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A qualitative study of parents with children 6–12 years: Use of restaurant calorie labels to inform the development of a messaging campaign

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Abstract

Background: U.S. law mandates that chain restaurants with 20 or more locations post calorie information on their menus to inform consumers and encourage healthy choices. Few qualitative studies have assessed how parents perceive and use this information when ordering for their children and what types of accompanying messages might increase use of calorie labels when ordering food.

Objective: We aimed to better understand parents' perceptions and use of calorie labeling and the types of messages that might increase use.

Design: We conducted ten focus groups (n=58) and 20 shop-along interviews (n=20). Focus group participants discussed their hypothetical orders and restaurant experiences when dining with their children, and shop-along participants verbalized their decision processes while ordering at a restaurant. Both groups gave feedback on four public service messages aimed to increase healthier ordering for children. All interviews were voice-recorded and transcribed.

Participants/Setting: Participants were primary caregivers of at least one child between 6 and 12 years who reported having less than a college education at the time of screening and who commonly ate at chain restaurants. Focus groups were conducted in a conference room while shop-alongs were conducted in quick-serve and full-service chain restaurants around Philadelphia between August 2016 and May 2017.

Analyses: A modified grounded theory approach was used to extract themes from transcripts.

Results: Thematic analysis of transcripts revealed five key themes: 1) parents' use of calorie labels; 2) differences across restaurant settings; 3) non-judgmental information; 4) financial value and enjoyment of food; and 5) message preferences. These themes suggested that non-judgmental, fact-based messages that highlight financial value, feelings of fullness, and easy meal component swaps without giving up the treat-like aspect of eating out may be particularly helpful for consumers.

Conclusions: These findings can inform current FDA campaign efforts to support consumer use of calorie labels on menus.

Keywords

qualitative research; menu labeling; messaging; parental decisions; consumer behavior

Eating away from home has been linked to higher energy intake and poorer diet quality among children and adolescents.¹ Americans now spend more money on away-from-home food than on groceries.² Although energy intake among US children from quick-serve restaurants declined between 2003 and 2010, intake remains high.^{3,4} Diet quality further appears to improve as socioeconomic status (SES) improves, indicating a need to target low-SES households in healthy eating interventions.⁵

Beginning in May 2018, chain restaurants with 20 or more locations in the U.S. were required to post calorie information on their menus along with a contextual statement regarding daily recommended calories.⁶ The available evidence paints a mixed picture of menu labeling effects, suggesting that the influence of calorie labels might vary based on the type of restaurant and consumer.^{7–12} Very few studies have examined the influence of menu labeling on children's caloric intake, and although they have competing results, they are limited by small sample sizes.^{12–14}

Existing qualitative research on calorie labeling and restaurant dining has been focused on adults and suggests many adults do not use calorie labels, lack understanding of what calories are, and are drawn to lower-priced items.^{11,15–17} Key themes from these studies suggest that people believe calories are easy to burn¹¹ and they knew what they were going to order before stepping into a restaurant, regardless of restaurant type.^{11,16,18}

Given the heterogeneity in response to restaurant menu labeling and limited data on how it influences parents and children, the purpose of this study was to conduct focus groups and shop-along interviews to identify: 1) reasons why low-SES parents report using and not using calorie labels when at restaurants with their children and 2) insights into how messaging can affect parental decision-making at restaurants that can inform the development of messaging to promote parents' use of calorie information and encourage healthier purchases for children. Recently, the FDA released a messaging campaign with the aim of increasing consumer use of menu labeling to make healthful food decisions.¹⁹ The current study can further inform such outreach.

METHODS

Sample and participant recruitment

We recruited participants in Philadelphia, one of the first cities to implement calorie labeling in 2010, using Craigslist ads and flyers placed in community spaces and local pediatric primary and specialty care clinics. Our eligibility criteria were: 1) eighteen years or older, 2) English-speaking, 3) primary caregiver of a child between the ages of 6–12, 4) less than a college degree at the time of screening, and 5) reported eating at quick-serve and/or full-service chain restaurants at least twice in the four weeks prior to recruitment. We purposely recruited caregivers who did and did not report using restaurant calorie labeling when dining out to understand perspectives from both sides.

We screened 155 potential focus group participants and 134 potential shop-along participants. Those who participated in the focus groups were not eligible to participate in the shop-along interviews. Eighty-nine people were eligible and invited to participate in the

focus groups (31 did not show up), and 45 individuals were eligible and invited to participate in a shop-along (25 cancelled or did not show up). Between August 2016 to May 2017, 58 caregivers took part in ten, 90-minute focus groups, grouped based on participant availability. Twenty caregivers participated in 45-minute individual shop-along interviews. Focus group participants provided written informed consent. Shop-along participants gave verbal consent over the phone prior to participation and were given an information sheet at the restaurant. Each focus group had 4–8 caregivers (no children were included); shop-alongs were conducted with one parent at a time with anywhere between 0–3 children. We conducted focus groups at a location easily accessible by public transportation, and shop-alongs in various quick-serve and full-service chain restaurants in the city. After the interviews, participants completed a brief demographic survey. Focus group participants were compensated \$25 cash, and shop-along participants received \$35 cash. This study was approved by the Institutional Review Board of the University of Pennsylvania.

Focus group methods

Focus groups were conducted and voice recorded by staff trained in qualitative research using a moderator guide (Table S1). Participants were assured that their names would not be connected with their responses. At the beginning of the focus group, participants were shown sample menus with calorie labels from one quick-serve (McDonalds Corp., Chicago IL) and one full-service chain restaurant (Denny's, Spartanburg SC) and asked to imagine what they would order for themselves and their child or children if they were currently at the restaurant. This was used to guide the discussion about their ordering process and whether they used and noticed the calorie labels. Moderators asked questions about participants' perceptions of restaurant calorie labeling, whether and how they used calorie labeling when ordering for themselves and their children within the age range of 6–12, and barriers to using calorie labeling.

During the second half, participants were presented with four poster-style messages with visual images (Figure 1). The messages read: 1) You wouldn't dress your kids in adult-sized clothes, why order them an adult-sized meal? Try choosing items from the kids' menu; 2) Small changes make a big difference for a kid's health. Try replacing soda with milk or water; 3) Look and limit. Try to limit the calories your child has for lunch to 600 or less; 4) Don't waste money on portions that are too big for your kids—save by ordering from the kids' menu. The first and second messages were developed by the advertising agency Victor & Spoils for ChildObesity180.²⁰ The third message was based on the 2010 MyPlate, developed along with the Dietary Guidelines for Americans.^{21,22} The fourth message was developed for this study to target consumers' desire to save money. The moderator asked participants questions to elicit their reactions to the messages.

Shop-along interview methods

Each shop-along interview was conducted by a staff member trained to interview participants using the provided moderator guide (Table S2). Caregivers were asked to bring their children along for the interview, but four participants did not (the shop-along was still conducted with them imagining they were ordering for their child). Staff met participants at either a quick-serve [McDonalds Corp., Chicago IL (n=6), Burger King, Miami FL (n=3),

The Wendy's Company, Dublin OH (n=1)] or full-service chain restaurant [Applebee's International, Inc., Glendale CA (n=4), Ruby Tuesday Inc., Maryville TN (n=4), or Chili's Grill & Bar, Dallas TX (n=2)]. Depending on which types of restaurants the participants reported visiting and where they indicated would be convenient, the appropriate restaurant was assigned from a pre-determined list. Participants were assured that their answers would be anonymous and confidential. Participants were instructed to order using the restaurant menu as they normally would while verbally describing their decision-making processes into a voice recorder. After ordering, the interviewer sat with the participant while they ate and asked questions using a guide similar to that used for focus group interviews, including use of the same four messages.

Data analysis

All interviews were audio-recorded, manually transcribed with personal identifiers removed, and entered into NVivo 11.0 for coding and analysis using a modified grounded theory approach. Research staff felt that no new themes were emerging after eight focus groups. This was confirmed during data analysis as no new codes were added after five focus groups.

Two coders conducted a line by line reading of the first two focus group transcripts to identify key ideas in the data to guide the development of our codebook. Thirty-three distinct codes were identified and operationalized and applied to the transcripts. Thirty percent of the ten focus group transcripts were double-coded and had good inter-rater reliability (kappa coefficients from 0.76 –0.91). We identified five broad themes about calorie labeling usage and menu messaging characteristics. We used a similar approach to code the shop-along interviews, using the codes first identified in the focus groups, and then adding to them. We double-coded 20% of the shop-along interviews (kappa coefficient of 0.83).

RESULTS

Participants

Of the 58 participants recruited for the focus group interviews, 43% were female, 81% were African American, and 93% had less than a college degree at the time of the interview (though all reported having less than a college degree at the time of screening). Among the 20 shop-along participants, 60% were female, 90% were African American, and all had less than a college degree. The majority of participants had a household income of less than \$50,000. See Table 3 for additional demographic information.

Themes

In both focus groups and shop-alongs, five key themes emerged regarding parents' use of calorie labels and menu label messaging. See Table 4 for representative quotes for all themes.

Theme 1: Parents' use of calorie labels—Parents who voiced not using calorie labels when ordering conveyed five key reasons why:

1. Although calorie labeling is not relevant for their children, it can be helpful for some. Many caregivers felt they did not need to worry about how many calories their children were consuming because their children are active and have high metabolisms. Caregivers did feel that the information might be useful for some parents who have children with health concerns.
2. Eating out is a special treat. Many parents expressed the belief that children should enjoy themselves when eating out.
3. Caregivers have inaccurate knowledge about calories and are skeptical about the accuracy of labels. Although most participants demonstrated a cursory knowledge of calories, many expressed inaccurate beliefs about the relationship between calories and diet as well as confusion about daily calorie recommendations for a healthy diet. Some participants also reported not using the information because they were skeptical of its veracity. Caregivers additionally expressed confusion about references to numeric calories in the messaging and described not knowing how to “count calories.”
4. Multiple factors influence food choices. Parents’ conveyed that the food choices they make for their children are influenced by a wide range of beliefs about which foods are “healthy.” Concerns about preservatives and plastic bottling were common, as were perceptions that 100% juice was a healthy substitute despite its high sugar content. Participants also described being responsible “gatekeepers” for their children’s food, and strategies they use to help their child eat healthfully at restaurants (e.g., supplementing what their child ordered with a healthy item).
5. Messaging about portion size and moderation was preferred over calorie information for some parents. Some participants expressed greater interest in messages about appropriate portion sizes than calorie information. They felt this information was easier to understand and more actionable.

Theme 2: Differences across restaurant settings—Participants frequently described ordering “the usual” for themselves and their children at quick-serve restaurants. Some parents also conveyed that once they made the decision to eat at a quick-serve restaurant, health was no longer a priority. Although some parents also described ordering “the usual” at full-service chain restaurants, many saw these restaurants as an opportunity to consider different menu options and order something perceived to be healthier.

Theme 3: Non-judgmental information—Although participants welcomed messages that educated them about nutrition, they did not want to be told what to do and strongly disliked messages that felt judgmental (e.g., the message about dressing their kids in adult-sized clothing).

Theme 4: Financial value and enjoyment of food—Participants discussed making food choices based on their budget and concerns about value. They often reported ordering items based on the size, relative cost, potential for having leftovers, and ability to fill up their children. Many parents felt there were healthier options on adult menus and that kids’ menus

offered little variety and flavor. They also described the importance of ordering items the child enjoyed so that the food would not be wasted. They were not especially concerned about over-ordering because food could be taken home and eaten later.

Theme 5: Message preferences—Overall, parents preferred messages that were actionable. Many participants liked messages that provided a small action that over time could make a difference for their child's health (e.g., the message encouraging parents to swap soda for milk or water). They also preferred messages that included pictures of people who reminded them of themselves and their communities. For example, many African American participants indicated that they preferred messages that featured a black child rather than a child of a different race.

DISCUSSION

We conducted focus group and shop-along interviews with low SES primary caregivers of 6–12-year-olds to identify how they make decisions when ordering at restaurants with their children and the degree to which they use calorie labels. The aim was for these interviews to inform the development of messages that can be used in conjunction with restaurant calorie labels to encourage their use and/or more generally promote healthier choices at restaurants. We identified the following five key themes: 1) parents' use of calorie labels; 2) differences across restaurant settings; 3) non-judgmental information; 4) financial value and enjoyment of food; and 5) message preferences.

Our study confirmed previous findings that many adults report not understanding calorie information^{11,15} and believe that only people with health issues need to be concerned about nutrition.¹⁵ Messaging campaigns to promote the use of restaurant calorie information must counter beliefs that this information is only relevant to children or adults who have excess weight or health problems. Another barrier to calorie-label use identified in this study and others^{15,18} is that people view dining out as a treat, so nutrition is not a concern. Therefore, messages that acknowledge having fun when dining out, while also making balanced choices, may resonate with parents. A third barrier to use of calorie labeling is the habitual ordering of “the usual” in quick-serve settings, which is consistent with other qualitative studies.^{11,16,18} New to this study was the differentiation of habitual ordering practices in quick-serve versus full-service chain restaurants. Participants perceived more opportunity to shift behavior and order healthier options in full-service chain restaurants, which is also consistent with possible larger effects of calorie labeling reported in those settings.^{15,23} Further, some participants pointed out that regardless of restaurant setting, calorie labeling may be helpful for those who have children with health problems. Generally, messages to encourage the use of calorie labels or making healthy choices in full-service restaurants might have more resonance than in quick-serve restaurants. This study also supports past findings that parents usually order for their kids,¹⁸ so messages targeting parents, rather than children, may be more influential.

According to the Theory of Planned Behavior, behavioral intentions are in part associated with how positively a person feels about the behavior.²⁴ Participants in these interviews expressed liking messages that were non-judgmental and educational, promoted a mix of

healthy foods and treats, and featured people to whom they related. Messages engendering positive feelings may be more likely to influence consumers. Because parents reported never having intentions to throw away food, messaging about food waste seems unlikely to be effective among this target group in this context.

Parents also expressed wanting to maximize the value of their money and to ensure that their kids felt full after eating. This dissuaded them from ordering perceived “less-filling” options like a salad, a sentiment that adults shared in a prior study.¹¹ Parents had mixed feelings about the study’s message encouraging parents to order from the kids’ menu. Two concerns were that kids’ meals would not keep a pre-teen child full, and that the kids’ menu had little variety in comparison to the adult menu. This suggests that messaging encouraging parents to order from the kids’ menu may be more effective if explicitly targeted based on age with language about keeping a child full. It might also be useful to develop future messages that highlight healthy, filling items that are a good value.

This study has several limitations. First, it is unclear whether insights reported here translate to actual usage of calorie labels. Second, participant interviews may also be limited by social desirability. In this study, though, parents appeared to freely report reasons why they did not use calorie information at restaurants. Third, caregivers were exposed to a limited number of menus and were only asked about children between 6–12 years old. Fourth, most of the participant reactions that emerged from the analysis had to do with the messages shown, but it is possible that the visual images also affected their reactions, though they were not analyzed separately. Finally, not all caregivers brought their children to the shop-along interviews, so the reasons for ordering certain items in interviews with and without children present may have been different.

This study has several strengths. First, we captured the opinions of mostly African Americans, a group that has a high prevalence of childhood obesity.²⁵ Second, we replicated our data collection from focus groups using a shop-along method where parents placed actual orders in the restaurant environment. Although shop-along participants were compensated for their participation, they had to pay for the meal themselves to make the ordering experience more closely mimic what would happen outside of a research study. Third, although there are a few published qualitative studies on restaurant calorie labeling and menu messaging,^{11,15–18} this is the first qualitative study to focus on food decisions for children in a quick-serve setting.

Future studies should experimentally test the influence of promising messages on real-world food purchases for children and the mechanisms through which such messages might have influence. Research should also explore the most cost-effective ways to deliver such campaigns (e.g., social media, in-store).

CONCLUSION

Our results point to several key takeaways that should be considered when developing messaging to complement national restaurant menu labeling and may inform the FDA’s menu labeling outreach initiative. First, non-judgmental, fact-based messages that highlight

financial value, feelings of fullness, and easy meal component swaps without giving up the treat-like aspect of eating out may be particularly helpful for consumers. Second, the extent to which messages change ordering behavior may be dependent on the type of restaurant people are visiting. Such public health messages to encourage people to make healthy choices at restaurants might be helpful when delivered through a broader public service campaign or by healthcare practitioners such as dietitians talking to clients about navigating restaurant environments.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Research Snapshot

Research Questions:

How do parents perceive calorie labels on menus when ordering for their young children?
What types of accompanying messages would prompt healthier ordering decisions when dining out?

Key Findings:

Using 10 focus groups (n=58) and 20 shop-along interviews (n=20), primary caregivers of children between the ages of 6–12 conveyed that non-judgmental, fact-based messages that highlight financial value, feelings of fullness, and easy meal component swaps without giving up the treat-like aspect of eating out may be particularly helpful for guiding ordering decisions for their children.

Figure 1: Messages Used for Interviews¹

¹Messages A and B were developed by the advertising agency Victor & Spoils for ChildObesity180. Message C was based on the 2010 MyPlate, developed along with the Dietary Guidelines for Americans. Message D was developed for this study to target consumers' desire to save money.

Table 3:

Self-reported characteristics of 78 caretakers of 6–12-year-olds participating in interviews about their use of calorie labels and menu label messaging when ordering for their children

	Focus Group ^{a,b}	Interviews n=58	Shop-along Interviews n=20
	n (%)	n (%)	n (%)
Female	25 (43%)	12 (60%)	
Race ^c			
African American	47 (81%)	18 (90%)	
White	9 (16%)	1 (5%)	
Other	9 (15%)	1 (5%)	
Age (Mean, SD)	37.8 (11.13)	37.8 (10.14)	
# Children 6–12 years (Mean, SD)	2.1 (1.25)	2.5 (1.19)	
Education			
Less than high school	4 (7%)	0 (0%)	
High school or some college	50 (86%)	20 (100%)	
4-year college degree or higher	4 (7%)	0 (0%)	
Marital Status			
Never married	36 (63%)	7 (39%)	
Married	7 (12%)	4 (22%)	
Living with significant other	6 (11%)	5 (27%)	
Separated, divorced, or widowed	8 (14%)	2 (11%)	
Household Income			
Less than \$25,000/yr.	28 (70%)	3 (17%)	
\$25,001–\$50,000/yr.	2 (5%)	9 (50%)	
\$50,000–\$75,000/yr.	6 (15%)	4 (22%)	
More than \$75,000/yr.	4 (10%)	2 (11%)	
Reported Using Calorie Labels			
At quick-serve restaurants	37 (64%)	12 (60%)	
At full-service chain Restaurant	38 (66%)	10 (50%)	
Past or present incidence of (select all that apply):			
Heart disease	0 (0%)	1 (5%)	
High blood pressure	20 (35%)	2 (10%)	
Type-2 diabetes	9 (16%)	2 (10%)	
High cholesterol	11 (19%)	1 (5%)	
Cancer	0 (0%)	1 (5%)	

^a Percentages may not add up to 100 due to rounding.

^b Total may not add up to “n” due to non-respondents

^c Percentage is greater than 100 due to reporting of multiple races

Table 4:

Key themes and quotes extracted from focus groups and shop-along interviews with caretakers of 6–12-year-olds about their use of calorie labels and menu label messaging when ordering for their children

Theme	Representative Quote
Parent's use of calorie labels Although calorie labeling is not relevant for their children, it can be helpful for some.	<p>"Well, the hard thing is, he's slim. So I'm not really watching his calories."</p> <p>"I think that I would say I don't use the calories for my children, mainly because usually people who are counting calories are on diets...Children usually don't have that issue of trying to lose weight. They have a high metabolism because they run around a lot."</p> <p>"...My little brother, he overweight. So if I take him to eat somewhere, I can't let him go all out. For my son, I can be more lenient because he's more active and he run around."</p> <p>"I think it's good...it's considerate. Some children are the size they're supposed to be...But then some of these kids are like—they're kind of big...So I think it's good to just have the calories because it's being considerate."</p>
Eating out is a special treat.	<p>"Yeah, it don't matter—calories. I let them enjoy. They're kids."</p> <p>"When you're out, I don't tend to put a barrier on what my kids eat at a restaurant like that... Just let go. It's not every day. [...] So that's how I typically treat them when we go out. So the kids' calories and all that stuff, I don't really pay attention to that."</p>
Caregivers have inaccurate knowledge about calories and are skeptical about the accuracy of labels.	<p>"Well, they'll give you a calorie count, which is impossible, because, number one, you do a calorie count of what's in there, the calories change the way you heat it up, how long it's been stored. It changes the calorie. So none of that's right. And I know that firsthand."</p> <p>"...Because we're sitting here and we are ignorant as hell towards calories. We don't know nothing. I'm like whatever...If you don't know, you're going to remain ignorant or you're going to figure it out. Change got to start somewhere."</p> <p>"I look at it. Sometimes I'm not sure, like well, I don't even know how many calories the child's supposed to have. So I'm confused with that part of it."</p>
Multiple factors influence food choices.	<p>"All the healthiness [of the food] is gone. So once you go into most fast food restaurants, even the parfaits, the fruit comes packaged already. So they got preservatives. Even though they're putting it together as a healthy snack, it's really not. It's processed."</p> <p>"And then your water. They're putting all that in the water. In your tap water...And then people say plastic bottle, it's plastic, you don't know how long it's been sitting in the bottle."</p> <p>"100 percent fruit juices because I believe they're equivalently healthy to milk and water, and more, I guess, variety."</p> <p>"How to feed your kids properly. So you want to—you sit up at night talking to your significant other and you'll be like, damn, I should have gave them an apple instead of giving them that cup of ice cream or something like that. So you've got to find a balance. And it's kind of hard sometimes."</p>
Messaging about portion size and moderation was preferred over calorie information for some parents.	<p>"You know what? It's really fun to order the perfect proportions of food and that's what's on your plate and then you finish it..."</p> <p>"Educating the parent on how portions supposed to be served for their self and for their children. Because the parents needs to be educated on portion control. And the child need- portion control and calories."</p>
Differences across restaurant settings	<p>"Yeah. Well, my daughter eats nuggets and fries from McDonalds. Same thing every time."</p> <p>"If I'm here, I'm not worried about healthy. If I'm coming to McDonalds, I'm eating everything I want because health went out the window when I walked in."</p> <p>"But if I'm like a restaurant like [a full-service chain restaurant], I would probably get something with greens or healthy and stuff like that. Yeah, I think healthy first. Yeah."</p>

Theme	Representative Quote
	"For me, if I run to a [full-service] chain restaurant, I plan on spending some time there. So I wouldn't get nothing I could eat real quick anyway. [...] But fast food, I would just grab something quick."
Non-judgmental information	"I already said it. Don't judge me." "It just frustrates—like, who are you to tell me what to do? I mean, I know what's best for my child, and if I choose—it's my choice."
Financial value and enjoyment of food	"...and the other reason why it's good ordering off the kids' menu because the kids' menu they get a meal, they get a drink and they get a side, and all for \$3.50." "...And it's like they put all the flavor in our food and leave the kids' food bland, like the kids don't want to taste nothing. Like they don't have no taste buds or something." "Yes. I would get the salmon, but I'm not gonna lie...when I look at meals I'm thinking no more than \$10."
Message preferences	"I like the fact that it says—it suggests to change the soda with milk or water; it gives information how to make a small change." "I like the small changes...I just think it's attainable. I think if you tell people—even in terms of every meal, just change one little thing every meal, you'll be in a better place. And then you get a taste for it after a while, because your body gets used to it." "You mainly want to relate to whoever you're talking to. So I'm guessing he looked like a kid you will find in like a public school in Philadelphia and everything drinking the milk. He's smiling." "I s like you see yourself, like a mirror of what you could be like that. Oh, I could do that."