Why null results do not mean no results: negative findings have implications for policy, practice, and research

Suzanne M. Miller-Halegoua, PhD

¹Fox Chase Cancer Center,
Temple University Health System,
Philadelphia, PA, USA

Correspondence to: S Miller
Suzanne.Miller@fccc.edu

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Often times when translational scientists develop hypothesis for their research but their findings are not as expected, they consider the work to be “unpublishable”, “a waste of time”, and/or “useless”. However, when scientists have null findings, the information they gather can inform what should be done differently or more effectively in future research. The findings also inform the policy and practice communities about the efficacy of evidence-based interventions and programs designed to enhance health care delivery and patient outcomes. That is why it is so imperative to share these “null” findings with other investigators and professionals. This communication provides the grounding for knowledge about what not to repeat in order for the science to advance by understanding what has been found lacking in well-controlled trials. Null findings are also important in informing and advancing future directions in policy and practice.

For these reasons, TBM is now has a call for state-of-the-science papers with null findings to help further the field of translational science. Investigators commonly ignore null findings due to the negative value attached to them in comparison with the positive value attached to significant findings. The negative connotation placed on null results wastes valuable resources and limits the opportunity to inform and advance the field, as well as public policy and patient care. Papers with null findings that have a strong

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research design and use rigorous methods with appropriate statistical analyses need to be part of the evidence base.

The current study in this issue by Huberty and colleagues provides a prototypic exemplar for this approach. Pregnant women were randomized to one of four groups and provided text messages that encouraged them to be physically active. The frequency and timing of the messages were varied to determine which combination yielded the greatest improvements. Disappointingly, none of the women improved their physical activity despite the attempt to maximize and tailor the timing and frequency of the dose of text message receipt. Although women felt their knowledge was improved due to the interventions, other behavioral strategies, in addition to text messages, are clearly needed to improve physical activity in this group. This study provides clues about what changes are needed in the content of the messages, as well as the in the role of social support, activity monitors, and/or goal-setting strategies.

TBM is proud to bring null result findings into the light and, through this focus, looks forward to being a beacon for improving intervention strategies and health outcomes.