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Female Pelvic Medicine & Reconstructive Surgery

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Original Article: Comparison of Mindfulness-Based Stress Reduction Versus Yoga on Urinary Urge Incontinence: A Randomized Pilot Study. With 6-Month and 1-Year Follow-up Visits

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1. *Both the active and control group treatments involved Yoga (“mindful” Yoga vs. “Asana”-based restorative Yoga). Many Yoga practices focus on body/positional awareness and being “present” in the moment. Do you have an explanation as to why MBSR with “mindful Yoga” was so much more effective in reducing UIEs?*

The Yoga “Asana” was actually more of a stretching program for this study. There was not a focus on breathing and mindfulness instead more attention was placed on safe stretching and poses. Other topics were also discussed in the group to try to match the length of the group (2 hours) with the MBSR group. The MBSR program only had one class of eight devoted to “mindful yoga”. The MBSR program introduces many “mindful” techniques so that the participant can pick what mindful technique feels right for them. Said in another way “mindful yoga” was not a focus of the MBSR program.

a. Certain forms/practices of Yoga, specifically Iyengar, are thought to have therapeutic applications by using specific poses (Asanas) to treat a specific medical problem. Do you think that a different Yoga regimen could have resulted in different/better outcomes for the Yoga-only group?

Yes, yoga with a focus on mindfulness and breathing may yield better results for women with urge incontinence. In a recently published pilot study by Huang et al, women randomized to a 6-week yoga therapy

program decreased the frequency of total incontinence episodes by 70% compared to a decrease of 13% in the control group (wait list); most of this difference was in stress incontinence episodes. While limited by a small sample size, in that study, there was no significant difference in reduction of urgency incontinence. The yoga in this study was also specially designed for the study to promote “pelvic health” so likely had more effect on pelvic floor strength and stress incontinence.¹

b. Do you think that would have served as a “better” comparison group?

It is recommended that all studies using MBSR as a treatment are compared against an active control group. In order to understand the effect of the MBSR (likely mindfulness techniques) you would want to compare MBSR against a control group that does not use mindfulness techniques.²

2. *Anticholinergics have been the typical “gold standard” comparator for urgency incontinence treatment.*

a. Do you think an anticholinergic would have been a good control treatment in this study?

In our initial pilot study using no comparison group we referenced our results to historical data on treatment results using anticholinergics and found that MBSR gave comparable reductions in leakage to anticholinergics, suggesting that MBSR was a treatment worthy of further investigation. In this pilot randomized trial, we sought to determine whether MBSR had effect over an active control, not whether it was better than traditional therapy. Given our results, it would be interesting to compare MBSR with anticholinergic therapy in a larger RCT.

b. What methodological issues would use of a medication-based active control group create in this study? .

The biggest issues include a much larger sample size (given the anticipated small difference between groups), development of placebo medications (with need to bench test active drug if encapsulation were required to make identical capsules), stricter eligibility criteria (to ensure safety of the drug and exclusion of women that already failed the drug), and the far greater cost associated with all of these factors. Such a study design would be of the magnitude of the ABC trial and would need substantial support along with multiple clinical testing sites.

3. *Based on the study demographics, how do you think the women that participated in your study differ from the “typical” woman presenting for care for urgency incontinence?*

The median age for women in the study was 58 years for the yoga group and 59 for the MBSR group, similar to the age of women presenting for urgency incontinence. Most women were relatively healthy and naïve to prior treatment with anticholinergic therapy, making them typical of patients presenting to primary care providers but healthier than those seeking subspecialty care.

- a. *Do you think the findings of your study are generalizable to all women with urgency incontinence?*

This was a pilot study and future research is needed to establish whether the results are generalizable. We did not have enough subjects to do multivariate analysis on factors associated with response to treatment.

4. *The inclusion criteria for your study focused primarily on UIEs. How do you think MBSR would work for women with urinary urgency and frequency that do not have incontinence?*

Urinary urgency/frequency is hard to measure in a research study as it is mostly a subjective experience. Many women have urinary frequency due to fear of leakage. If the fear factor is removed by treating the leakage the behavior of frequency does not always change at the same time. It may change over time but most research studies do not have long term follow up.

- a. *Do you think it could be more or less effective in this population than women who have urgency incontinence?*

My personal opinion on this question is that MBSR has the potential to reduce urinary frequency better than medications as it may seem to treat the possible brain issue that is causing the frequency and leakage.

5. *The average amount of practice per week was reported as structured and unstructured but appears to be for the MBSR group only.*
 - a. *Were women in the Yoga group expected to practice at home and did they report this?*

They were encouraged to practice as the MBSR group but were not asked to keep track.

- b. *If there was a difference in home practice between groups, how do you think this affected the results?*

We did not have a sample size to do multivariate analysis to determine if the amount of practice had an effect on urge incontinence. The practice information was collected to understand how much a group of women doing MBSR would practice when asked to practice.

6. *If you could perform an fMRI or PET scan during cystometry in a woman with UI prior to initiating an MBSR, do you think there would be detectable changes in the imaging study after a MBSR practice? If so, please describe.*

Yes, I believe this is the next exciting step in understanding how MBSR works. But, further studies need to be completed that replicate our findings that MBSR does indeed reduce urge incontinence episodes. We know that MBSR seems to affect the activation of neural circuits implicated in neuro-visceral awareness and self-regulation, specifically, in the anterior cingulate cortex, the dorsal medial prefrontal cortex, and prefrontal cortex and reduction in bilateral amygdala activity. We don't know whether these changes would also be seen in women with urgency incontinence and whether the changes might be mediated by treatment success (ie, less incontinence).

REFERENCES

1. A group-based yoga therapy intervention for urinary incontinence in women: a pilot randomized trial. Huang AJ, Jenny HE, Chesney MA, Schembri M, Subak LL. *Female Pelvic Med Reconstr Surg*. 2014 May-Jun;20(3):147-54.
2. The validation of an active control intervention for Mindfulness Based Stress Reduction (MBSR). MacCoon DG, Imel ZE, Rosenkranz MA, Sheftel JG, Weng HY, Sullivan JC, Bonus KA, Stoney CM, Salomons TV, Davidson RJ, Lutz A. *Behav Res Ther*. 2012 Jan;50(1):3-12.