

Review of: "The Impact of Dietary Intake and Nutritional Status on Birth Outcomes Among Pregnant Adolescents: A Systematic Review"

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The manuscript addresses an important topic: nutrition and birth outcomes for pregnant adolescents. Rather than summarize the findings of the articles, I will jump right into my comments and suggestions.

1. I was surprised that out of nearly 4500 articles, only 17 articles were ultimately chosen for the review. Furthermore, so few of the papers implement an RCT design, the gold standard for demonstrating causal relationships (a key goal of this review). The characteristics of the original sample of 4500 articles are not provided, nor are the criteria explained for rejecting the vast majority of papers. It's hard to understand how only 17 articles (most non-experimental) are worth considering.
2. Given that 95% of adolescent pregnancies take place in the developing world, while more than half of the articles pertain to U.S. samples (where the Western diet and exercise patterns will be dramatically different), this reduces the generalizability of the results.
3. The author makes a critical statement at the very end of the limitations section: "Most of the studies failed to control for confounders which might have a strong influence on the findings as socio economic factors might have an influence on findings." In other words, the observational studies (which are all but two of the studies considered) will suffer from omitted variable bias.
4. Some of the articles report outcomes for adolescents without any comparison group (for example, Davis et al. (2010), Young et al. (2010), and Solulmez and Ozenoglu (2014)), which means that the impact on outcomes cannot be determined. Their usefulness for studying birth outcomes is minimal.
5. Continuing on from points 3 and 4 above, the author has not discussed the quality of the papers considered, and therefore, each study considered has been treated as equally valid (which I do not believe is the case). I would suggest grouping the papers by the reliability/quality of the study, to pull together the most convincing evidence.
 1. The strongest evidence would be from the two RCTs, and they should be discussed first, as their evidence would be the most convincing.
 2. Next would come larger studies (in terms of sample size) and those that more carefully control for confounders.
 3. Finally, with disclaimers, would be the studies that don't satisfy a. or b. above, and their evidence should be taken with a grain of salt.

Minor comments for clarification:

1. In the sentence that reads, “The total sugar for adolescents who consumed high sugar diet was 44% as compared to 19% in the reference group which resulted in a doubled rate of SGA and LBW infants,” what was 44%? Total sugar as a share of total calories?
2. I'm having trouble understanding what you mean in the sentence that states, “SGA births was higher in subjects who had poor folate status ($p = 0.02$) and low folate intake even when intake from supplements were included ($p = 0.021$) or excluded ($p = 0.049$).” Do you mean that folate supplementation did not reduce SGA? Or something else (that I'm not getting)?
3. The sentence, “Also, none of the studies was conducted in Ghana,” is out of place and should be cut.