

NRES-D-06-00067

“Meta-analysis of Pelvic Floor Muscle Training: Randomized Controlled Trials in Incontinent Women”
Original Submission

Vicki Conn, PhD, RN, FAAN (Reviewer 3)

Reviewer

Recommendation Maybe Accept With Revisions

Term:

Overall

Reviewer Rating 75

Manuscript

Rating:

This manuscript addresses the important topic of urinary incontinence among women. The paper is well written and contains many strengths as well as some limitations.

The background section reviews several studies and previous reviews. It is unclear if the authors meant that several previous reviews were qualitative synthesis or more likely they were narrative reviews and not qualitative synthesis. It would also be helpful to provide specific information about the effect size in the previous meta-analysis on this topic, as well as the number of studies included in that synthesis.

Comments to Author: The focus is appropriately conceptualized for a meta-analysis. The emphasis on both overall effects and significant moderators has the potential to move knowledge forward. The search strategies seem excessively narrow for a meta-analysis. First, few search terms were used to conduct the searching in computerized databases. Index terms are inconsistently applied in computerized databases, thus diverse term searches are essential to capture a larger proportion of eligible studies. Second, few computerized databases were searched. For example, there is high overlap between MEDLINE and CINAHL. More diverse databases could enlarge the scope of studies. Third, footnote and citation searching expand the number of studies retrieved but do not broaden the scope of studies retrieved. Authors cite studies very similar to their own studies. There is clear methodological evidence that studies with the largest effect sizes are cited more often than studies with smaller effect sizes. The problem with the narrow searching is not just that one would find 'more' studies with more extensive searching. The problem with narrow searching is that one would find more 'diverse' studies with more extensive searching. Narrow searching may lead to inflation of effect size estimates. Just as important, narrow searching may lead to biased results without the meta-analyst being to predict or speculate about how other studies might be different. For example, this problem can have a major influence on moderator analysis. The limited searching is a major limitation of the methods in this manuscript.

Inclusion criteria were clearly described and there is evidence the criteria were applied reliably. The description of excluded studies is very complete. The coding appears

appropriate. There are some questions about the analyses. The authors report using a weighted mean effect size but do not indicate the weighting factor (e.g. study quality, inverse of variance). The random effect model is appropriate for these interventions. Funnel plots are not useful with such a small number of studies (and the graphs don't need to be included with the manuscript). Continuous data, for moderators, were dichotomized to create categories. It is unclear why the researchers did not use meta-analysis analogs of regression for these analyses. The interpretation of findings as moderate and large may not be helpful. Cohen's estimation of small, moderate, and large were not created for this type of intervention. It would be more helpful if the authors could convert the effect size estimates to the original metric if sufficient studies report similar outcome measures. This would allow readers to estimate the clinical importance of the findings much more accurately. Further justification for using measures of variability from a previous meta-analysis paper when these data are not available in the primary report would be useful.

It is unclear if two of the significant moderators might be confounded. Did the authors investigate whether sample age was related to type of incontinence? If these are related, a joint moderator analysis might be more appropriate.

The discussion section contains considerable repetition of findings without meaningful interpretation of why the findings might have occurred. The discussion section should compare these findings with the previous meta-analysis finding. Overall, the discussion section does not adequately acknowledge the limitations of meta-analysis with so few studies.