# NUTR 365: Life Cycle Nutrition Spring 2016

**Project 1: Keeping Current to Provide Guidance**

## Title: Family Meals Associated with Childhood Obesity

**A: Description of the Issue**

Childhood obesity is a rising issue across the globe, but specifically in the United States. Some experts argue that obesity is the largest public health threat children face today. There are many proposed causes of the increasing epidemic and one association could be family meals, or lack thereof. The frequency and quality of meals eaten as a family could have an impact on the weight of children. This correlation may be different among races, genders, and household education levels. There is a need for nutritional guidance, intervention and further research in this topic because families need to be educated on how to prevent their children from becoming overweight or obese.

Family meals have been correlated with childhood obesity and many studies have been conducted. In a 2014 *Pediatric* study, families were video recorded during family meals for 8 days. It was found that children who ate with their family at least 3 times a week, were less likely to become obese. Overweight children had shorter family meal times and ate less often in the kitchen. Children who were not overweight were more likely to have a father/stepfather at the meal. It was also found that group enjoyment, relationship quality between parent and child, and warmth were still significantly associated with a reduced prevalence obesity.1 In a 2010 study, on race, sex, and gender on family meals and obesity, non-Hispanic black boys tended to be heavier if they consumed frequent family meals. The risk was not found to be higher for girls. A trend could be that parents offer more food to male children.2 In a 2007 study from the *Journal of the American Dietetic Association*, it was found that television and use of electronics have correlated with obesity as well. It was found that kindergartens, who watched more television and ate fewer family meals were more likely to be overweight by the second semester of third grade.3 The way family meals are served may also effect how much a child eats. When families serve family style meals, the children tend to be at a higher risk for obesity.4 Self-reported heights and weights of the children could be a limitation of these types of studies. 5 Childhood obesity seems to be increasing in magnitude and the family meal seems to be diminishing from our fast-paced and distraction- filled lives.

Identifying characteristics of family meals may be helpful for intervention researchers or health care providers to share with parents in order to increase the frequency of family meals. Shorter meals may be more manageable for some families. Having positivity at the dinner table may also help reduce the risk of obese children. 1 Interventionists should aim to train families how to facilitate quality family meals. There should be more research conducted on differences among genders to be able to teach families proper feeding methods at meal time. In order for changes to occur, both parent and child need to assist in changing habits. Currently, there are no specific guidelines on the recommendation of family meals for obesity, but this information could help many children as a first step in preventing obesity.

## References Cited:

1Berge, J. M., Rowley, S., Trofholz, A., & Hanson, C. (2014). Childhood Obesity and Interpersonal Dynamics During Family Meals. *Pediatrics,* *134*(5), 923-932. Retrieved February 3, 2016, from http://pediatrics.aappublications.org.ezproxy.lib.purdue.edu/content/134/5/923

2Rollins, B. Y., Belue, R. Z., & Francis, L. A. (2010). The Beneficial Effect of Family Meals on Obesity Differs by Race, Sex, and Household Education: The National Survey of Children's Health, 2003-2004. *Journal of the American Dietetic Association,* *110*(9), 1335-1339. Retrieved February 4, 2016, from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3474593/

3Gable, S., Chang, Y., & Krull, J. (2007). Television Watching and Frequency of Family Meals Are Predictive of Overweight Onset and Persistence in a National Sample of School-Aged Children. *Journal of the American Dietetic Association,* *107*(1), 53-61. Retrieved February 4, 2016, from http://www.sciencedirect.com/science/article/pii/S0002822306022826

4Berge, J. M., Jin, S. W., Hannan, P., & Neumark-Sztainer, D. (2013). Structural and Interpersonal Characteristics of Family Meals: Associations with Adolescent Body Mass Index and Dietary Patterns. *Journal of the Academy of Nutrition and Dietetics,* *113*(6), 816-822. Retrieved February 4, 2016, from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3660446/>

5Valdés, J., Rodríguez-Artalejo, F., Aguilar, L., Jaén-Casquero, M. B., & Royo-Bordonada, M. Á. (2012). Frequency of family meals and childhood overweight: A systematic review. *Pediatric Obesity,* *8*(1). Retrieved February 4, 2016, from http://onlinelibrary.wiley.com.ezproxy.lib.purdue.edu/doi/10.1111/j.2047-6310.2012.00104.x/full

## B: Review of the Literature

Childhood obesity is a major public health crisis facing the world today and the family meal

may be helpful in reducing the risk of obesity. The purpose of these studies were to find out whether family roles have a significant affect on the nutritional status of a child. The findings of all the studies showed that where meals are eaten, the frequency of the meal, how long they take, and the mood at the meal, may all be factors that could affect the weight of the child. Also, family interventions on proper meals could help decrease the weight of the child. Family meals can have many benefits on children and the family as a whole1. If proper and frequent family meals are regularly eaten in households, it may reduce the risk of childhood obesity.

Family meals can have many benefits on the family as a whole. In the Surprising Benefits of Family Meals study from 2011, they found that there are various aspects of one’s lifestyle that can be affected by family meals. Family meals can have a positive impact on the intellectual development of children and can also help to broaden their vocabulary. Better food choices may also be made with more family meals. These choices may lead to the consumption of more vegetables, fruits, dairy, and macronutrients. These critical choices could help this child set up healthy eating patterns for the rest of their life. Healthier food choices may also lower the risk of obesity. Family meals could help lead to healthier lives. 1

In a 2014 study from *Pediatrics,* called the Family Meals Live study, it was 2-year long, cross-sectional study of 120 children, between ages 6 and 12, and their families from mostly low-income homes.2 The families all had to eat family meals at least 3 times per week in order to quality to make sure that the families normally ate together. The purpose of the study was to see what family meals look like and how this correlates to obesity in children. The families had in-home visits on day 1, which included video-recording training, a self-reported height and weight, and a 24-hour dietary recall. During days 2-9, the families were video-recorded during meal time and were called 2-3 times by research staff to check in on the family. In the second home visit, interviews were conducted and height and weight were taken of the child. The results showed that the average family meal lasted 16 minutes, at least 1 parent was present, and were usually eaten in the kitchen. Significant associations were found between family dynamic at meals and reduced risk of childhood obesity. Children who were overweight/ obese had shorter meal times and ate their meal less often in the kitchen. There were also findings that the mood set at the family meal was significantly associated with the child’s weight. This study extended previous findings that family meals can play a role on childhood weight status.

In the 2015, HOME Plus study, it was designed to have two study groups to test if family meals made a difference in preventing obesity in children that were prepubescent or pubescent (ages 8-12). The study used 160 children and one of their parents or guardians to take part in a 10-month intervention program.3 The children all were above the 50th percentile for BMI. 81 children were kept in the control group and 79 children were put into the intervention group. The intervention group had 10 monthly group sessions, which each had a different topic on healthier eating choices. They also had 5 goal-setting meetings with a dietitian over the phone. Transportation and childcare were also given to this group. The control group was given a monthly family-focused newsletter and did not receive the intervention program. Every participant had a baseline test of height and weight before and after the study. The results showed no significant differences between the treatment groups, however, a vast majority of the children did decrease in weight. 3 Family meal focused programming may potentially prevent excess weight gain in children, but more research must be conducted in order for this theory to be proven.

In the 2011 Frequency of Shared Family Meals study, it focused on the frequency of family compared to the child’s nutritional health. The purpose was to find consistency between 17 studies that studied obesity, food consumption and eating patterns. The sample size of all the studies were 182,836 children and adolescents.4 Four search engines were used to locate research that measured family meal frequency and obesity, food consumption, and disordered eating. All studies had an adjusted odds ratio with 95% confidence intervals. Eight studies examined family meals in comparison to weight status. The results showed that children and adolescents who had at least 3 meals per week were 12% less likely to be overweight. “Overall, children are 25% less likely to have nutritional health problems if they eat 5 or more meals with their families compared to children who eat <1 meal with their family”.4 The study results showed that shared family meals could help the nutritional health of the child.

All of the research found, indicated that frequent and proper family meals are likely to lower the risk of childhood obesity. The studies each had their strengths and limitations. Some of the strengths of the studies were in that they provided convenient intervention and measurement locations and offered transportation, childcare and scheduling in order to have high retention rates.1 Some of these studies were the first of their kind, which make them new and interesting material to be studied, which could be both a strength and limitation. The limitations on a few of the studies were that families being studied were already eating meals together, so there was no change in results. In other studies, families did not act “normally” because they knew they were being observed. 2 In future research, the studies should be conducted for longer to allow time for the BMI and nutritional status of the children to change gradually and they should be conducted on families that do not often eat family meals. Proper family meals could be a play a major role in lowering the risk of childhood obesity.

## References Cited:

1 Fruh, S. M., Fulkerson, J. A., Mulekar, M. S., Kendrick, L. A., & Clanton, C. (2011). The Surprising Benefits of the Family Meal. *The Journal for Nurse Practitioners,* *7*(1), 18-22. Retrieved March 8, 2016, from http://www.sciencedirect.com/science/article/pii/S1555415510002503

2Berge, J. M., Rowley, S., Trofholz, A., & Hanson, C. (2014). Childhood Obesity and Interpersonal Dynamics During Family Meals. *Pediatrics,* *134*(5), 923-932. Retrieved February 3, 2016, from <http://pediatrics.aappublications.org.ezproxy.lib.purdue.edu/content/134/5/923>

3Fulkerson, J. A., Friend, S., Flattum, C., Horning, M., Draxten, M., Neumark-Sztainer, D., . . . Kubik, M. Y. (2015). Promoting healthful family meals to prevent obesity: HOME Plus, a randomized controlled trial. *Int J Behav Nutr Phys Act International Journal of Behavioral Nutrition and Physical Activity,* *12*(1). Retrieved March 8, 2016, from http://ijbnpa.biomedcentral.com/articles/10.1186/s12966-015-0320-3

4 Hammons, A. J., & Fiese, B. H. (2011). Is Frequency of Shared Family Meals Related to the Nutritional Health of Children and Adolescents? *Pediatrics,* *127*(6). Retrieved March 8, 2016, from http://pediatrics.aappublications.org/content/127/6/e1565.full

**C: Credible Sources of Information for Populations Affected**

**#1- Title:** How Family Dynamics at the Dinner Table Affect Kids’ Weight

**URL:** http://time.com/3487457/family-dinner-weight-obesity/

**Date:** October 13, 2014

**Sponsor/ Author:** Time- Alice Park

**Information provided:** The article referenced the study from *Pediatrics* in 2014 (see references Part B article 2). This *Time* article discusses both negative and positive family interactions at meal times. Negative interactions seemed to be more closely associated with overweight or obese children. The article explains to the reader that children who eat family meals may tend to have lower rates of obesity.

**Evaluation:** *Time Magazine* is a credible source of news. The content in this article is described well and helps to simplify the data that was presented in the article from the *Journal of Pediatrics.* The author of the study referenced was also interviewed for the article in *Time* making it more credible. The information is current and is within the last two years. The information could be kept up to date if more relevant information were to be released and is still quite up to date.

**#2- Title:** Family Meals Cut Risk of Childhood Obesity

**URL:** http://www.webmd.com/parenting/news/20110502/family-meals-help-cut-risk-of-childhood-obesity

**Date:** May 2, 2011

**Sponsor/ Author:** WebMD- Jennifer Warner

**Information provided:** This information was a review of the 2011 article discussed Part B (article 4). This article covered that this study was an observation and comparison of 17 studies. The main results found were that children who ate three meals per week with the family were 12% less likely to be overweight. The article discussed how consistent family meals can have a healthy effect on child nutrition and eating habits.

**Evaluation:** WebMD is not an overly credible source. The article was reviewed by Laura J. Martin, MD, which does give the article a bit more credibility. The article was written within the last 5 years. WebMD is a good source for quick information, but it might not have the most accurate or updated information in the health field. It did make the information easy to understand and was appropriate for the audience it is meant for.

**#3- Title:** All in the Family: Dinner tables linked to less obesity

**URL:** http://www.news.cornell.edu/stories/2013/10/all-family-dinner-tables-linked-less-obesity

**Date:** October 30, 2013

**Sponsor/ Author:** Cornell University- Blaine Friedlander

**Information provided:** The article focuses on family meals and a lower risk of obesity. It specifically explains that eating dinner with the TV on actually led to a higher risk of obesity. Families that ate together until everyone was finished had children with lower BMIs. The article also claimed that helping with meal preparation may have an effect on children’s BMI as well.

**Evaluation:** Cornell University is a prestigious university, so this article should be credible. It was written within the last 5 years. The content was taken from a study authored by a Cornell Economics and Management professor, which makes the research credible. The study was funded by Cornell’s Food and Brand Lab. The content provided was easy to understand and appropriate for its expected audience.

**D: Providing Guidance – Option #**  2

The brochure attached is a short, informative piece on family meals and obesity. The intended audience of this brochure is for families, who want to learn more about proper family meals and how they can increase their overall health. The purpose is to inform the audience on how to fit family meals into their schedule and what a family meal should incorporate in order to be considered healthy. It contains data from multiple studies and includes current and relevant information.

**NUTR 365: Life Cycle Nutrition – Spring 2016**

**Project 1: Keeping Current to Provide Guidance – Grading Sheet**

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| --- | --- | --- | --- |
| **Section of the Assignment** | **Total Possible Points** | **Points Received** | **Expectations** |
| **Step 1A** | **20** |  | 4 pts 1st ¶: clearly written , strong topic sentence,  population(s) listed, need for guidance  6 pts 2nd ¶: clearly written , minimum of 3 pieces of  evidence, credible sources, current, specific data listed and described, referenced  6 pts 3rd ¶: clearly written , guidance described, credible  sources, current, need for updating, referenced  4 pts for complete citations (.5 pt/item missing) |
| **Step 1B** | **25** |  | 4 pts 1st ¶: clearly written, overview, major findings,  implications, choice of articles, state of research  12 pts (3 pts per article ¶): clearly written , summarizes  purpose, methods, findings, statistics, conclusions and implications (No credit if articles >5 yrs old, 1 must be from past 12 mos, 2 must be primary research)   1. pts final ¶: clearly written, summarizes research, strengths and limitations, implications and applications 2. pts for complete citations (.5 pt/item missing) |
| **Step 1C** | **15** |  | 5 pts per source:  1 pt for title and URL, 1 pt for date and sponsor,  1 pt for information provided listed, 2 pts for evaluation of information |
| **Step 1D** | **20** |  | 5 pts for including all required components  5 pts for choice of information and accuracy  5 pts for originality, creativity and presentation of content  5 pts for referencing completely and correctly |
| **Organization, neatness, spelling and grammar** | **20** |  | 5 points for grading sheet attached to front  *(folding over from the back doesn’t count)*  5 points for pages in order as directed and ID number on  each page  5 points for sections clearly labeled as directed and  information put in designated sections  Up to ‐5 points for frequent spelling/grammar errors |
| **Total Score** | **100** |  |  |
| **Deduction if late** |  |  | ‐10% of total score if more than 10 minutes late  ‐25% of total score for each full day late  Date/time turned in, if late: |
| **Final Score** | **100** |  |  |

## Comments: