home and took it to the nearby mill to make the *lito*-porridge flour. The presence of mill and the culture of homemade *lito* flour was reported by a few mothers.

‘There is a mill near our house and if we tell them that it is for *lito*-porridge, they ensure that it is milled properly. Even other people bring their own grain to make flour for *lito*. I mix corn, wheat, barley, peanuts, and Bengal-gram sometimes. My daughter likes *lito*-porridge over oats.’ (Participant 7)

Availability of foods

The availability of packaged food everywhere were one of the chief drivers of consumption. Market forces often went against mother’s choices and decisions. Whereas the production of whole multigrain flours for *lito*-porridge by health mother groups were also facilitators making such foods available. Whereas one mother said that she bought *lito* flour at a hospital because she trusted that they must be serving something of good quality. Several mothers said that the government could ban the sales or even production of such foods outright but expressed little hope.

‘In my hometown health mothers groups prepares the multigrain flour for *lito* and it is of good quality.’ (Participant 2)

‘If these packaged foods are available everywhere we can’t deny children.’ (Participant 6)

‘The government can ban such foods, but if they have not even controlled cigarettes or alcohol, I don’t see them banning these stuffs.’ (Participant 2)

Discussion

This study is one of the few studies carried out in Nepal to explore dietary practices of children through the voices of their mothers. It shows that generally the mothers in an urban area are well aware of good dietary practices and optimally follow them for their children but there is a high influence of market and societal forces.

A similar study was carried out by Oli *et al* [11] which showed that mother’s felt that they were not in control of their children’s dietary choices or habits. The findings of this study both coincide and contrast with those findings. Mothers in this study often claimed market forces, the influence of relatives, friends and older family members, and the school environment is at play when it comes to dietary choices. In contrast to that at the same time, the present study showed that mothers felt they were responsible and good eating habits begin at home. They emphasized that if there is willingness at home then outside forces will have a little role. In the present study, mothers felt that if healthy dietary practices are maintained at home then the distractions outside or the role of regulators or government will only be secondary.

Although the work done by Oli *et al* [14] and Vaidya *et al* [10] surmise that low levels of education and ignorance about healthy diet are behind poor dietary practices in children, the study done by Karki *et al* [7] claims that the rates of obesity is higher in children of mothers who work, and children of mothers who have a higher educational level. Another study done in an urban location in Nepal showed that children from relatively advantaged ethnicities and those from the upper socioeconomic classes were more obese [15]. This association of higher socioeconomic status with obesity in children has also been reported by other studies from South Asia [9]. These findings can be explained to some extent by our study where mothers who work reported that the reasons their children do not eat as well as they expect is because they are away all day and the food is prepared by others at home and often children resort to packaged foods or become picky eater. Rather than education or wealth being the main drivers time spent on preparing food or eating together may be more important.

One study carried out in an urban area in Nepal identified that mothers with a higher education level had children with lower body mass per weight compared with mothers with a lower education level [16]. But our study revealed that mothers who were holding jobs had less time to prepare food for their kids. The notion that education is associated with better nutrition may need to be challenged when it comes to overnutrition.

Another study done in a peri-urban location near the capital city of Nepal examining the food preferences of children clearly showed that children preferred unhealthy over healthy foods [10]. These studies have reported behavior and

practice. There needs to be more closer examination of the decision making processes, attitudes and dynamics with social and environmental circumstances like the present study has done.

Our study had educated women who still struggled to ensure diversity in their children's diet and also struggled against the onslaught of package and ultra-processed foods. This could easily lead to adverse consequences for the children in the long run. Ultra-processed foods are convenient to just buy and eat and do not need time to prepare which is an attraction^[17]. In our study mothers often said they would feed their child biscuits, or packaged cereal which did not need time to prepare or similar items when they were short of time.

Moreover they are extremely palatable and attract children very much, once the children start to get the taste of such foods they can even become addicted to it^[18, 19]. In this study mothers often claimed that their children cried, the children stood in front of the shops and were adamant, they nagged and demanded such foods particularly with their grandparents. One mother particularly said that now that her child knows the color and taste of such foods she has started demanding them. These could be markers of addiction to such foods.

In this study parents of children who went to schools that served multiple meals often remarked that the children do not eat anything at home. The multiple meals including one snack even at the end of school was justified by the schools with the reason that they wanted to ensure that children did not reach home hungry. The specter of over-feeding and high carbohydrate intake leading to overweight and obesity must be considered.

This small group of mothers who participated in this study related many points which were common. Mothers in this study were generally educated with the lowest educational level being Grade 10. They knew what healthy foods were but were unable to fight against market forces which advertised, displayed, attracted and coerced children. Mother highlighted the effect of television advertising and attractive packaging. If large studies are conducted to demonstrate that market forces and easy availability are restricted then dietary choices become healthier, such studies could change nationwide policy. The children are a vulnerable population and marketing and advertising strategies are known to specifically target them^[20-22].

With increasing urbanization more families are migrating to the cities in search of employment or educational opportunities. Dietary practices in cities are different from those in rural locations where there is availability of locally grown foods at a more affordable price. Our study showed that mothers with a link to their rural villages or smaller hometowns had better access to diverse grains which they could incorporate in the diet of their child.

Most of the studies that have been carried out in Nepal pair diet and physical activity together. Those two are probably the main drivers behind obesity and other chronic non-communicable diseases such as hypertension, diabetes, heart disease and stroke. Nevertheless, lumping the two together comes with the risk that neither can be sufficiently scrutinized and the causes of the causes may not be properly discerned. Therefore, separately studying diet and physical activity may be necessary.

The role of grandparents were emphasized by many mothers

in this study. Studies can also be carried out to determine the attitude of grandparents towards their grandchildren's diet. In addition, awareness and educational campaigns targeting this demographic can also be conducted.

Another finding that emerged from this study is that of dental caries as a health problem and can be used as a scare-monger to keep children away from sugary foods. There have been other studies in Nepal and elsewhere that have examined the association between dietary practices and dental caries in children and shown an association with caries. Future qualitative studies in Nepal could explore the component of childhood caries too^[23].

One of the strengths of this study methodology is that data can be collected and analyzed simultaneously leading to possibilities to gather additional information. There was a rich diversity of viewpoints and many unexpected findings although the researcher was quite experienced.

Another strength of the study was that the mothers were very happy to express their concerns and participating willingly, they were also interested to find out how the researcher felt about their response. One participant was happy that she underwent a catharsis, in that at least she could tell about her concerns, worries and guilt to the researcher. The techniques of rapport building and gaining trust of the respondent by the qualitative interviewer is important in this context. This also shows that it is possible to carry out large in-depth interviews with mothers about their children's health concerns via online media or mobile phone where participants could answer from the comfort of their homes and not feel pressured or overwhelmed. The participants in this study were very open and happy to participate. This opens up a world of opportunities and large qualitative studies representing the entire country can be carried out with limited cost.

This study has several limitations. A small sample size study cannot be generalized. There are wide range of ethnic groups and cultural groups in Nepal and great geographic diversity with multiple types of foods consumed. In addition most of the mothers in this study were well educated. A pilot qualitative study cannot encompass all of them. The need to choose articulate mothers who have the time might have missed very busy working mothers or those who were less articulate and shy about expressing themselves. The dietary pattern of children of nuclear households with very busy parents may be very different from others.

The results of this study coupled with further literature review on the underlying themes that appears will enable the design of larger qualitative studies encompassing more diverse viewpoints and participants of diverse ethnic groups and socioeconomic circumstances. Such studies will lead to yet larger and more population representative generalizable quantitative studies which may have a role in affecting policy changes if the barriers and threats are confirmed as important determinants.

The decision making processes that children and mothers take and the choices that they make about health related practice leads to health-related behavior^[24]. This exploratory pilot qualitative study conducted on mothers was carried out to gain a deeper understanding of influences on food behavior. The study aimed to understand what mothers experience as they try to set healthy dietary practices for children.

Conclusion

This study explores dietary practices of young children through the voices of their mothers and found that although mothers were both aware and practiced healthy dietary practices for their children, psychosocial factors and external environment and market forces often hindered healthy practices. Based on the findings of this study large qualitative studies should explore this issue further and larger quantitative studies with a focus on dietary practices should be carried out.

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