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Correction of data errors and reanalysis of “The effect of glucomannan on body weight in overweight or obese children and adults: A systematic review of randomized controlled trials”

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To The Editor

Recently, some of us (BMZ, AC, HS) published a meta-analysis of the effect of glucomannan on body weight [1]. Others of us (PL, TS, DBA), upon reading the article, noticed that the standard deviations (SDs) reported in Figure 2 spanned two orders of magnitude, were surprised by this, and checked the original papers. Upon doing so, we noticed discrepancies between the data in Figure 2 and the data reported in one of the original papers [2] and contacted the authors of the two papers in question [1, 2]. After discussion and checking, differences were detected in the data from one of the original papers (Keithley et al.) included in the meta-analysis [2]. These inaccuracies were then corrected and the meta-analytic statistics re-computed with the corrected data, which resulted in some changes in the meta-analytical conclusions. We describe those corrections and revised results and conclusions here.

Description of the error(s)

Figure 2 in the meta-analysis [1] reported the SDs for the changes of body weights from different studies. However, the reported SDs from the study by Keithley et al. [2] were incorrect. Specifically, the reported SDs in the meta-analysis [1] were 0.18 and 0.08 for the glucomannan (GM) and placebo groups after two weeks treatment, and 0.08 and 0.43 for the GM and placebo groups after eight weeks treatment. These values are different from the values reported in the original study [2], in which they are 0.04, 0.02, 0.06 and 0.07, respectively (last paragraph on page 3). Rather, the SDs reported in the meta-analysis [1] were obtained from the communication between authors of these two papers [1, 2]. We found that the SDs from both papers [1, 2] were incorrect. As a result, related 95% confidence intervals (CIs) for the Mean Difference (MD) in Figure 2 in the meta-analysis [1]

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were also incorrect. The correct SDs in the study by Keithley et al. [2] based on individual change scores are 1.02 and 1.34 for the GM and placebo groups, respectively, after two weeks treatment, and 1.91 and 1.62 for the GM and placebo groups after eight weeks treatment.

We also found that the BMI values for this publication [2] were initially calculated and reported inappropriately. These were corrected after another communication between the authors and are provided here.

Revised Results with the error(s) corrected

Data for weight change in GM group compared to placebo group were re-computed using correct SDs (Figure 1). No significant difference in weight loss between groups was noted after two weeks treatment [MD 0.21 (95% CI: -0.47 to 0.89)], nor after eight weeks treatment [MD -0.03 (95% CI: -1.04 to 0.98)]. The effect of treatment after two weeks that was originally reported as statistically significant in the meta-analysis published turned out to be insignificant after the correction. However, the clinical significance of the effect reported in the first place was still negligible.

Corrected data for BMI change in GM group compared to placebo group were re-computed. Originally, no significant effect of treatment (after 2 and 8 weeks) was noted. After correction with the new data, there was a statistically significant difference in favor of placebo [MD -0.27 (95% CI: -0.43 to -0.11)] after two weeks of treatment, and in line with previously reported results, no statistically significant difference in effect after 8 weeks was observed [MD -0.26 (95% CI: -0.68 to 0.16)]. Similar to the difference in weight loss between study groups, BMI change seemed to have little clinical significance due to very small values, despite the reported statistically significant effect.

Conclusion

We were glad to have this opportunity to work together to correct these errors and hope the results are useful to the scientific community.

Acknowledgments

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References

1. Zalewski BM, Chmielewska A, Szajewska H. The effect of glucomannan on body weight in overweight or obese children and adults: a systematic review of randomized controlled trials. *Nutrition*. 2014 Article in press.
2. Keithley JK, Swanson B, Mikolaitis SL, Demeo M, Zeller JM, Fogg L, et al. Safety and efficacy of glucomannan for weight loss in overweight and moderately obese adults. *J Obes*. 2013; 2013:610908. [PubMed: 24490058]

Figure 1.

Weight change in GM group vs placebo group after 2, 4, 5, 8, and 12 weeks of intervention (data recomputed for weeks 2 and 8). Negative number indicates weight increase.