

Integration of preventive health into parenting classes

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Abstract

Background: Health behaviours develop from childhood into adolescence and adulthood, and most chronic diseases can be prevented by healthy early environmental factors. Incorporating information about chronic disease and strategies for risk reduction into parenting curricula could have positive effects on the environmental risk that children are exposed to and the health promoting behaviours that children acquire from their parents. This qualitative, formative study seeks to describe attitudes toward, and barriers and facilitators of, integrating preventive health education into parenting classes. As a pilot project, a preventive health curriculum was designed to be incorporated into parenting classes at the Community Counseling Centers of Chicago (C4), a community organization that provided evidence-based services to decrease the incidence of child abuse and neglect in Chicago.

Method: A preventive health curriculum was developed with modules on healthcare utilization, nutrition, physical activity, smoking cessation, and sun safety. Three focus groups were conducted with early parents, defined as parents of children ages 0-3, to learn from parents' knowledge gaps and content preferences on the modules listed above to incorporate findings into the curriculum, as a new way to deliver this kind of information. Focus groups were transcribed, coded in Atlas.ti, and analyzed for emergent themes.

Results: 20 parents participated in focus groups; 17 (85%) of participants identified as female and 13 (65%) of participants identified as Hispanic. Participants expressed a range of knowledge gaps and content preferences on healthcare utilization, nutrition, physical activity, smoking cessation, sun safety, and more. Some differences were noted between participants who were smokers and non-smokers. Barriers described include lack of time for physical activity, lack of knowledge on serving sizes and specific food groups, an impasse between sun safety and conventional beauty standards, variation in access to childcare, and difficulty in overcoming smoking withdrawal effects.

Conclusions: Our findings have important implications for development of health curricula and healthy outcomes for parents through preventive health education during parenting classes. In addition, parents and the home environment are the most influential forces in shaping children's early learning and incorporating health and wellness topics into existing evidence-based parenting programs could impact the health behaviours, knowledge, and outcomes of children throughout the life-course.

Introduction

Health behaviours develop from childhood into adolescence and adulthood [1,2]. Most chronic diseases, such as Type-2 diabetes, metabolic syndrome, and atherosclerotic cardiovascular disease, can be prevented by healthy early environmental and lifestyle factors [3]. From healthy dietary habits to concordance with routine immunization schedules, parents and caregivers have a tremendous impact on their child's health. Classes for prospective parents are known to have existed since about 1920 [4]. Furthermore, these programs have a long-standing track record of success with improving child health outcomes [5-7]. A systematic review of parental support interventions for children's diet and physical activity found that individual and group education programs are more effective than indirect interventions, such as mailed educational material [8].

Analysis of data from 2563 adults from the Coronary Artery Risk Development in Young Adults cohort study showed that parents consume more saturated fat than nonparents, and as such, early parenthood is the optimal time for nutrition education programs to motivate healthy eating habits among new parents [9]. The National Longitudinal Study of Adolescent Health found that neighborhood poverty and low parental education are significant risk factors for adolescent obesity, and parental education programs focused on nutrition and physical activity could prove especially useful for

socioeconomically disadvantaged communities [10]. Similarly, a retrospective cohort analysis of 925 women and 1,494 men in the German Cardiovascular Prevention Study found that smoking cessation rates were significantly higher during the first year of parenthood; however, childbirth led to long-term abstinence from smoking only in a small minority of smoking mothers and fathers [11]. More proactive measures are needed to promote sustained smoking cessation in early parenthood. Early parents, defined as parents of children between the ages of zero and three, are an important audience for imparting preventive health education. Preventive healthcare consists measures taken to avoid illness, such as leading a healthy lifestyle. The integration of preventive health with early childhood education is an important avenue to explore.

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Parents and the home environment are the most influential forces in shaping children's early learning and incorporating health and wellness topics into existing evidence-based parenting programs could impact the health behaviours, knowledge, and outcomes of children for life [12]. Furthermore, preventive health education in the setting of new parenthood has the opportunity to impact not only the health outcomes for the child, but rather the health-related choices of the entire household [13]. Incorporating information about chronic disease and cancer risk behaviours and strategies for risk reduction into existing parenting program curricula could have positive effects on the environmental risk that children are exposed to and the health promoting behaviours that children acquire from their parents.

In response to a need for preventive health education for early parents, we designed a curriculum that includes modules focused on physical activity, nutrition, smoking cessation, sun safety, and healthcare utilization to be incorporated into existing parenting classes at community partner organizations to increase preventive health awareness and reduce chronic disease and cancer risk behaviours in families within the Chicago area. In this paper, we present the findings of our formative research focusing on a diverse sample of parents in Chicago to guide the development and refinement of the curricula through this unique delivery method for preventive health education. Specifically, we conducted focus groups to identify parents' gaps in knowledge and potential implementation processes that would facilitate the development of preventive health curricula for parental education programs. This qualitative study contributes to the literature on preventive health interventions for parents because it identifies the life stage of becoming a new parent as a window of opportunity for behavioral change in healthy habits and delivers health prevention education by leveraging parenting curricula.

Methods

Setting and recruitment

Parents eligible for this qualitative study to identify pertinent preventive health topics were adults age (18+) enrolled in the Community Counseling Centers of Chicago's (C4) parenting classes for children ages zero to three. The Community Counseling Centers of Chicago is a community organization that provides evidence-based health services at five sites on the north side of Chicago. One of the organization's largest programs was the Parenting Education Program (PEP) that is designed to decrease the incidence of child abuse and neglect in target communities. Through a universal parenting education approach, PEP aimed to address high-risk environments and enhance positive parenting behaviours and family relationships. Since its inception, the program has served approximately 3,500 parents and caregivers. Parents participate in PEP programs for a number of reasons; some parents are court mandated to participate while others may voluntarily enroll because they are first time parents. In partnership with C4, we proposed to incorporate preventive health education into the existing PEP curriculum to increase awareness of health-beneficial behaviours in families within the Chicago area. Participants for focus groups were recruited directly by C4 staff from the C4 parenting classes held in November of 2014.

Curriculum description

Using a community engaged research approach, our team began work with C4 in 2012 to expand Parenting Fundamentals to promote healthy family lifestyles and environments. The project involved development of preventive health modules to be integrated into existing evidence-

based parenting programs that target low-income at-risk families of children ages 0-3 years old. Since parenting class programs often focus on behavioral and cognitive curricula, content and outcomes of such curricula tend to leave out general health and wellness outcomes. We worked side-by-side with C4 to explore the existing parenting program curricula and ways to incorporate health information. The health curriculum that was developed consisted of five 10 minute modules concerning 1) Healthcare Utilization, 2) Nutrition, 3) Physical Activity, 4) Sun Safety, and 5) Smoking Cessation. Each module focused on specific health goals, as well as teaching objectives. The preventive health modules were created by compiling materials from preventive health organizations including the Center for Disease Control, the American Cancer Society, and the World Health Organization. Module 1, Healthcare Utilization, described insurance plans and financial itemizations and included a substantive collection of links to various health insurance options mostly available online. This module allowed for a dynamic in-person discussion regarding healthcare access for low-income families. Module 2, Nutrition and MyPlate, includes the MyPlate visual template to aid daily diet choices for their families. Module 2 differentiated between nutrients, food groups, included a section on the importance of water, and elaborated on grains and where to find them. The module also included advice on how to decipher food menus. Module 3 on physical activity included resources on exercise types, success stories, and online support groups, as well as a list of resources for what one can do when faced with a barrier regarding physical activity. Module 4 focused on sun safety, discussed UV radiation from the sun, and explicitly recommended against the use of tanning beds. Module 5 on smoking cessation provided several resources on quitting smoking, and helped identified triggers to smoke and the management of withdrawal symptoms.

The content of each module was packaged in a series of handouts and resource tools for further support in these areas. Each of these modules was built in English, with a plan for translation to Spanish after initial testing. Our goal was to incorporate the curriculum into the parenting classes upon refinement of the modules after focus group input.

Data collection

Once we developed a prototype of the preventive health modules, we distributed these modules as handouts in our focus groups and solicited content and implementation gaps from the early parents. Focus groups with parents of children ages 0-3 years were conducted to vet the modules and determine content relevance for the parents. Focus groups, with 6-8 parents per group, were conducted on the last day of each of the 0-3 parenting classes and held in C4 classrooms to provide a comfortable and applicable setting for discussion regarding the health curriculum. The data collection instruments included a brief demographic questionnaire and a semi-structured focus group moderator's guide script with questions exploring the following preventive healthcare topics: (a) healthcare utilization and knowledge about obtaining healthcare; (b) knowledge about smoking side effects and smoking cessation options; (c) attitudes about physical activity; (d) attitudes about My Plate and nutrition; (e) knowledge about sun safety. Focus group questions explored the most relevant topics and provided an opportunity for participants to provide any additional comments on the modules and focus group process.

Three focus groups were conducted by the research team staff and lasted 60 minutes. Each focus group facilitator first welcomed participants and stated that the purpose of the focus group was to

determine the kind of health and lifestyle information to be integrated into existing parenting classes because feedback collected may make visible new ways to disseminate health and wellness information into parenting classes. Participants were informed that the focus group would be recorded and transcribed while maintaining confidentiality. After informed consent, facilitators administered demographic questionnaires. Following an ice breaker question and the paper distribution of the module handouts, facilitators proceeded into the key questions in the order of the preventive healthcare topics listed above. At the end of the focus group, participants received a \$20.00 gift card for Target, a national department store. All study procedures were reviewed and approved by the Northwestern University Institutional Review Board.

Data analysis

The authors (SZ, MG) independently reviewed the transcripts to identify initial themes. Team members then compared the derived themes to develop a higher-level coding scheme, which was used to conduct line-by-line coding in the Atlas.ti qualitative data analysis software. The thematic analysis of focus group participant responses focused on agreement among participants, consistency of findings, differences across groups, and concordance among coders' assessments. We used qualitative descriptions and exemplar quotes to convey the breadth and strength of agreement with a statement, rather than quantified a response. The following themes emerged: 1) Perceptions about healthcare utilization practices and knowledge about obtaining healthcare, 2) Perceptions about MyPlate and nutrition, 3) Perceptions about physical activity, 4) Perceptions about sun safety, and 5) Perceptions about smoking side effects and quitting options.

Results

Socio-demographic characteristics of focus group participants

The socio-demographic characteristics of focus group participants

Table 1. Sociodemographic characteristics of study population.

Age N=20	
20-29	13 (65%)
30-39	4 (20%)
40-49	2 (10%)
50-59	1 (5%)
Sex/ Gender	
Female	17 (85%)
Male	3 (15%)
Education (years)	
No high school education	3 (15%)
Some college education	11 (55%)
Some trade or technical education	3 (15%)
Associate's degree completed	1 (5%)
Bachelor's degree completed	1 (5%)
Master's degree completed	1 (5%)
Ethnicity	
Non-Hispanic	7 (35%)
Hispanic	13 (65%)
Race (Multiple category selection was an option)	
White	14 (70%)
Black or African	4 (20%)
Other	2 (10%)
Health insurance access	
Has health insurance of some form	85%
Does not have health insurance	15%

are presented in Table 1. The 20 participating parents in the focus groups ranged from 20 to 58 years of age (65% between 20-29 years and 35% older than 30 years). 17 participants identified as female. 65% of the participating parents were of Hispanic ethnicity. 10% of participants completed a college-level or higher degree; 15% had completed some trade or technical education, and 15% had no high school education. The majority (85%) of the participating parents had health insurance.

Perceptions about healthcare utilization practices and knowledge about obtaining healthcare

To inform the development of preventive health curricula, parents were asked questions on provider visit frequency, knowledge about the Affordable Care Act, and whether a list of health resources would be useful. Participants expressed preference for in person information accessibility of health insurance information, a mix of provider visit frequencies, and overall confusion about the Affordable Care Act "Obamacare." Participants reported having more trust in people rather than websites because they can get their questions answered in a reliable, understandable way "especially nowadays, it's harder to believe anything online and you get there and it's totally different." Some participants were familiar with the early website glitches from the Affordable Care Act website. Insured individuals expressed little of a need to resolve their confusion about the policy change and implementation. However, the uninsured individuals shared that the financial breakdown on the website was "hard to understand" and that the process to enroll in the insurance plans offered by the Affordable Care Act was complex and difficult to afford. Once a family has insurance, some reported visiting a healthcare provider anywhere from once a week, nine times per year, to never. Wellness visits and flu vaccinations were the specific reasons mentioned for a visit to a healthcare provider.

Perceptions about MyPlate and nutrition

To gauge knowledge gaps and content preferences on nutrition and MyPlate, participants were asked about portion sizes and were shown the MyPlate visual in a printed handout version. Focus group participants reported variation in knowledge and confidence across the food groups, as well as appreciated the accessibility of MyPlate. Participants communicated a clear understanding of carbohydrates, meats, fruits and vegetables, and junk food. However, a couple participants reported confusion on grains, their purpose and how to source them, "Grains? What's a grain" and "... the only grain I know is rice." Advocates for serving size per food group were vocally supportive and many were aware of the number of servings per food group they consumed per day. Several participants revealed some knowledge regarding the introduction and incorporation of fast food or "junk food" (e.g. cookies) into their diets. One participant said, "I don't even want to introduce boxed foods to the kids; we just stopped that: Sodium, a lot of sodium." To address the food portion question, many appreciated the MyPlate visual template and related it to how their families would serve food. One individual praised MyPlate over the formerly popularly used food pyramid. The final section of the focus group script served to ask participants about the most relevant content areas to ensure are included in the preventive health curricula and 5 participants said that healthy eating habits were crucial.

Perceptions about physical activity

When asked about benefits, barriers, and frequency of physical activity, knowledge gaps and content preferences came to life in various ways. Participants reported different barriers to physical activity,

Table 2. Perceptions about preventive health topics.

Perceptions about physical activity		
Themes	Subthemes	Representative statements
Barriers to physical activity	Caretaking for children	“But men never say I got to find somebody to watch the kids and don’t say that you do because you don’t”
	Lack of time due to competing priorities	“Well, I run a tight schedule because of I work fulltime and then after work I have to go pick up my son at the daycare and from there I get home I constantly have to clean or do stuff.”
Benefits of physical activity	Good physical health	“It helps you stay stronger and it’s good for your bones.”
	Good mental health	“It reduces stress.” “[Physical activity], it helps me because I had really bad sleeping habits, sometimes I couldn’t sleep because I was would sleep a lot and, also, that’s basically it Before I was just like more depressed I do way more things with the kids going out and stuff like that before I was just home and I didn’t want to do anything.”
Conventional means of physical activity	Sports	“Walking.” “Running.”
Unconventional means of physical activity	Individual-based	“Since I am in a wheelchair, I hop.” “Cleaning the house.”
	Playing with children	“I play with my son and when I have my 2 year old I just lift him up and down to get my arms a little workout.”
	Involves other adults	“Intercourse and family group things, family outings. Interacting and oh I mean sexual intercourse is, also, important to have.”
Children’s physical activity	Role of schools and day care	“A ton, they’re at school or at the after school program or the daycare and they keep them. The older [ones] have activities on Mondays and Wednesdays like soccer the little one has daycare; they do. The little ones run around, they keep them active.”
Perceptions about smoking and quitting side effects		
Themes	Subthemes	Representative statements
Environmental impacts	On others, children	“Second hand smoking kills more people than the people that are actually smoking it.” “I think second hand smoking is bad but it goes back to the first person because if it wasn’t for them, then those people would not be dying.”
Smoking activity	Location	“I just don’t like it when sometimes tells me and I am sitting at a park you can’t have a cig and that bothers me and that would bother me if I was smoker or a nonsmoker.”
Stigma comparisons	Fast food	“There is a positive thing about smoking: They say smoking a cigarette is better than eating 1 McDonald’s fry.”
Long-term consequence	Non-physical appearance-related	“I was just going to say that I have a cousin that passed away from complications of smoking when she was 21 and then one of my husband’s coworkers passed [away] 3 years ago from cancer that was related to it.” “My dad talks to my son. My dad used to be a chain smoker but he has a respiratory issue now so he will just kind of when my son brings it up because he sees my brother smoking once in a while, he says well you know you have to be more responsible my dad also tells him how he feels so my son can feel he shouldn’t do because he doesn’t want to be like grandpa.”
	Physical appearance	“The man who took out his mouth, his teeth and his face just is drawn in from the tobacco you know.”
Quitting process	Role of media in smoking awareness	“The commercials that come on TV. I love them because it’s the reality of umm smoking we didn’t have ‘em when I was growing up my parents smoked 3 packs of cigarettes each every day Marlboro that’s a hard cig so I grew up with chain smokers in the house so when commercial comes on TV I just invite josh to see this person what happened to them it’s almost like to scare him before he goes that influence when he you know gets older and be around children or teens that do smoke.”
	Deciding to quit smoking	“No, he was just smoking and he started coughing heavily after years of smoking and what was in his napkin was blood and black stuff that’s when he quit.”
	Side effects	“My dad used to jitter because he went cold turkey but he would jitter a lot because he was nervous.” “I had to find something to feed the need of nicotine, so I just started eating a lot. If I felt like I wanted a cigarette, I would eat something. But my doctor told me try chewing gum, not the nicotine gum, just regular gum because it helps and whatever.”
Perceptions about healthcare utilization practices		
Themes	Subthemes	Representative statements
Health insurance	Information accessibility via in person	“... People don’t understand certain things, or they can’t read or you know they are going to need somebody to help them and they may not have that access but if someone speaking n person it will be more easier to understand.” “It’s self-explanatory when it’s in person to person instead of going on your internet and trying to figure it out yourself.” “Especially now a days it’s harder to believe anything online and you get there and it’s totally different.”
	Information accessibility via digital means	“The website pretty user friendly and everything they did they asked u for everything but it would just like sitting in front of a person, at least I didn’t have to sit in front of a person if I wanted to smoke or take off my clothes not that they did that but I was comfortable.” “I went on a website the other day because umm there’s different methods, there’s BCBS, there’s Humana, you have total and different it showed individual costs like the minimum was like \$320 a month, but it doesn’t really break it down as you know it’s hard to understand.”
	Insured	“Actually when we started last to process it this year I didn’t have to do it until after I was laid off for 3 months and I was still covered, I was not looking forward to do it, who wants to do that, I always had insurance coverage.” “I mean I have insurance but I could learn something.”
	Uninsured	“The one thing that bothered me about this whole Obamacare is we’ve been thru several years of unemployment where we just even if first of all we couldn’t afford insurance if we had no employees to give us insurance but we weren’t going to be bothered we put it in the hands of God but now I am thinking some people are still unemployed and in bad shape, now I have to get this insurance, now I have to pay them penalty which \$95 isn’t a lot of money right it could be to a lot of people though but it keeps on getting more and more I just think why don’t you just leave us alone. I understand what he’s trying to do but at the same point I am unemployed again my husband is retired so now we have to purchase insurance and I would’ve just left it in the hands of God and saved myself \$400 bucks a month
	Lack of information	“Healthcare? I don’t know much about it though, there is a deadline that passed that’s why I know or that it’s coming but I don’t know much.”

	Affordable Care Act complexity	<p>“It’s a pain in the butt.”</p> <p>“Yeah, it was a lot maybe 1 hour interview per parent, so my dad and mom because they have to each provide information, taxes and birth certificates social security, if you had insurance before why don’t u have it now, when did you retire and if you retired do you have social security Medicaid, Medicare? It was long.”</p>
Visit frequency	Date ranges and when to visit provider	<p>“My husband and I probably go every 6 months or 3-6 months.”</p> <p>“In our family, we go for the regular like the yearly checkup, the kids their wellness, and then anytime they get sick.”</p> <p>“About 9 times, because 3 in my family, right health and checkups about 9 all together.”</p> <p>“Maybe I am bored one day and I visit the doctor.”</p> <p>“Same, family well my son almost every month and myself I don’t.”</p>
Perceptions about MyPlate and nutrition		
Themes	Subthemes	Representative statements
Food groups	Carbohydrates	<p>“Also, carbohydrates, you should put that on there too, because carbs provide energy like anything white like starch like white bread rice even pasta things like that are fast digesting carbs as soon as you eat them off you burn them off.”</p>
	Lack of education about grains	<p>“The only thing that always throws me off, not as much now but it did before, like grains the only grain I know is rice.”</p> <p>“Grains? What’s a grain?”</p>
	Meats	<p>“I avoid red meat, I do like fish and chicken and stuff like that I feel good, I am like oh I did good and then I throw vegetables in there too, but I avoid the red meats.”</p> <p>“I grill chicken to get Isabelle to eat more salads. Salads for me are okay, but my husband freaks out so just a little bit at a time; you know, if you put a little bit up there they want to eat it more, if you put a whole thing they are like uhhh, so put a little plate then he will eat it more.”</p>
	Vegetables and fruits	<p>“[Portion size is] 3, I try to include it all my meals.”</p> <p>“Yeah, I will do like pasta but I will put in broccoli and carrots and corn to kind of hide the pasta.”</p> <p>“Umm, just grapes.”</p>
	Unhealthy food	<p>“...And boxed foods, I don’t even want to introduce boxed foods to the kids, we just stopped that, sodium; [a] lot of sodium.”</p> <p>“Saying no to fast food.”</p>
	Serving size	<p>“Portion control is very important.”</p> <p>“...Added something like the carbohydrate to protein ratio depending on if you are trying to lose weight or gain weight, because it depends on the person metabolism you get like recommend anywhere if someone is trying to lose weight .5gram or .75 gram of protein per lb of body weight, somebody trying to gain wait 1.5-3grams per lb like I weight 220 if I were to work out and gain weight I would need close to 550 grams of protein a day and like calories you know what I am saying I think the carbohydrates to protein ratio is 1:3, just for a regular diet something like that depending on the persons metabolism.”</p> <p>“A lot of people, me included they don’t realize if you get like a soda or whatever its for example if you have something that’s 2.5 servings then its 60 grams of sugar its 60 grams of sugar per serving so you are literally consuming 180 grams of sugar, people say 60 they say oh okay that’s great.”</p>
Information visualization	MyPlate v. Pyramid	<p>“I am only speaking in terms of experience with my dad he’s diabetic his doctor’s office gives him an actual plate so that works like that it makes it easier for him to fill it up with the foods that he’s supposed to eat because he before he got a list of things and now it’s like this is fruits and vegetables.”</p> <p>“It is easier to read then the pyramid, yes, def. easier to visualize.”</p> <p>“I was fittin’ to say, this does because when my mom when she cooks dinner when I was home, when I was a kid, when I was a child, she used to like fix our plates like this.”</p>
Perceptions about sun safety		
Themes	Subthemes	Representative statements
Conventional beauty standards and perceptions	Light skin preference	<p>“Heard [sunscreen is] good for my skin in the summertime, so that way I won’t like be extra dark and whatever black, so you know, I believe that I said I was going to start wearing it because I believe it helps, even though I am black it still helps.”</p> <p>“Keeps you from getting darker.”</p>
	Darker skin (e.g. tan) preference	<p>“I am bad at it, I don’t do it for myself because I like to tan,I go tanning in tanning beds so umm I do it for my daughter bc shes a lot lighter my son he goes to camp occasionally if they are going to the park or the sprinklers my daughter when she was younger she would turn really red because she is lighter skin I don’t use it, I use the oil to get tan.”</p> <p>“My youngest she doesn’t like wearing sunscreen because she wants to get a tan in the summer and she’s only 6.”</p> <p>“I don’t have to get in those sun tan thingies, I can just get one outside I can get it for free.”</p>
Education about sunscreen	Knowledge of sunscreen benefits yet do not apply knowledge	<p>“I do try to remember like most people here, when you don’t burn you don’t think about it but as the years have gone on and you know what the dangers are then you do know that you want to protect your skin I am more of a face sunscreen.”</p> <p>“[Sunscreen] -- it doesn’t work.”</p>
Consequences of sun damage	Non-cancer-related in an explicit way	<p>“Wrinkles.”</p> <p>“Sunburn-- which is terrible.”</p>
	Cancer-related in an explicit way	<p>“To answer your question I had melanoma once on my back it was like about that big so I had a scar they had me go in, I think you have 4 layers of skin but they have 3.5 down to get it, My mom had melanoma once so it’s pretty important.”</p> <p>“Skin cancer; my grandmother has it.”</p>

General perceptions of content preferences and other topics of interest		
Themes	Subthemes	Representative statements
Child Development	Communication and conflict resolution	<p>“I understand what you’re saying, like certain things, my kids are younger, certain things they ask you and you don’t want to tell them something that’s wrong, but then you know they are not old enough to know or to understand their capabilities understanding it fully so you are kind of trying to figure out what you are going to tell them so they understand it and they are satisfied but not lying to them.”</p> <p>“Umm, I know one that comes up with Isabelle is conflict resolution you know you tell something happens talk to the teacher, but then you get the report back needs to learn how to conflict resolution I don’t know how to do that, how do you do that she’s supposed to talk to you take care of it you’re the adult in the classroom you take care of it, she thinks someone is swearing, we don’t know if that’s happening you know like that kind of stuff.”</p>
	Healthy lifestyle habits	<p>“For a kid, teaching about cigs and food is more important.”</p> <p>“Exercising yeah, nutrition and exercise.”</p> <p>“Hygiene.”</p> <p>“Getting a lot of sleep because you want your kids to be more like focused in school. So sleep.”</p>
	Safety	<p>“Drugs and guns.”</p> <p>“Safety tip for my babes to make sure that I am doing everything the right way, holding her sitting her up burping her, other health things making sure I am getting the right the appropriate food for her that she eats and makes sure she’s not allergic to types of food learning how to get rid of cold and stuff those things I don’t know much about.”</p>
	Sexual education and romantic relationships	<p>“Vagina omg aww I said Virginia? Josh where did you get that word?? Oh, I know that word. And I said omg where did you get that from, you know.”</p> <p>“My granddaughter is in kindergarten and something happened at school and the teacher called me and they said some boy wrote her name on the bathroom wall, what the hell is going on? And we talked about it with Isabelle and something the teacher and I talked about it with Isabelle empowerment this is a friend only if you want this friend to touch, if you don’t want that person to touch you; you can tell them to stop we talk about what we like to learn but I think to empower them, I have 3 older my youngest is 26 and I don’t remember going thru this stuff in KG or hearing it first or second grade if he did it was like ahh it would be like the 1 person but to hear it here and other people this stuff is starting so much earlier boys liking girls and girls liking boys before 3rd grade and saying it out loud.”</p> <p>“It’s real, its valid, it’s what she feels, and people need to be cautious with sex because I seen on the internet today my kids father showed me that there is a new STD, I don’t know if that’s true or not but they showed me a picture of it on the internet thing, it was like the most awfullest thing I have ever seen, like it makes you.”</p>

including caretaking for children, lack of time due to competing priorities, and allowing themselves to make excuses. Two individuals mentioned differences in barriers due to gender roles (“men never say, I got to find somebody to watch the kids” and “who’s going to do the laundry?”) when discussing competing priorities and caring for children. Without accessible childcare, especially in the winter months, physical activity becomes more difficulty for many of these individuals. Some participants with children reported that they already felt as though they are physically active because they play with their children. Many cited benefits of physical activity such as good physical and mental health. One individual said that physical activity is good because “before [physical activity], I was just, like, more depressed. I do way more things with the kids: going out and stuff like that; before I was just home and I didn’t want to do anything.”

With a general consensus that physical activity has many benefits, some participants reported conventional means of physical activity, such as running or biking,” whereas others and some of the same participants reported unconventional means of physical activity beyond playing with children, such as hopping in one’s wheelchair, shopping around the mall, cleaning the house, and intercourse. While those modes are for adults, participants discussed the role of schools and day care in advancing children’s physical activity, “the little ones run around, they keep them active.”

Perceptions about sun safety

Focus group participants were specifically asked about sunscreen wearing practices, sunburn frequency, health risks caused by sun exposure, and known sun safety resources. Conventional beauty standard adherence, knowledge of sunscreen usefulness without

sunscreen application, and long-term sun damage consequences were key topics brought forth by focus group participants. While some individuals were aware of the benefits of sunscreen, one thought sunscreen does not work and a couple of others voluntarily did not apply sunscreen per the recommended amount to “get a little bit of color” since “it’s all free.” Individuals who reported applying sunscreen would either only apply sunscreen to their face or apply throughout to not be “extra dark and whatever black” and to keep one “from getting darker.” Focus group participants shared knowledge on long-term consequences of sun exposure, such as skin cancer, wrinkles, and sunburns. One individual and their mother once had melanoma and thus underlined the importance of sun safety for the group.

Perceptions about smoking side effects and quitting options

Facilitators asked participants whether they knew any smokers, the risks and side effects of smoking and second hand smoke, as well as attitudes about smoking. The smokers in the group reported not smoking around children, for example inside a home. One smoker was bothered about others asking them to not smoke while in public places, stating: “...and I am sitting at a park you can’t have a cig and that bothers me and that would bother me if I was smoker or a nonsmoker.” Focus group participants who were non-smokers shared awareness regarding second hand smoke, “[it] kills more people than the people that are actually smoking it” and “if it wasn’t for [smokers], then those people would not be dying.” Smokers brought up the feeling of stigma and how fast food does not experience the same level of stigma as smoking while one held the belief that, “There is a positive thing about smoking, they say smoking a cigarette is better than eating 1 McDonald’s fry.”

Long-term consequences of smoking related to physical and non-

outward physical appearance were understood prior to reviewing the modules in handout form, often due to the role of the media in communicating these consequences through visually memorable commercials. Birth defects, cancer, coughing up blood and “black stuff,” as well as scratchy voices and unhealthy-looking teeth and breath were mentioned. One individual recalled showing the commercials to others as an intervention or preventive measure for smoking, “it’s almost, like, to scare him before he goes that influence when he, you know, gets older, and be around children or teens that do smoke.” While a couple participants reporting knowing some who quit smoking cold turkey, withdrawal side effects were discussed and known by many in the group. Specific side effects mentioned include anxiety, addictive behaviour toward smoking, physical jitteriness, and weight gain. Per focus group findings, at least two participants suggested that smoking prevention and a healthy lifestyle were among the most important topics to include in the preventive health curricula.

General perceptions of the prioritization of these modules and other topics of interest

Eating well and good physical activity were repeatedly reported as important topics to include in the parenting class curriculum. Other topics that are currently missing from the modules which were suggested by focus group participants include childhood development, communication and conflict resolution, other healthy lifestyle habit implementation (e.g. good hygiene and sleep habits), safety, sexual education, relationship advice for children, and staying warm in the winter. Of these suggested topics, communication and conflict resolution as well as sexual education had the most engagement and discussion from participants.

Discussion

Participants in the focus groups identified health prevention education content preferences and respective knowledge gaps, along with a demonstrated need that content must be paired with appropriate presentation for successful uptake of preventive health information. Content opportunities in the existing modules include how to address a lack of knowledge on how to navigate complex healthcare insurance systems, manage gender and family role discussions around nutrition and physical activity, ensure health and wellness knowledge is applied in the face of conventional beauty standards, create and support family members who are smokers, and resolve safety, conflict, and sexual education conversations with children through communications skills training.

To summarize healthcare utilization findings, the focus group participants stated confusion on accessing and interpreting “Obamacare” and variation in the frequency of provider visits. The focus groups demonstrated that participants prefer in-person teaching regarding healthcare utilization over online resources, consistent with findings with Kader *et al.* [8]. Opportunities in this module include taking health literacy a step further by providing resources in Spanish or other languages. 65% of the participants in this study are Hispanic, although English language literacy rates were not collected. Another opportunity with this module is to provide guiding questions to help the potential enrollee critically think through which Affordable Care Act plan is the best fit for them. Given the variation found in provider visit frequency and without clarity on when one should visit a provider, especially for preventive measures per updated scientific findings, including current recommendations on best practices for when to visit a provider could prove beneficial. Further, a couple of focus group

participants reported visiting a provider for routine wellness visits, but care and potential diagnosis expectations of such wellness visits when it comes to frequency of mammograms or *Papanicolaou* tests (pap smears) remains unclear. For future focus groups, it could be beneficial to ask participants how they know when to get a flu shot as flu vaccines may be in low supply at various times of flu season. Further, not all participants reported getting flu shots, which is a public health opportunity.

Results from the nutrition and MyPlate module display variation in who had seen the MyPlate visual, as well as general lack of confident knowledge on serving sizes. Food labels were not mentioned in the focus groups other than in relation to overall serving size. An opportunity for the module is to provide resources on how to avoid the unintentional introduction of unhealthy eating habits such as eating and craving fast food, especially sweets and those with a lot of sodium. One participant stated the importance of not being a “hypocrite” and, instead, modeling behavior expected of children. Given that low parental education are significant risk factors for adolescent obesity, the focus groups reaffirmed that parental education programs focused on nutrition and physical activity could prove especially useful for at-risk families [10].

Parents’ responses to the physical activity module in the focus groups demonstrated limited understanding on how to overcome barriers for successful physical activity, while also showing a degree of creativity in different potential sources for unconventional physical activity. Focus group participants agreed that physical activity was a highly relevant healthcare topic, but more importantly, participants pointed out that discussing barriers to physical activity was a key strength of the module. These findings suggest that in addition to what to do, information about how to resolve physical activity barriers would be critical information to include in preventive health curricula for parenting classes. Additionally, our formative work points to the need for inclusion of resources on where to look for information whether it is about how to create new or eliminate entrenched habits or where to find financial support. Further, information about Body Mass Index (BMI) should also address the variances in BMI per demographic group, including children. Emphasizing the potential for mental health benefits *vis-à-vis* physical activity is a potential topic to include into the module as there was variation in participant understanding of that specific linkage.

The sun safety module discussion findings illustrate a depth of knowledge regarding ramifications of not wearing sunscreen yet showed a gap in implementing this knowledge to ensure sun safety practices. Given that adherence to conventional beauty standards were topics that came up organically in the focus groups, it may be worthwhile to include a section on sun safety versus being tan. When asked about the most interesting or pertinent topics to include in parenting classes, many participants said that since they already knew about sunscreen, that sun safety was a less important topic. Yet, given the reported inconsistent application of sun safety among the adults, we believe elements of sun safety are important components of a preventive health parenting class curriculum.

Findings from the final module focused on attitudes and knowledge about smoking. Participants shared knowledge of the negative consequences of smoking for oneself and around others, yet gaps point to a lack of knowledge on how to quit successfully and secure support throughout the process. While the module provided key facts about the harms of smoking, it would be useful to include a visual representation of the effects of smoking, as we heard commercials served as interventions per the focus groups. The module seems adult-

centric and does not include prevention methods for youth. Studies have shown that smoking cessation rates were significantly high during the first year of parenthood, but parents often relapse and fail to achieve long-term abstinence [11]. It would prove beneficial to discuss evidence-based tools to help new parents achieve long-term smoking cessation [11]. Along with eating well, smoking prevention education proved to be a topic to continue to stress for early parents and their children.

Findings suggest that although parents may have some baseline knowledge about sun screen, the benefits of physical activity, and what it looks like to eat healthy, implementation best practices remain outstanding to ensure early parents attain and retain this knowledge on a consistent basis, which also has implications for the wellness of their children. Preventive health curricula for parenting classes that emphasize behaviour change instead of just information overview may be more effective overall, but additional research is needed to test this hypothesis.

Key limitations of this study must be noted. First, only three focus groups were conducted with a convenience sample of participants in which 65% were Hispanic, so generalizing findings to a wider population may require careful consideration. Further, topics that were not mentioned but lead to beneficial outcomes for children include education on Sudden Infant Death Syndrome (SIDS), the role of fathers in early childrearing, breastfeeding, and post-pregnancy contraception options. But since the data collection instrument did not include questions on SIDS, fatherhood, breastfeeding, or contraception, it is difficult to know how relevant participants perceive these topics to be in light of a balance between how important healthcare providers and researchers deem these topics to be when it comes to early parenting behavioral interventions. Despite these limitations, the formative nature of this qualitative study shed light on the potential impact of preventive health education in the critical window of early parenting, as long as the education is communicated through the unique delivery method of parenting classes. The delivery of this content is a potential ideal platform for reaching underserved communities across the socio-economic continuum.

Conclusions

As health disparities persist across low income and minority populations, it is imperative that we explore opportunities to broaden the placement of health related prevention messages and education. It is well known in the literature that parents and the home environment are the most influential forces in shaping children's early learning. Most parenting programs focus on basic skills required to rear a baby. Few programs insert additional behavioral and cognitive curricula into the courses. Few to our knowledge add health prevention and wellbeing messages and strategies. Incorporating health and wellness topics into existing evidence-based parenting programs could impact family health behaviours. Given this clear window of opportunity and our established partnership with a well-respected community organization, the marriage of health education and prevention with early childhood education is an important avenue to explore.

Authorship and contribution

Dr. Simon, Ms. Zaveri, and Ms. Garcia had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: Simon, Zaveri

Acquisition, analysis, or interpretation of data: Simon, Zaveri, Garcia

Drafting of the manuscript: All authors

Critical revision of the manuscript for important intellectual content: All authors

Obtained funding: Simon

Administrative, technical, or material support: Zaveri, Tom

Study supervision: Simon, Zaveri

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Competing interests

The authors declare that they have no competing interests.

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