

# Effects of Mindfulness-Based Stress Reduction (MBSR) on Stress and Fatigue in Cancer Patients and Survivors: An Integrative Review

Kylie Straub Student Nurse  
Carroll University Waukesha, Wisconsin



## Background

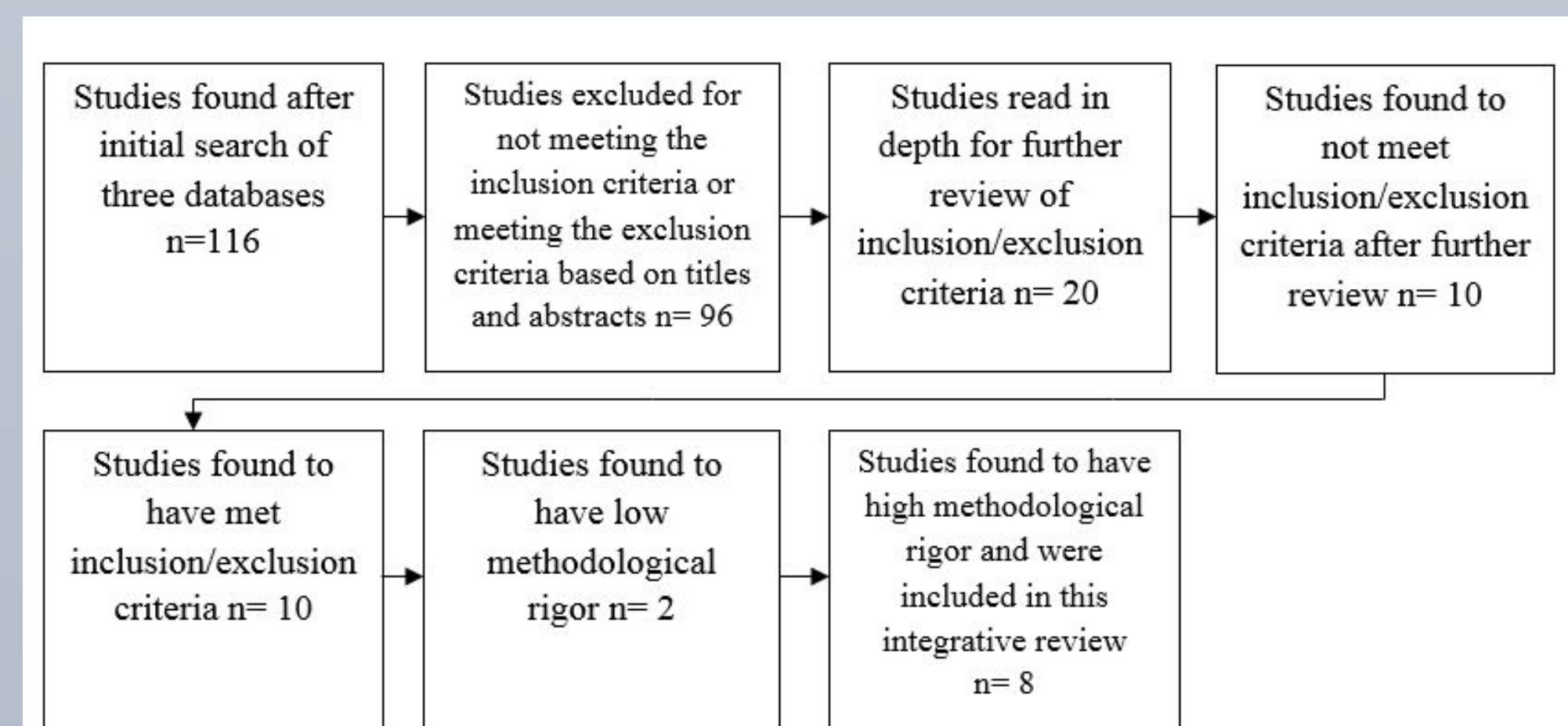
- Cancer patients and survivors experience numerous hardships throughout treatment and remission, including fatigue and stress.
- Several studies have indicated mindfulness-based stress reduction (MBSR), a training program that focuses on meditation, breathing exercises, and other activities to promote mindfulness, as a possible choice of treatment for the challenges faced by cancer patients and survivors.
- MBSR (and eight-week program) involves incorporating mindfulness into daily life in order to help people to distinguish thought from reality, allowing them to reduce anxiety, effectively deal with stress, and gain a sense of control over their situation.

## Purpose

- The purpose of this integrative review was to present the current state of the science on the effects of MBSR on fatigue and stress levels in cancer patients and survivors.

## Search Method and Results

- Databases searched:** CINAHL, PUBMED, and MEDLINE plus Academic Search and Health Sources.
- Search terms:** "cancer OR oncology patients," "stress OR anxiety AND fatigue," and "mindfulness based stress reduction' OR MBSR."
- Inclusion criteria:** studies with MBSR as the intervention, included anxiety, stress, or fatigue as the dependent variable, and a studied a population who either had cancer and survived or currently had cancer at the time of the study.
- Exclusion criteria:** studies with a population of cancer patients that included their significant others, did not have MBSR as the intervention, did not measure either anxiety, stress, or fatigue, or were a systematic review or meta-analysis.
- Eight studies that met all of the inclusion and exclusion criteria and were deemed to have a high methodological rigor were included in the final review.



## Results

- The designs of the studies included quantitative, qualitative, and mixed-method approaches.
- All of the researchers utilized a standardized MBSR program based off of the creator of MBSR Jon Kabat-Zinn's model, which is described below. However, adjustments were made in the amount of time the experimental group participated in the intervention, since some studies condensed the training to six or seven weeks.
- From the results of the studies, two themes emerged: a reduction in stress and anxiety and a reduction in fatigue.
- Several studies in this review concluded that MBSR can also reduce fear, enhance quality of life, and increased vitality.

### Reduction in Stress

- Most studies that examined MBSR effects on stress used a quantitative approach with a randomized controlled trial and a wait-list control group.
- The majority of the studies found that stress and anxiety were significantly decreased after the intervention, but varied in the extent of which these results were maintained.
- Participants were found to have gained skills to help them cope better with stressful events, and had an increase in awareness that assisted them in accepting their situation.

### Reduction in Fatigue

- All of the studies that examined MBSR effects on fatigue took a quantitative approach to their research and implemented a randomized control trial.
- All of the studies found significant decreases in the amount of fatigue of the participants in the intervention groups.
- In a study that compared the effectiveness of MBSR versus a psychoeducational/support group, a significant within-group reduction in fatigue levels was found in both groups, but the results suggest that MBSR works faster.

## What is MBSR Training?

Week	Description
1	Orientation, rules, attendance requirements, individual daily practice assignments are given
2	Teaching about meditation and practicing imagery and body scanning
3	Group discussion and yoga exercises
4	Breathing exercise and moving meditation
5	Discussion about emotions and awareness, how to use mindfulness to mediate these concepts, cognitive self-monitoring is introduced
6	Discussion on imagery in meditation and a day retreat
7	Review week
8	Intervention wrap-up and distribution of resources

## Conclusion

- There is evidence from these studies that suggests MBSR is an effective method for reducing fatigue and anxiety felt by cancer patients and survivors.
- Hoffman et al. (2012a), Hoffman et al. (2012b), and Lengacher et al. (2009) recommend MBSR as a way for breast cancer survivors to manage the undesirable psychological effects of cancer and treatment and to increase quality of life.
- Kvillemo and Bränström (2011) suggested that MBSR may be used to assist cancer patients in reducing their stress levels and improving their clinical outcomes.

## Future Research

- Studies with larger sample sizes that include people with a multitude of cancer diagnoses and that are more generalizable to the cancer population are needed, since the majority of studies have focused on breast cancer survivors.

## Limitations

- There was a time constraint, since only two and half months were available for this review to be conducted and completed.
- The inclusion criteria may have excluded relevant articles.
- A lack of studies that were inclusive of all types of cancer limited the generalizability of this review.

## References

Hoffman, C. J., Ersser, S. J., & Hopkinson, J. B. (2012a). Mindfulness-based stress reduction in breast cancer: A qualitative analysis. *Complementary Therapies in Clinical Practice, 18*(4), 221-226. doi: 10.1016/j.ctcp.2012.06.008

Hoffman, C. J., Ersser, S. J., Hopkinson, J. B., Nicholls, P. G., Harrington, J. E., & Thomas, P. W. (2012b). Effectiveness of mindfulness-based stress reduction in mood, breast- and endocrine-related quality of life, and well-being in stage 0 to III breast cancer: A randomized, controlled trial. *American Society of Clinical Oncology, 30*(12), 1335-1342. doi: 10.1200/JCO.2010.34.0331

Johns, S. A., Brown, L. F., Beck-Coon, K., Monahan, P. O., Tong, Y., & Kroenke, K. (2015). Randomized controlled pilot study of mindfulness-based stress reduction for persistently fatigued cancer survivors. *Psycho-Oncology, 24*(8), 885-893. doi: 10.1002/pon.3648

Johns, S., Brown, L., Beck-Coon, K., Talib, T., Monahan, P., Giesler, R., Tong, Y., ... Kroenke, K. (2016). Randomized controlled pilot trial of mindfulness-based stress reduction compared to psychoeducational support for persistently fatigued breast and colorectal cancer survivors. *Supportive Care in Cancer, 24*(10), 4085-4096. doi: 10.1007/s00520-016-3220-4

Kabat-Zinn, J., Massion, A. O., Kristeller, J., Peterson, L. B., Fletcher, K. E., Pbert, L., ... Santorelli, S. F. (1992). Effectiveness of meditation-based stress reduction program in the treatment of anxiety disorders. *The American Journal of Psychiatry, 149*(7), 936-943. doi: 10.1176/ajp.149.7.936

Kvillemo, P., & Bränström, R. (2011). Experiences of a mindfulness-based stress-reduction intervention among patients with cancer. *Cancer Nursing, 34*(1), 24-31. doi: 10.1097/NCC.0b013e3181e2d0df

Lengacher, C. A., Johnson-Mallard, V., Post-White, J., Moscoso, M. S., Jacobsen, P. B., Klein, T., ... Kip, K. E. (2009). Randomized controlled trial of mindfulness-based stress reduction (MBSR) for survivors of breast cancer. *Psycho-Oncology, 18*(2), 1261-1272. doi: 10.1002/pon.1529

Lengacher, C. A., Reich, R. R., Post-White, J., Moscoso, M., Shelton, M. M., Barta, M., ... Budhrani, P. (2012). Mindfulness based stress reduction in post-treatment breast cancer patients: an examination of symptoms and symptom clusters. *Journal of Behavioral Medicine, 35*(1), 86-94. doi: 10.1007/s10865-011-9346-4

Matchim, Y., Armer, J. M., & Stewart, B. R. (2011). Effects of mindfulness-based stress reduction (MBSR) on health among breast cancer survivors. *Western Journal of Nursing Research, 33*(8), 996-1016. doi: 10.1177/0193945910385363

Whittemore, R., & Knaff, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing, 52*(5), 546-553. doi: 10.1111/j.1365-2648.2005.03621.x