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Parental Barriers and Challenges of Raising Plant-Based Children in North America

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Dr. Jean Cadet

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Abstract

Purpose: Is to identify the barriers and challenges parents face while raising plant-based children in North America.

Design: A phenomenological qualitative study using semi-structured interviews was used to establish thematic barriers among plant-based parents.

Setting: Parents raising their children following a vegan and/or whole food plant-based diet and residing in North America.

Participants: A total of 22 parents of plant-based children ages 0-17 participated in 19 ZOOM semi-structured interviews.

Phenomenon of Interest: Barriers and challenges faced by parents raising their children plant-based.

Analysis: Interviews were recorded, transcribed, and analyzed with NVivo 12 using thematic analysis techniques.

Results: Six parental perceived barrier and challenge themes were identified: (1) extended family, (2) perceptions of others, (3) eating away from home, (4) access to convenience foods, (5) extra work and time, and (6) organic and specialty/convenience food prices. Although not perceived by most parents as barriers, (7) healthcare provider concern based in lack of education and (8) lack of resources provided were thematic barriers and challenges encountered while raising plant-based children.

Conclusions and Implications: Provides important understanding of parental experiences while raising plant-based children and highlights the barriers and challenges faced. This research shows that further studies are needed to determine distinct barriers, interventions, support, and resources that would decrease barriers and challenges to raising plant-based children and ensure the health of plant-based children while supporting parents.

Parental Barriers and Challenges of Raising Plant-Based Children in North America

Plant-based lifestyles have been steadily increasing in the United States as well as worldwide (Betinelli, 2019). As plant-based lifestyles are becoming more popular among adults, this lifestyle is also being introduced to children (Betinelli, 2019). A recent poll shows that veganism is predominately adhered to by the younger generations with 18 to 29 year olds being 3% vegan, 30 to 49 year olds being 4% vegan, and those greater than 65 years old being less than 2% vegan (Reinhart, 2018). This younger generation plant-based prevalence shows that more children are likely being raised following plant-based dietary patterns.

With more children being raised plant-based, controversy has arisen in both academic, scientific, and social circles even though according to the Academy of Nutrition and Dietetics plant-based dietary patterns that are well-planned provide adequate nutrition throughout all stages of life including infancy through adolescence (Melina, Craig, & Levin, 2016). Therefore, it is important to investigate the experience of plant-based parents and the challenges and barriers they may experience in providing for the health of their children because it is critical to the health of the upcoming plant-based generations.

Purpose

The purpose of this study is to identify the barriers and challenges parents face while raising plant-based children in North America in order to establish baseline data on plant-based parenting journeys. The research question was: *What are the barriers and challenges parents face while raising plant-based children?*

Background

Currently, the prevalence of adhering to a plant-based diet is increasing in North America and more parents are choosing to raise plant-based children (Bertinelli et al., 2019). Parents

choose to raise plant-based children for reasons such as animal welfare, environmental, religious and/or health reasons (as cited in Amit, 2010). Plant-based diets are also being more highly emphasized as a healthy eating choice as demonstrated by current research and Canada's newly issued food guide (Baroni, Goggi & Battino, 2018; Government of Canada, 2020).

With the rise in plant-based eating, adults are becoming well-studied, but less literature addresses plant-based dietary patterns in children. Plant-based dietary patterns in children are therefore controversial, and concerns about nutritional deficiencies and lifelong health are at the forefront (Schürmann, Kersting, & Alexy, 2017). Yet, it is already known that plant-based children are more likely to have positive health outcomes if their diets are well-planned and monitored (Bertinelli et al., 2019; Ferrera et al., 2017; Melina, Craig, & Levin, 2016).

It is this intersection of raising plant-based children and how to promote healthy outcomes that propelled this research study. There is a possibility that plant-based parents face distinct barriers and challenges while raising plant-based children. Reports in literature and conversations with many plant-based parents confirm there are concerns about adequacy of plant-based diets, that society has not yet embraced this dietary pattern, and does not provide the parental support needed to ensure healthy plant-based children (Bettinelli et al., 2019; Farella et al., 2020).

Parents raising plant-based children is a small yet growing population. There is much to be learned and many sectors of society including education and healthcare are beginning to seek out knowledge about this growing population of plant-based families whose health status now will affect health outcomes in the coming years.

The data that exists on the barriers and challenges parents encounter while raising plant-based children, unfortunately, is limited. Most studies that include plant-based children are

of an epidemiological design and have focused on adequacy and nutritional deficiencies. Reviews have shown that children being raised on a plant-based diets may be able to maintain a healthy nutritional status if diets are well-planned, monitored, and supported (Baroni et al., 2018; Ferrara et al., 2017; Mangels & Messina, 2001; Messina & Mangels, 2001). Yet little research has been conducted to ensure well-planned, monitored and supported plant-based diets are easily obtainable for plant-based parents to ensure child health.

In review of the literature, only one, a case-study, primarily focused on the barriers experienced by plant-based parents. Farella and colleagues (2020) present a plant-based child who is not meeting nutritional recommendations for age and the distrust relationship between the parents and the pediatrician is exposed as a contributing factor. Other studies, although few, have secondarily identified barriers experienced while raising plant-based children. A cross-sectional survey of 360 Italian families identified early plant-based parenting barriers and challenges. Parents, 45.2%, reported that their pediatrician was not able to provide them with the information needed to use vegan weaning methods. Also, 77.4% reported pediatrician resistance to vegan weaning (Baldassaree et al., 2020). A randomized control study implementing a 4-week American Heart Association plant-based diet identified the only statistically significant barrier to a plant-based diet as difficulty shopping for food in a middle-income parental population (Macknin, et al., 2015). Macknin and colleagues (2015) also suggested that cost may be a barrier in low-income parental populations. It is important to note, however, that this was a short-term intervention and not a chosen lifestyle so barriers may be different for parents raising exclusively plant-based children.

Plant-based parents are an understudied population. Parents attempting to increase child fruit and vegetable consumption are not as understudied. In a study of 29 food insecure parents

and caregivers trying to increase fruit and vegetable consumption of their children barriers were identified. Barriers were themed as affordability, accessibility and desirability (DeWit et al., 2020). In 113 Head Start Hispanic parents' barriers were cost and preparation time (Shriver et al., 2010). Pearson and colleagues (2012) noted parental barriers to buying fruits and vegetables. Pearson and colleagues (2010) interventional study showed parental barriers to be knowledge, encouragement, home availability and accessibility of fruits and vegetables. In another interventional study, 23 low-income parents implemented nutrition and parenting practices at home. Interview results showed that parents experienced barriers of food preferences, habits, lack of time, and cost (Dickin & Seim, 2015).

Parents increasing vegetables and fruits are important to consider because plant-based parents have willingly taken on possibly all the barriers identified to raise their children entirely plant-based. Research must address if plant-based parents face additional or distinct barriers because the epidemiological studies have highlighted that preventing adverse health effects related to plant-based diets is dependent on well-planned, monitored and supported diets. If barriers are not identified, it will remain unknown how to ensure plant-based child healthy outcomes.

As the literature has shown, this study fills a large research gap. This study seeks to identify barriers and challenges faced by parents raising plant-based children and will provide data on what areas need support in North America.

Methods

A total of 22 participants (representing 19 families) were recruited into this qualitative study using a purposive sampling technique between March 31 to May 4, 2021 via personal contacts, Facebook groups, and the snowball effect. Eligibility of all participants were screened

via a verbal ZOOM screening tool (Appendix A) prior to interview participation. Inclusion criteria were the participants must be a parent with a child(ren) between age 0-18, be raising the child(ren) following a plant-based diet as defined by this study and reside in North America. Plant-based diets were defined as raising the child with the goal of feeding them a vegan diet in which all animal products including eggs, dairy and meat are excluded (Bettinelli et al., 2019) or a whole food plant-based diet which includes the above definition and in addition only consume foods from a whole food source. Exclusion criteria were parents with all children greater than age 18, not raising the child(ren) with the goal of the above definitions, residing outside of North America, and/or did not consent to participate. Eligible participants gave ZOOM recorded verbal consent (Appendix C). The study was conducted from the primary investigators home via ZOOM and was approved by the Andrews University's Institutional Review Board. ZOOM and home setting were necessary and advised due to the COVID-19 pandemic.

Data Sources and Collection

One interviewer, the primary investigator, conducted semi-structured interviews from April 5 to May 4, 2021, that ranged from approximately 20 to 50 minutes. Interviewees were informed prior to consenting that the interview would take about 30 to 60 minutes. This time frame was allocated to ensure that participants had enough time to share their story but were able to conveniently participate. Interviews were conducted without pre-established categories for nodes and participant answer response time was not limited by study. Participants consented to having video and/or audio recorded for transcription purposes. The participants' information obtained remains confidential and anonymous and participants received no compensation for participating. No foreseeable risks or discomfort were expected although parents may find telling personal stories emotional at times.

To maintain internal validity field notes and a personal journal were kept to assess for bias, reflexivity was used, and the primary investigators graduate capstone advisor served as a peer review. During the interview participants were asked 19 semi-structured questions (See Appendix B). The first six interviews piloted the interview questions and were then re-evaluated based on participant feedback and clarifications that were needed during the interview. Interviews 7-19 used adapted semi-structured questions although adaptations were minimal. Of the 19 questions, the first 2 were introductory and were used to establish rapport. Questions 3-6 assessed plant-based parent perceptions and the following questions 7-18 addressed the 5 key domains of social determinants of health: economics, education, health and health care, neighborhood and built environment, and social and community context (Office of Disease Prevention and Health, 2014). The final question, 19, asked participants to comment on any barriers or challenges specific to their experience that were not already asked about. Parents were encouraged to tell their story with as much detail as possible, and probes (clarification, attention, and elaboration) were used to obtain a detailed plant-based parent recount. All interviews were recorded using ZOOM and transcribed by WORD dictation and the primary investigator to ensure accuracy, confidentiality and anonymity.

Data was managed and only accessed by the primary investigator. All data was stored on a password-protected computer that only the primary investigator had access to. Interview transcripts only included the interview number and all names were removed during transcription. No medical records or photos were collected; however, voice and video were recorded for transcribing purposes. Data (consent, transcript, and ZOOM recording) will be preserved as long as the researcher designates need for academic and research purposes up to 3 years.

Data Analysis

Semi-structured interviews were analyzed using thematic analysis. The primary investigator analyzed all interviews and followed these phases. Phase 1 included cataloging demographic information and transcribing interviews. Transcription occurred simultaneously with interviews and extended into early May. In phase 2, the primary investigator read all transcripts to ensure familiarity. Preliminary nodes were highlighted and then coded in NVivo 12. Phase 3, thematic analysis started with identifying nodes with commonalities, grouping commonalities to establish themes. Phase 4 included reviewing codes and establishing themes and naming themes.

Results

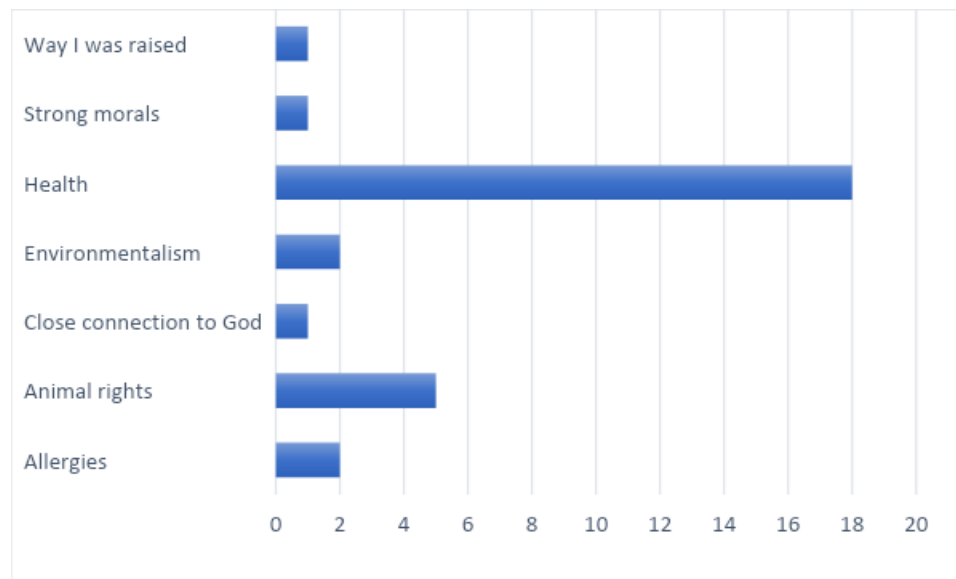
Nineteen interviews were conducted. Of the 19 interviews, 3 included partners, participant total was therefore 22. Of the 22 participants, 18 were women (82%) and 4 were men (18%). Response rate cannot be calculated due to sampling methods. All participants who volunteered and met the inclusion criteria were interviewed until saturation was met. Most of the participants were less than 41 years old (73%). Distribution of diet identification as vegan or whole-food plant-based was almost equal with 42% vegans, 53% whole-food plant-based, and 5% as both. Most of the participants were Caucasian (73%), from Canada (79%), had a bachelor's degree or higher (82%), were Seventh-day Adventist (73%), and raising 1 or 2 children (79%). Twenty-six children with an age range between 0.5 to 17 years old were being raised plant-based with an average age of 6.2 years old (median =4, SD = 5.3).

Table 1

Characteristics of the Study Population

Characteristics	<i>n</i>	%
Sex		
Male	4	18.1
Female	18	81.8
Age (Years)		
20-30	7	31.8
31-40	9	40.9
41-50	4	18.1
51-60	2	9.09
Diet		
Vegan	8	42.1
Whole-food-plant-based	10	52.6
Both	1	5.26
Ethnicity		
Caucasian	16	72.7
Hispanic	2	9.09
Indigenous	1	4.54
Other	3	13.6
Country of residence		
United States	4	21.1
Canada	15	78.9
Level of Education		
Graduate	7	31.8
Bachelors	11	50.0
Highschool	2	9.09
Unknown	2	9.09
Religion		
Seventh-day Adventist	16	72.7
None	6	27.2
Number of children in household		
1	5	26.3
2	10	52.6
3	3	15.8
4	1	5.26

All children had been raised plant-based since conception or birth except for 2 older children in the same family who had transitioned in their early teen years. The main motivation for raising children plant-based was health with animal rights also being most often referenced (Figure 1).

Figure 1***Motivations for raising plant-based children***

The results from this study show that plant-based parents do face barriers and challenges in all 5 key domains of health: economics, education, health and healthcare, built environment, and social and community context while raising plant-based children. Thematic data analysis showed parental perceived barriers and challenges to be (1) extended family, (2) perceptions of others, (3) eating away from home, (4) access to convenience foods, (5) extra work and time, and (6) organic and specialty/convenience food prices. Although not perceived by most parents as barriers, (7) healthcare provider concern based in lack of education and (8) lack of resources provided were thematic barriers and challenges encountered while raising plant-based children.

Plant-based Parenting and the Social and Community Context***Family***

Parents raising plant-based children experience many social pressures that are most commonly from extended family. If someone in the extended family does not agree with children being raised on a plant-based diet, is not plant-based or doesn't understand a plant-based dietary pattern, then the parent experiences social pressure or conflict.

“I have found that depending on the setting, even within family members, I, I don't necessarily feel respected for raising my kids plant-based. Sometimes I feel more like sneered at um, because our parents gave us little bits of ice cream, why wouldn't I want them to give my kids little bits of ice cream?”

“...when you have a minority perspective on something like vegetarianism, especially for kids, sometimes it can be frustrating because you get a lot, I don't know, not a lot, but like my family isn't vegetarian and so like for some of them it can be challenging. You know, they think that your kids are deficient in something. And so, you almost have to do extra research so you feel like you can support your own reasoning for why you're doing what you're doing.”

“Oh well, I do know that with my family, my side of the family, whole foods plant-based and kind of veganism is seen more as a political stance and that is kind of challenging and yet it makes me wanna protect XXXX from that a little bit. And they'll be comments like, “Oh it's just a little bit, it's not that much” or if it just feels a little bit disrespectful to how we want to raise XXXX. And that's been challenging.”

Perceptions of Others

Plant-based parents express acceptance within chosen friend groups.

“So, like an example let's say like we're invited to a birthday party or something like that I'd say most people, if they know me well enough, they know like kind of about our lifestyle so they're very, they try, to be accommodating or they'll let me know like OK we're having this or this, you know, what can I have or can I have available for your family and definitely try...”

Yet, when asked about their feelings as a plant-based parent a predominant barrier theme of being questioned and judged was evident.

“...it's been more so just I think people's misconception about, you know, your kids. How can they get enough protein or calcium or all of that? And it's just more so trying to like get rid of that stigma and explain to people that you can actually raise your kids to be like thriving and flourishing on this sort of lifestyle and they really are not lacking in any way.”

This predominant theme of being questioned and judged lead to many parents expressing worry.

“So maybe it's just like worrying about what people think, I don't know. There's a little bit of a struggle there maybe a little bit. Like I said I would never consider it, but I still wonder like, oh am I doing the best for her?”

Eating Away From Home

Most plant-based parents are confident in providing plant-based food within their home environment, but face barriers and challenges for providing plant-based foods outside the home.

“Yeah, it's pretty easy. It was pretty easy. I mean in the home because you have full control over what, what goes on in there. The obstacles start coming in when you go outside of the home for sure.”

“I would say if anything one of the more challenging things has been figuring out how strong of a stance we want to take with plant-based, like if we're out other places what are we going to do.”

“So, like we've kind of created a vegan bubble around ourselves and it's nice, but when we go out of it sometimes it's like shocking to see the reality of the world out there outside...”

Eating away from home barriers ranged based on participant personal circumstances, but restaurants, food sharing events (i.e Thanksgiving), and childcare were some of the circumstances discussed. Most barriers discussed were either being addressed or a compromise was made.

“So, you know then to go out to a restaurant where we are basically vegan at home and then the only options are cheesy pasta, you know, it's really challenging and so then you just don't go out or you compromise what you believe in. And none of it is that great. Either solution isn't great and they don't want to go out to the restaurant and eat like a plain salad or something. I mean that's not fun, they're still kids and, and so that's definitely a challenge.”

“... with my own family it was hard because we felt like we couldn't ever potluck with them. We had to always make vegan food and, you know, so not quite as celebratory, but we figured a way around it like for Thanksgiving we would always sign up for the food that could be like the salad or the sweet potatoes or anything that can be done vegan we would just sign up for that.”

“I think we're pretty lucky that that's the biggest challenge we faced, but I think that would be the biggest challenge is that if both parents have to work and the kid needs care outside the home it can be a challenge to make sure that they are being provided in those places with a well-rounded diet like we would hope for”.

Plant-based Parenting and Access (Built environment)

Plant-based parents did not consider access to be a barrier or challenge. Grocery stores were available and carried the plant-based products that were needed.

“We just go to our grocery store and we just kind of use what we have at our house and she pretty much just eats what we're eating just in some different forms. And yeah, but mostly we can just find everything locally at the grocery store.”

“I wouldn't say there's ever been an access issue for just whole foods more of a seeking you will find kind of access issue on some of the processed plant-based things.”

“But I would say that the grocery stores have plenty of options and the health food sections are also very, they have a vast amount of things, so I haven't had to go looking.”

Convenience Food

Plant-based parents did express access to convenience food products as a barrier especially for younger children.

“...finding food that we can feed him on the go especially in social situations is probably my number one challenge right now.”

“And I feel like that would be the biggest barrier for people, finding quick, easy options out and about whether that be convenience type foods or at restaurants that aren't pure garbage.”

Formula.

Plant-based parents expressed worry and difficulty sourcing plant-based infant formulas.

“...but I remember even before he was born, I was a little anxious about like if I had trouble with breastfeeding like what formula would be good to use and if there was any formulas that were more plant-based. And I did have a difficult time finding information on that. I believe there are some soy-based ones, but I was never super confident in that.”

“So, I was a little bit pushed with formula and we did try a soy, a soy-based one which was really hard to find. I didn't actually think it would be that difficult to find.”

“One of the health choices that I've made for her as a plant-based toddler is keeping her breastfed because I don't want to offer her cow's milk and I'm not really satisfied with like the milk alternatives out there. So, I just give her, still breast milk, for me 'cause it's a whole milk from me.”

Extra Work and Time

Many parents expressed extra work and time as challenges faced in providing for their plant-based children.

“I think the planning ahead thing. Like I said before it is way easier not to have any dietary restrictions. You don't even have to think about it and we do, we really think a lot about it. A lot of preplanning.”

“...the time element when you have kids you naturally have less time already and when you're trying to raise them plant-based or whole food I feel like you're spending a lot more time in food prep and it's really hard sometimes to balance that because if you really want to give them a whole food plant-based diet it is a very time-consuming thing.”

Plant-based Parenting and Education

Overall, plant-based parents did not perceive education to be a barrier. Although on majority, parents stated no education or resources specific to plant-based dietary patterns was provided throughout their journey.

“I actually have not received any resources from them [healthcare providers]. I usually present my resources to them.”

“...there was no nutrition guidance at all really. Yeah, and we didn't feel a deficit; don't think we ever felt the deficit in that department. We both like to learn.”

A high emphasis was placed on self-education. Interestingly, most parents when asked about resources used referenced internet sources such as Google, Facebook, and Instagram. Some of these internet sources included cooking blogs, medical and dietician websites. Less referenced resources were healthcare handouts, books, and friends or family.

“Instagram and like the people that I follow. So, I don't just trust like a graphic that people will just like throw up randomly, that gets shared around, but instead I go directly to that account and I see what are their credentials, what they've been talking about in the past, do they have a long standing history of being knowledgeable on this topic and then I dive deeper into the resources that they provide.”

Although not often, when an education need was referenced, participants expressed the barrier as not knowing soon enough or taking the time to self-educate.

“So, it's like sometimes just stopping and like OK let me research real quick; what I need in order for them to get their iron or what not, you know.”

“But I wish I had had those [supplement information] sooner because then I would have been able to give them to her sooner instead of you know stumbling upon it and scrolling at midnight now on social media and finding that resource available.”

Plant-based Parenting and Money (Economics)

Most plant-based parents did not feel that providing plant-based foods for their families

was too expensive. Most prioritized their dietary choices over money spent.

“Well, luckily eating plant-based can be very affordable. So, that is one benefit. Although definitely we like to explore and make a lot of fun recipes so you can really take the budget you know far and then if you have a bigger budget, I will say, eating plant-based can be a lot more exciting.”

“...we make it [budget] a priority to us. It's a part of our health and just as like you set aside that money for health care premium or for your FSA each month, we know that we're setting aside that food budget and making it vital aspect of our health.”

Organic Food

A financial barrier to many families was organic food prices. Family's either chose not to eat organic, prioritized certain organic foods or spent the money to eat all organic.

“Going organic has been something we've wanted to do for a very long time, but I will say it was not cheap. It's definitely a huge privilege to be able to eat organic and to have it delivered to my front door.”

“I would say buying baby food, though the organic plant-based like good quality, like pre-made baby food, and some things like that are quite expensive. That has been part of the motivation to try and stick with making it on my own.”

“We probably eat more organic now than we used to just because we were penny pinching for while there and I didn't like the organic prices...”

Convenience/Specialty Food

Convenience food was another financial barrier for plant-based parents. Vegan specialty products, pre-made packaged foods and snacks were considered to be pricey and many times outside of the budget.

“I feel like it [budgeting] can be more challenging if you're buying a lot of specialty foods. Cause they are really expensive like dairy free cheeses. Or you know whatever you can make your own, but then you it's either you don't have enough money or you don't have enough time.”

“We make that lasagna right, you can't really find a plant-based frozen lasagna unless it's like \$18.00 and ridiculously expensive, so we make a lot of our food from scratch.”

Plant-based Parenting and Healthcare

Plant-based parent experiences within the healthcare system vary greatly. Some have supportive experiences, some neutral, and some unsupportive. Yet common themes within these

experiences are provider concern and lack of knowledge.

Healthcare Provider Concern

Plant-based parents express healthcare provider concern as a negative experience.

“It was my first prenatal checkup, and she really questioned me being plant-based and I was actually really shocked just because I feel like it's pretty common now, especially in Vancouver of all places, that she would be concerned. Um, anyway, she wanted me to make sure that I was going to get enough vitamins and she suggested that I like eat at least eggs and get this and this and this and she made me feel pretty, um, like ignorant and she belittled.”

“...right now we're on WIC and whenever I have to do like WIC appointments I'm always met with tons of questions and skepticism. They don't outright say things, but I can tell in the way that they ask things and the way they kind of question it. Like if they go to check her iron or things like that that they have like some skepticism in their actions and in their voice and so that has been like I really have had to be firm and also deliberate in what I say, how I say it and what I talk about with health care providers regarding diet. And kind of like be, I guess, like one step ahead of them.”

“I usually don't even like bother bringing it up, but somehow we're talking about nutrients or nutrition, I don't know. And, but she's [healthcare provider] like, ‘Well where do they get their calcium from?’ Like well from the food we eat like you know leafy greens and nuts and things that have calcium in them. And, I remember having a conversation with her another time when they were quite a bit younger and I think it's just that some people kind of have a really narrow focus on what healthy is and if you don't have a glass of dairy milk at your meal then you're not getting enough.”

Healthcare Provider Lack of Knowledge

Plant-based parents do not see their medical professionals as authoritative or even informed sources of information.

“... if I go to the doctor will he even be educated in plant-based nutrition or will he just say they're lacking protein and iron and they need, they have to eat meat or else.”

“Our pediatrician was not, she's not against you, never had any red flags or was against being plant-based, but she also wasn't necessarily like super informed on it I guess. So, she wasn't really a place to get like information about it. She was not against it, which I was happy. I've heard some people have had pushback from pediatricians on different things, but we had an easy time there, but I felt like I just needed to do a lot of research on what was necessary.”

“They [healthcare providers] don't know anything about veganism. It's true. They don't. And I think they subscribe to a lot of myths about it. Like I've had a lot of people asking like, what I think is the most ridiculous question, ‘Where do you get your protein?’”

“So, I wouldn't say the pediatricians are my go-to in any way for plant-based advice or anything like that.”

Discussion

It is evident that parents raising plant-based children experience barriers and challenges even though plant-based dietary patterns have been approved by the American Academy of Nutrition and Dietetics (Melina, Craig, & Levin, 2016). These barriers and challenges are a part of daily life in all infancy to adolescent life stages for plant-based parents. These barriers and challenges are present in all 5 of the key domains of health determinants: economics, education, health and healthcare, built environment, and social and community context. This study showed that parental perceived barriers and challenges were: (1) extended family, (2) perceptions of others, (3) eating away from home, (4) access to convenience foods, (5) extra work and time, and (6) organic and specialty/convenience food prices. Yet, all parents, well-foundedly, believe that they are raising healthy children.

The decision to raise plant-based children made it so parents must highly rely on themselves. Parents rely on self education, self done research, self found resources, and home cooking. Although these were not perceived barriers by most plant-based parents it brings into question previous literatures' recommendation on children's plant-based diets. All literature agrees that plant-based children must have well-planned, supported and monitored diets to ensure health (Baroni et al., 2018; Ferrara et al., 2017; Mangels & Messina, 2001; Messina & Mangels, 2001). Yet, this research showed that in addition to parental perceived barriers and challenges, parents face healthcare barriers to providing well-planned, supported and monitored diets: (7) lack of healthcare provided resources and (8) lack of healthcare provider knowledge.

Limited direct research is available on plant-based parents yet, this study does agree with previous limited literature on barriers and challenges within the domain of health and health care.

Barriers identified in previous literature were healthcare provider distrust (Farella et al., 2020), healthcare provider concern based on lack of education (Baldassaree et al., 2020).

Interestingly, parents in this study who have been raising their children plant-based since birth or for many years differ with research on short-term intervention barriers and challenges where difficulty shopping and cost were barriers (Macknin, et al., 2015). It is important to note that middle to low-income populations were studied in these short-term plant-based interventions.

Due to limited research on plant-based parents, parents increasing fruit and vegetable consumption are of note for comparison. Plant-based parent results differed from parents who are increasing fruits and vegetables in their children's diet with their barriers being affordability, accessibility, desirability, knowledge, food preference, and habits being barriers (DeWit et al., 2020; Dickin & Seim, 2015; Pearson et al., 2010; Pearson et al., 2012; Shriver et al., 2010) and not reflected in plant-based parents barriers. Plant-based parent results agreed with barriers of preparation time and lack of time (Shriver et al., 2010; Dickin & Seim, 2015). Once again, it is important to note that previous literature populations were low income.

This study does have several limitations. Firstly, this is the first study of its kind, so no baseline or comparison data is available. Secondly, this is a small sample size (19 families represented) and participants were recruited using a purposive and snowballing sampling thus limiting generalizability of results. Thirdly, the sample had limited diversity. Most of the sample identified as Seventh-day Adventist which may skew results due to the longstanding adoption of plant-based diets within this group and thus a generally supportive environment. Also, the participants were mainly female, white, and had a bachelor's or higher level for education. This

lack of diversity may also limit generalizability. Lastly, recall bias may be present since the participants were expressing experiences both current and many years prior.

Even with these limitations, the findings from this study expose the barriers and challenges of raising plant-based based children in North America. The findings suggest that parents raising plant-based children do face numerous barriers and challenges to providing for the health of their plant-based children and that these barriers and challenges may be distinct to plant-based eating patterns. Therefore, further studies including quantitative studies, are needed to determine distinct plant-based barriers and challenges to raising plant-based children and to understand needed interventions and resources to ensure plant-based children's health.

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Appendix A

Screening Form

Please fill this form out prior to interview and email to shantel@andrews.edu.
(Or the researcher will ask prior to the beginning of the interview)

Screening Tool	
Parent, circle one	Yes or No
Children's ages, please list	Age of child(ren):
Raising children using a plant-based diet, circle one	Vegan or Whole-food plant-based
Live in North America	Yes or No
Which province or state	Name of province or state:

Appendix B

Interview Protocol

Date of interview:

Location of interview:

Start time:

End time:

Name of interviewee:

Name of interviewer:

Recording mechanism:

Introduction:

This interview will take about 30 to 60 minutes. Your participation is completely voluntary, and you can stop this interview at any time. Your information will remain anonymous and confidential but is being recorded at this time.

(Verify that participant has read consent).

Please state that you have read the emailed consent form and are knowingly consenting to be a participant in this study.

My research study is called, “Parental Perceived Barriers and Challenges of Raising Plant-Based Children in North America”. This research is being conducted to understand your experience of barriers and challenges while raising plant-based children. Do you have any questions?

Please note that this guide only represents the main themes to be discussed with the participants and as such does not include the various prompts that may also be used. Non-leading and general prompts will also be used, such as “Can you please tell me a little bit more about that?” and “What does that look like for you”.

Establishing Rapport

Before we begin, it would be nice if you could tell me a little bit about your family. Tailor a question here to the specific person and/or situation.

Introductory questions

1. Can you explain your motivation behind your decision to raise plant-based children?
2. How long have you been raising plant-based children?

Parent’s perception of raising plant-based children

3. Tell me about your journey as a plant-based parent.
4. What feelings have you experienced around being a plant-based parent?
5. What are some moments that stand out in your parenting plant-based journey?
6. Share with me any parenting challenges or barriers to the health of your plant-based children.

Social economic factors

7. Share with me about your parenting experience of raising a plant-based child and social factors (i.e. relationships within and outside your family unit).
8. Tell me about the resources you use to raise a plant-based child in your community.
9. What social barriers do you experience related to raising plant-based children?

Financial

10. What role does money play in parenting plant-based children?
11. What money related barriers or challenges do you experience while raising your child plant-based?

Physical environment

12. How do you access plant-based foods?
13. What are the barriers or challenges to providing plant-based foods?

Health Behaviors

14. As a plant-based parent, what specific health behaviors do you have your kids do or participate in related to being plant-based?
15. What are barriers or challenges to providing for the health of your plant-based child?

Healthcare

16. As a plant-based parent, what has your experience within the healthcare system been like?
17. What are your perceptions of healthcare providers related to plant-based parenting?
18. What healthcare barriers or challenges have you faced related to raising your child plant-based?
19. What guidance or care has our healthcare team provided in direct relationship to your children being plant-based?

Conclusion:

Thank-you for participating. If a reason should arise that I need to contact, you in the next few weeks, what is your best contact?

Appendix C

Informed Consent Form

You are invited to participate in the study titled **“Parental Perceived Barriers and Challenges of Raising Plant-Based Children in North America.”**

Please read this consent document carefully before you decide to participate in this study.

Researchers

This study is being done by Shantel Wahl and Dr. Cadet is advising.

Participants

You were selected to participate in this study because you are a North American parent who has chosen to raise their child(ren) who are between the ages of 0-18 years following a plant-based diet (vegan or whole-food plant-based).

Statements about the Research

This research study is part of my Capstone project, in partial fulfillment for my master’s in public health at Andrews University, Berrien Springs, Michigan. Your participation in this study is greatly appreciated

Purpose of Study

The purpose of the proposed study is to identify the barriers and challenges parents face while raising plant-based children in North America.

Procedure

You will be participating in a ZOOM interview where you will be asked to answer questions by the researcher about your experiences while raising plant-based children.

Duration of participation in study

As a participant you will be interviewed for 30 to 60 minutes via ZOOM.

Risks and Benefits

We do not anticipate any risks from participating in this research. However, parents may find telling personal stories emotional at times. Also, no direct foreseeable benefits are expected. Although, the findings will help contribute to information available on support needed for plant-based parents.

Voluntary Participation

Participation in this study is completely voluntary, refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits to which you may otherwise be entitled.

Privacy/Data Security

As a participant your privacy will be maintained. All data will be secured, data will be de-identified, and consent forms and tests will be kept separate from data being analyzed. The de-identified data and your consent will not be connected. Only the researchers will have access to participant data and data will be password protected in the electronic environment.

Confidentiality

Your identity will be kept confidential to the extent of the law. There will be nothing linking you to the study. None of your identifiers, if any, will be used in any report or publication.

Whom to Contact

If you have any questions about your rights as a subject/participant in this research, contact my advisor:

Dr. Jean Cadet

Telephone: 269-471-3095
Email: cadet@andrews.edu
OR researcher:

Shantel Wahl
Telephone: 509-876-1123
Email: Shantel@andrews.edu

You can also contact the IRB Office at irb@andrews.edu or at (269) 471-6361.

Statement of Consent

I have read the above information and have received answers to any questions I asked. I consent to take part in the study.

Your Signature: _____ Date: _____

Name (printed): _____

Parents signature for minor (less than 18 years of age): _____ Date: _____

Parents name printed: _____

Signature of person obtaining consent: _____ Date: _____

Printed Name of person obtaining consent: _____