Television, Home-Cooked Meals, and Family Meal Frequency: Associations with Adult Obesity

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ABSTRACT

Background Adults, regardless of whether they are parents, regularly eat meals with family at home, but few studies have analyzed large, population-based samples to examine how mealtime practices or family meal frequency are associated with health.

Objective The aim of this study was to evaluate associations between the frequency of family meals eaten at home, watching television or videos during family meals, and consumption of meals that were cooked and eaten at home and the odds of being obese in adults.

Design This was an analysis of the cross-sectional 2012 Ohio Medicaid Assessment Survey (OMAS), a telephone survey of Ohio's population.

Participants/setting The study sample was adult Ohio residents responding to the 2012 OMAS who ate at least one family meal in the past week (n=12,842).

Main outcome measures Obesity (body mass index [BMI] ≥30), calculated from self-reported height and weight, was the outcome.

Statistical analyses performed Logistic regression models were used to examine the association between obesity and family meal practices, adjusted for respondents' employment status, marital status, race/ethnicity, educational attainment, and age.

Results Family meal frequency was not associated with odds of obesity: those who ate family meals most (6-7) days were as likely as those who ate family meals few (1-2) days to be obese (adjusted odds ratio [OR_{adj}]=1.01, 95% CI=0.86, 1.18). Thirty-six percent of adults never watched television or videos while eating family meals, and 62% ate family meals that were all home-cooked. Adults who never watched television or videos during family meals had 37% lower odds of obesity compared with those who always did (95% CI=0.54, 0.73), regardless of family meal frequency. Adults whose family meals were all home-cooked had 26% lower odds of obesity than those who ate some or no home-cooked family meals (95% CI=0.62, 0.88). This association was more pronounced among adults who ate few family meals.

Conclusions Family meal practices may be associated with obesity in adults, even if they eat few family meals per week. Future research should examine more aspects of shared meals and investigate which specific practices may impact obesity risk.

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FOR CHILDREN AND ADOLESCENTS, FREQUENT FAMILY meals have been identified as a practice associated with better dietary outcomes and lower odds of overweight and obesity.[1-3] Research on family meals has also identified potential benefits for adults, such as parents' body mass index (BMI; calculated as kg/m^2) being inversely associated with the frequency of family meals.[4,5] However, family meal frequency was found to be unrelated to adults' body weight in other studies,[6-8] particularly adults whose household did not include children.[7,8] Differences in sample size and composition, the measurement of family meal frequency, and analytic approaches could account for these inconsistent findings. Furthermore, research on family meals and obesity in adults has generally been limited to parents of minor children, even though adults who only live with other adult family members (eg, married couples without minor children) eat family meals as often as those who live with children.[9]

Mealtime practices, such as preparing home-cooked meals or being distracted by the use of electronic devices during meals, provide an important context that may moderate the association between family meal frequency and health outcomes.[1,10] Among adolescents, frequent family meals are associated with higher-quality diets, but adolescents who also report watching television during these meals have comparatively less-healthful diets than those who do not watch television while eating family meals.[11] Among adults, healthy behaviors often cluster,[12] so those who regularly eat family meals also may be more likely to eat healthy foods and avoid the distraction of other activities during shared meals.

One study has found evidence of the moderating influence of mealtime practices on BMI: adults who ate family dinners at a fast-food restaurant had a significantly higher average BMI, despite there being no overall association between family dinner frequency and average BMI.[8] In another study, the number of distractions during family dinners, such as watching television, using technology, or reading, was positively associated with parents' average BMI: for every additional distraction, average BMI increased by 0.54.[4] These findings suggest that family meal practices may have a direct association with adults' BMI, as well as moderate the relationship between family meal frequency and BMI. However, prior research has not examined correlations between each family meal practice and the overall frequency of family meals, which would provide much-needed information to better characterize families' mealtime environments.

Understanding how family meal practices relate to family meal frequency is crucial to shaping public health recommendations for adults' nutrition and related behaviors. This study investigated the association between the frequency of family meals eaten at home, two family meal practices highlighted in recent research, watching television or videos during family meals and eating home-cooked family meals,[4,8] and the odds of being obese in data from a large, population-based survey of Ohio adults. The hypothesis was that more frequent family meals eaten at home, watching television or videos less often during family meals, and cooking family meals at home more often would each be associated with lower odds of obesity. The protective association between the family meal practices and odds of obesity were expected to be more pronounced as family meal frequency increased.

MATERIALS AND METHODS

Data

This study analyzed data from the 2012 Ohio Medicaid Assessment Survey (OMAS), a representative survey of Ohio's non-institutionalized population; the target population included all adult residents regardless of insurance status.[13] From late May to early October 2012, trained interviewers administered surveys to 22,929 adults aged 19 years and older who had lived in Ohio for at least 1 month.[13,14] The sampling frame included both a list-assisted random-digit-dial sample of landline phones and a simple random sample of cell phones.[15] The adult in the household with the most recent birthday completed the landline interview,[16] and the adult who answered the phone completed the cell phone interview.[13] The 2012 OMAS also oversampled African Americans, Hispanics, Asians, and households with children. The overall response rate was 29.4%,[13] and the dataset includes sampling weights that account for the unequal probability of selection and allow inference to the Ohio adult population. The 2012 OMAS received institutional review board approval, and respondents provided their consent to participate before answering the survey questions. This study analyzed the de-identified public dataset,[17] and the investigators' institution, therefore, did not consider this study human subjects research.

Analytic Sample

Among the 22,929 adult respondents, only the 15,141 who lived with at least one other family member were eligible to be asked how often they ate family meals in the past week. Adults who lived with friends or other nonfamily members were not asked the family meal questions and were, therefore, not included in this analysis. Respondents had to report eating at least one family meal in the past week to receive the two follow-up questions about their family meal practices and be eligible for this study. This analysis excluded 786 respondents (5%) who reported eating no family meals in the past week and 437 (3%) who were missing data on family meal frequency. This left 13,918 respondents who reported eating one or more family meals in a given week. After excluding respondents with incomplete data on the outcome and covariates, as well as four respondents with biologically implausible BMI values (BMI <12), the final analytic sample included 12,842 adults.

Measures

Family Meal Frequency. Respondents who lived with at least one other family member were asked, "These next questions are about the meals you ate together with your family at home in the past week. During the past week, on how many days did you and your family eat at least one meal together at your home or residence?"[18] The response options ranged from 0 to 7 days. The analysis was restricted to respondents who ate a family meal on at least 1 day in the past week, and family meal frequency was categorized as few (1-2), some (3-5), or most (6-7) days per week.

Family Meal Practices. Respondents who ate at least one family meal in the past week were asked two additional questions. The first was, "During these family meals, how often was your family also watching a TV show or video while you ate? Would you say all of the time, most of the time, some of the time, or none of the time?" These four categories were retained in the analysis. The second question was, "How many of these family meals were cooked at your home or residence? Would you say all, most, some, or none?" The "some" and "none" categories were combined because of few responses in each one. No additional information on what respondents were considering a home-cooked meal was collected.

The interrelation between family meal practices was also considered, and a three-level variable that categorized individuals as engaging in both healthy practices (never watching a television show or video during family meals and eating family meals that were all cooked at home), engaging in neither healthy practice (watching a television show or video always or most of the time, and eating some or no home-cooked family meals), or engaging in a mix of healthy and unhealthy practices (all other patterns of responses) was created. This variable was constructed without regard to reported frequency of family meals.

Obesity. Respondents' self-reported height and weight were used to calculate BMI. Those with a BMI ≥ 30 were classified as obese.

Sociodemographic Characteristics. The following covariates were included in the analysis: gender; marital status (currently married vs not), employment status (worked