Author's response to reviews

Title: The prevalence of obesity in children with autism: a secondary data analysis using nationally representative data from the National Survey of Children's Health

Authors:

Carol Curtin (carol.curtin@umassmed.edu)
Sarah E Anderson (sanderson@cph.osu.edu)
Aviva Must (aviva.must@tufts.edu)
Linda Bandini (linda.bandini@umassmed.edu)

Version: 2 Date: 21 December 2009

Author's response to reviews: see over
Dear Ms. Neilan,

Thank you for sending the reviews on our manuscript, “The prevalence of obesity in children with autism: a secondary data analysis using nationally representative data from the National Survey of Children's Health” (#1756557929284957). We are pleased to have the opportunity to respond to the reviewers’ critiques and for our manuscript to be considered for publication in *BMC Pediatrics*.

Below we have provided our response to the reviewers’ critiques and have made corresponding changes in the manuscript which are also inserted below. We have also added a couple of additional references that amplify or clarify some of the points that we made in the original manuscript. We have outlined these below as well.

**Reviewer # 1:**
The reviewer commented that this article adds to the literature on the nutritional status of children with autism and that a strength of the study is that it is based on a nationally representative sample. The reviewer suggested that we make the following revisions/clarifications:

1. **The discussion in the limitations section of the grant regarding the validity of the self-reported (by parents) data on children’s height and weight was difficult to understand.**

   **Response:** We have clarified our points on this issue in the limitations section. We have cited a recent paper in *Obesity* (Akinbami & Ogden, 2009) in which parent-reported height and weight for children ages 2-17 yrs in two national health interview surveys (the 1999–2004 National Health Interview Survey and the 2003–2004 National Survey of Children’s Health, the data set used in our study), were compared to measured values from the 1999–2004 National Health and Nutrition Examination Survey (NHANES) in which height and weight measures are obtained directly. The authors found that compared to measured data, parent-reported data over-estimated overweight among younger children, but under-estimated overweight among older children. The discrepancy between reported and measured estimates arose mainly from reported height among very young children.

   **New Text** (p. 8 of the revised manuscript):

   The key measures are provided by parental report as part of a telephone interview rather than direct measurement or observation. For example, height and weight were reported by parents and not independently measured. The validity of parental report of children’s height and weight has recently been shown to be at variance with direct measures particularly in young children. A recent examination of the parent-reported height and weight for children in the current NSCH data set as well as data from the 1999–2004 National Health Interview Survey (NHIS) were compared to direct measures taken in the 1999–2004 National Health and Nutrition Examination Survey (NHANES), a nationally representative survey (Akinbami & Ogden, 2009). When compared to measured data obtained from NHANES, the parent-reported data in the NSCH and NHIS overestimated overweight among younger children and under-estimated overweight among older children. This was attributed to discrepancies in reported height among very young children.
children. The authors conclude that these findings support previous recommendations that parent-reported data should not be used to estimate overweight prevalence among preschool and elementary school-aged children. Thus, further study of children with autism that include measured height and weight is warranted to confirm the findings we present.

2. The difference in prevalence rates according to age and sex should be discussed.

Response: Although the overall sample size of the NSCH is large, the number of children with autism is not; the sample included only 454 children with autism ages 3 to 17 on whom there were data on height and weight. Thus, obesity prevalence estimates stratified by age and sex among children with autism have very wide confidence limits and as such, do not provide useful information. We have clarified this point in the first paragraph of the discussion section as follows (p.7):

The results of this study suggest that children with autism are at least as likely to be obese as children who do not have autism. Based on our analysis, our best estimate indicates that children with autism are 40% more likely to be obese compared with children without autism. However, because the number of children with autism assessed was small, estimates cannot be broken out by age and sex of the child, and the confidence interval for the overall prevalence of obesity in children with autism is wide; thus our estimate is consistent both with children with autism having the same prevalence of obesity as other children as well as children with autism being twice as likely to be obese as other children.

3. If possible the prevalence of obesity by the time elapsed since the autism was diagnosed should also be discussed.

Response: Unfortunately, the National Survey of Children’s Health (NSCH) did not provide this temporal information, i.e., it is not possible from the data that was collected to determine when a child was diagnosed and the time that had elapsed between the diagnosis and the NSCH telephone interview.

Reviewer #2:
We appreciate the reviewer’s impression that these data are important. The reviewer did not make any requests or suggestions for revisions.

Additional Revisions:
1. As noted above, we have made reference to the Akinbami & Ogden (2009) study regarding limitations section that discusses the limitations of using parent-reported height and weight data.
2. We have added information on a very recent estimate of the prevalence of autism using the 2007 National Survey of Children’s Health, in which the prevalence of parent-reported autism was estimated to be 1 in 91 children, a prevalence greater than previously reported (1 in 150). (Kogan, Blumberg, Schieve, Boyle, Perrin, et al., 2009)

We hope that these revisions and additions will meet with your approval. Please let us know if you have any additional questions or if you need any additional information.

Many thanks for your review and consideration of our manuscript.

Sincerely yours,

Carol Curtin, MSW

Carol Curtin, MSW
Research Assistant Professor
Family Medicine & Community Health
University of Massachusetts Medical School – E.K. Shriver Center
ph. 781.642.0256
fax 781.642.0238
carol.curtin@umassmed.edu