

Attitudes towards nutrition education among pediatricians and guardians.

ABSTRACT

Background and Hypothesis:

Childhood obesity rates in the United States are at historic highs. In Lake County, Indiana, the obesity rates of WIC children ages 2-5 years old is 12.1%. Obesity management is left in the hands of practitioners' clinical judgment; yet, a survey found that the average medical school devotes less than 20 hours to nutrition education. Since 62% of patients believe that their physicians can help them lose weight, having physicians who are not educated on nutrition leaves patients without the help they need.

Surveys were developed to assess the level of nutrition counseling provided by physicians and how patients/guardians prefer to be educated. Our hypothesis is that pediatricians will benefit from further nutrition education and that guardians will desire an accessible online source.

Methods:

A physician survey was composed to determine how much nutrition education pediatricians received in medical school/residency and how they currently educate their patients. The goal of the guardian survey was to determine who in the household feeds the children and how they would prefer to receive education.

Results:

The surveys will be utilized for future research, and the results will help determine the approach for educating physicians and guardians. A booklet of healthy recipes was also developed to educate on healthy eating and as a participation benefit. The goal of the booklet was to choose easy, child friendly recipes that the family could cook together. To gain background on nutrition education, we observed the different education methods of local pediatricians and reviewed the literature.

Potential Impact:

Intervention at both the clinical and community levels will be important for improving long-term health outcomes in pediatric patients. The knowledge gained from these surveys will aid in the development of programs needed to provide physicians, guardians, and patients with proper nutrition education.

HEALTHY RECIPES



RESULTS AND DISCUSSION

A survey for physicians was developed to determine how much nutrition education pediatricians received in medical school and residency. Additionally, we aimed to determine how pediatricians educate patients regarding obesity and nutrition. To create the survey, we collaborated with two pediatricians, Dr. Uzelac and Dr. Simpson, who both currently practice in Lake County, Indiana. In addition to their feedback on our survey drafts, we shadowed their practices to determine how different physicians approach obesity and nutrition interventions.

Dr. Uzelac has practiced as a board-certified pediatrician for the past twelve years and has additional training in nutrition, integrative medicine, herbal medicine, and clinical homeopathy. Additionally, Dr. Uzelac is the author of a cookbook which aims to teach families how to cook healthy, gourmet lunches. Her practice primarily serves middle class families. Through our experience shadowing her practice, we found that she is an advocate for food as medicine and that she stresses the importance of involving children in meal preparation. She also taught us how to look for recipes that are high in protein, unsaturated fat, vitamins, and minerals.

Dr. Simpson is a board-certified pediatrician with over twenty years of experience. He also practices at an obesity clinic with a multidisciplinary medical team to treat pediatric obesity. Dr. Simpson's practice primarily serves low income families. During our time shadowing his practice, we found that Dr. Simpson is an advocate for community outreach and that he promotes collaboration among community leaders.

One goal of the physician survey is to discover the type of nutrition education that local physicians would most benefit from. Once the need is determined, a program may be developed to educate physicians, or an elective may be developed to educate medical students. The second goal of the physician survey is to receive guidance from physicians on what method they deem best to educate children and parents.

The goal of the guardian survey is to determine who in the family makes nutritional decisions so that future interventions can target the appropriate population. Another goal of the survey is to determine how parents and children would like to receive nutrition education in order to tailor future programs to the target populations. As a benefit for participating in the survey, participants will be given a cookbook of healthy recipes that we developed throughout the summer. The recipes included in the booklet were those considered to be affordable, easy to make, and family-friendly. These recipes were reviewed by Dr. Uzelac to ensure that they contained only healthy ingredients. The booklet will be given out along with the surveys, and it will serve as a guide for families trying to form healthy eating habits. In the long run, the survey data will be used to develop nutrition education programs for parents and children in the form of either a community outreach program, website, computer game, or some other resource.

Throughout this research project, we learned a lot about nutrition. One important lesson that we learned from Dr. Uzelac was that food can be used as medicine. We had learned that healthy foods could be used to prevent disease, however we had not learned that food can be used as a treatment when the body is actively fighting disease. This has taught us that nutrition and medicine go hand-in-hand.

Another important lesson we learned was how to choose healthy foods. When we originally drafted the cookbook, we selected ingredients that were cheap but not necessarily healthy. The foods we selected were high in carbohydrates and low in vegetables. After collaborating with Dr. Uzelac, we learned that it was best to choose recipes that primarily contain fruits and vegetables as ingredients. We also learned to stay away from recipes that called for refined grains and to choose whole grain options instead. Additionally, we learned how to choose recipes that are high in protein and unsaturated fat. The process of creating recipes for the cookbook has greatly changed how we view food and has made us better able to select healthy recipes.

Finally, this experience has shown us that medical students and physicians would benefit from further nutrition education. Patients commonly look to physicians for nutrition counseling, so providing this education will ultimately lead to improved patient outcomes. We hope that the physician survey will be able to help guide future programs and electives so that medical students and physicians can be equipped with the knowledge that they need to provide care.

SUMMARY

1. A physician survey was developed to determine the level of nutrition and obesity education received by pediatricians in Lake County, Indiana.
2. A guardian survey was developed to determine how parents of children aged between 1-12 years old would like to be educated regarding nutrition.
3. A booklet of healthy recipes will be given to families as a benefit for participating in the survey.
4. Survey data will be gathered in local pediatric offices in the summer of 2020.

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BACKGROUND

The reported rates of childhood obesity in the United States are at historic highs. In a survey examining data gathered between 1999 and 2014, a linear trend was observed in pediatric weight status as defined by body mass index (BMI). From 2013 to 2014, 33.2% of children ages 2-19 years old were classified as overweight (BMI >25), 17.2% were classified as class I obese (BMI >30), 6.8% were classified as class II obese (BMI >35), and 2.5% were classified as class III obese (BMI >40) (1). In Lake County, Indiana, the obesity rates of WIC children ages 2-5 is currently 12.1% (2).

The management of childhood obesity has been primarily left in the hands of practitioners' clinical judgment (3). One potential issue with this model is that nutrition tends to be a minor focus of medical school and residency. A 2010 survey found that the average medical school spends less than 20 hours educating students on nutrition (4). Additionally, the biochemical nutrition education that students receive in medical school cannot be easily translated to patient intervention (5). When it comes to the pediatric specialty, pediatric gastroenterology is the only subspecialty that has nutrition in its curriculum, and still 67% of physicians expressed interest in further education on childhood obesity (6). Sixty-two percent of patients believe that their physicians can help them lose weight, so providing rising physicians with nutrition education will ultimately lead to better health outcomes for patients (7).

Many studies have been done on how to educate parents and children regarding nutrition. In one study, parents and children were invited to local community centers to receive education on how to plan and prepare healthy meals. Post-intervention, parents were able to select appropriate portion sizes, and children were less likely to drink sweetened beverages (8). Another study aimed to educate children grades 3 through 8 on how to cook healthy foods. Ten after-school sessions were held where chefs taught children how to prepare healthy meals. After the intervention, students demonstrated increased fruit and vegetable consumption (9).

While studies that report the effectiveness of parent-focused and child-focused programs exist, there do not appear to be any studies that evaluate what education methods parents deem most beneficial. In order to bridge this gap, a guardian survey was developed to assess how parents would like to receive nutrition education. Additionally, a physician survey was developed to help gauge the level of nutrition education that physicians in Lake County, Indiana provide.

METHODS

Two surveys were created, one for pediatric physicians and another for parents/guardians of children ages 1-12 years old.

Physician Survey: The physician survey contained 15 items that evaluated attitudes toward nutrition education. Topics included level of nutrition counseling education received in medical school and residency, how much time is spent educating patients/parents on nutrition, what nutrition education resources they currently provide, opinion on whose responsibility it is to provide nutrition education, and what approach they think would be best to educate patients and parents. Demographic information included practice zip code and percent of their patient population is currently overweight/obese. Pediatricians actively practicing in Lake County, Indiana will be included in the study.

Guardian Survey: The guardian survey contained 21 items that evaluated family dynamics and child eating habits. Questions assessing family dynamics included who typically feeds the children, if food is prepared in the home, and how much money is spent on food each week. Questions assessing child eating habits included how many snacks the child consumes per day, how often the child eats fast food, and how often the child consumes sweetened beverages. Guardian demographic information included gender, zip code, race, household income, and perception of one's own weight. Child demographic information (completed by the guardian) included gender, age, race, and perception of child's weight. Guardians with children between the ages of 1 and 12 years old will be included in the study.

Analysis: After the surveys are given, responses will be analyzed for statistical significance using one-way or two-way ANOVA.

PHYSICIAN SURVEY

Participant Study Number: _____

Demographics

What is the zip code of your practice? _____

Survey Questions

1. What percentage of your patients are currently overweight?

- 0-25%
 26-50%
 51-75%
 76-100%

2. What percentage of your patients are currently obese?

- 0-25%
 26-50%
 51-75%
 76-100%

3. How much time per visit do you spend educating children/parents on nutrition?

- None
 1-5 minutes
 6-10 minutes
 More than 10 minutes

4. What nutrition education resources do you currently recommend to your patients?

- Webpage
 Game
 Computer Game
 Pamphlet
 Other: _____

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5. I have seen improvements from providing nutrition education/resources.	1	2	3	4	5
6. I was taught how to counsel patients on nutrition during my studies in <i>medical school</i> .	1	2	3	4	5
7. I was taught how to counsel patients on nutrition during <i>residency</i> .	1	2	3	4	5
8. I received an adequate amount of nutrition education during <i>medical school</i> .	1	2	3	4	5
9. I received an adequate amount of nutrition education during <i>residency</i> .	1	2	3	4	5
10. Physicians are responsible for educating patients on nutrition.	1	2	3	4	5
11. Nurses are responsible for educating patients on nutrition.	1	2	3	4	5
12. My practice will benefit from having nurses trained in educating patients on nutrition.	1	2	3	4	5
13. I will support attendance of continuing education classes that will educate physicians and nurses on nutrition and healthy eating habits	1	2	3	4	5

14. What approach do you think would be best to educate children on nutrition?

- Webpage
 Pamphlet
 Game
 Computer Game
 More time during office visits
 Other: _____

15. What approach do you think would be best to educate parents on nutrition?

- Webpage
 Pamphlet
 Game
 Computer Game
 Presentation
 More time during office visits
 Other: _____

GUARDIAN SURVEY

Survey Questions: Family Dynamics

If you felt different ways at different times in the week, give a rating for how things were for you on average. Please be sure to answer each question.

1. How many adults are in your family? (Please circle one)

- 1 2 3 4 5 or more

2. How many children are in your family? (Please circle one)

- 1 2 3 4 5 or more

3. On average, how much do you spend on food per week?

- Less than \$100
 \$100 to \$175
 \$175 to \$250
 More than \$250

4. Where do you purchase your food?

- Grocery store
 Online
 Farmer's market
 Other/describe: _____

5. How far is the nearest grocery store that sells *fresh* vegetables and fruits from your home?

- Less than 1 mile
 Greater than 1 mile

6. How far is the nearest grocery store that sells *frozen* vegetables and fruits from your home?

- Less than 1 mile
 Greater than 1 mile

7. What kind of food does your family normally eat?

- Homemade food
 Frozen/boxed food
 Fast food

8. Who typically feeds the kids?

- Mother
 Sibling
 Aunt/Uncle
 Babysitter
 Father
 Grandparent
 School
 Other: _____

9. In your opinion, who should be educated on healthy eating habits?

- Children
 Grandparents
 Parents

10. Where would be the best place to receive information on nutrition?

- Pediatric Office
 Child's school
 Church
 Library
 YMCA
 Other: _____

11. What would be the best way to receive information on nutrition?

- Booklet
 Web page
 Video presentation
 Game
 Interactive video game on your computer/phone/tablet
 In person presentation
 Computer Game

Survey Questions: Child Eating Habits

If you felt different ways at different times in the week, give a rating for how things were for you on average. Please be sure to answer each question.

12. Do you think you and your family will benefit from educational information on healthy eating habits?

- Strongly agree
 Agree
 Neutral
 Disagree
 Strongly disagree

13. What is your child's favorite food? _____

14. How many meals per day does your child eat? (Please circle one)

- 1 2 3 4 5 or more

15. How many snacks per day does your child eat? (Please circle one)

- 1 2 3 4 5 or more

Question	Never	Rarely	Sometimes	Often	Always
16. How often does your child eat packaged "ready-to-eat" foods? (This includes purchased frozen foods and boxed on-the-shelf meals that are often cooked by the microwave)	1	2	3	4	5
17. How often does your child eat "fast food"?	1	2	3	4	5
18. How often does your child drink soda or sweetened beverages? (This includes fruit drinks, sports drinks, regular or diet soda pop, sweet tea, and caffeinated energy drinks)	1	2	3	4	5
19. Does your family monitor the amount of candy, chips, and cookies your child eats?	1	2	3	4	5
20. How often do you eat meals at home together as a family?	1	2	3	4	5
21. How often do you cook meals at home together with your child?	1	2	3	4	5