Behavioural training plus biofeedback or verbal feedback did not differ from self administered behavioural training in urge incontinence

Burgio KL, Goode PS, Locher JL, et al. *Behavioral training with and without biofeedback in the treatment of urge incontinence in older women: a randomized controlled trial*. JAMA 2002;288:2293–9.

QUESTION: In community dwelling older women with urge incontinence, is behavioural training (BT) plus biofeedback or verbal feedback more effective than self administered BT for reducing the frequency of urge incontinence?

Design

Randomised (unclear allocation concealment), unblinded, controlled trial with 10 weeks of follow up.

Setting

University outpatient continence clinic in the US.

Patients

222 ambulatory, mentally competent, community dwelling women 55–92 years of age (mean age 65 y) who had persistent (for ≥ 3 mo) urge incontinence or mixed incontinence with urge as the predominant pattern that occurred ≥ 2 times per week (on average) with urodynamic evidence of bladder dysfunction. Exclusion criteria included continual leakage and post-void residual urine volume > 150 ml. Follow up was 88%.

Intervention

Patients were allocated to BT plus biofeedback (biofeedback group, $n=73$), BT plus verbal feedback based on vaginal palpation (verbal feedback group, $n=74$), or self administered BT using a self help booklet (self help group, $n=75$) for 8 weeks. Patients in the biofeedback and verbal feedback groups visited the clinic 4 times at 2 week intervals in the 8 week period to receive training from nurse practitioners. Both groups were instructed to practice the training in everyday life. The BT programme consisted of learning skills and strategies for preventing incontinence. The content of the self help booklet was identical to the BT programme. Patients in the self help group were asked to complete and return bladder diaries every 2 weeks and to return for an appointment after 8 weeks.

Main outcome measure

Change (reduction) from baseline in the frequency of incontinence episodes, reported in 2 weeks of post-treatment bladder diaries.

Main results

Analysis was by intention to treat. All 3 groups showed a reduction in the frequency of incontinence episodes, but the reduction from baseline did not differ among the groups (table).

Conclusion

In community dwelling older women with urge incontinence, behavioural training plus biofeedback or verbal

feedback was not more effective than self administered behavioural training for reducing the frequency of incontinence episodes.

*Behavioural training plus biofeedback or verbal feedback v self administered behavioural treatment (self help) in older women with urge incontinence at 10 weeks**

Outcomes	Biofeedback	Verbal feedback	Self help	p Value†
Mean (SD) percent reduction from baseline in frequency of incontinence episodes	63.1 (42.7)	69.4 (32.7)	58.6 (38.8)	0.23

*SD = standard deviation.

†Differences between groups are not statistically significant (analysis of covariance with bladder capacity as the covariate).

COMMENTARY

BT is known to be effective in treating urge incontinence, but previous studies have not determined the role biofeedback plays in the efficacy of BT. The trial by Burgio *et al* found that 3 different BT methods of pelvic floor rehabilitation resulted in comparable reductions in urinary incontinence and improvements in quality of life. The addition of biofeedback was not more effective than the other 2 BT approaches.

The trial design was strengthened by the use of nurse practitioners, 3 different interventions, and stratification to ensure that the outcome was not influenced by factors such as type and severity of incontinence. Whether similar results could be expected after implementation in a real clinical setting is unclear because volunteers motivated to participate in a BT trial may not be representative of the general population.

The findings of Burgio *et al* have important implications for practice. Given that the 3 methods of BT have comparable results, the resources required for each intervention should be considered. BT without biofeedback or verbal feedback could be readily implemented using available self instruction materials, whereas training is needed to deliver biofeedback, and the instrumentation can be expensive. Another consideration may be patient satisfaction. Patients in the biofeedback or verbal feedback groups were more satisfied with treatment than those in the self help instruction group. These differences may be related to the amount of positive reinforcement given during the interventions; that is, patients who did not attain a perceived "critical threshold" for improvement may have considered the intervention a failure. Although treatment goals and indicators of success should be individually determined, the significant differences in patients' perception of progress does raise the question of what role satisfaction ratings should have in health planning.

One approach may be to assess the learning capabilities and motivation of each patient and allow patients some choice of treatment modality. For example, BT with biofeedback may be more effective for visual learners, whereas BT with verbal feedback may be appropriate for those needing initial instruction, ongoing feedback, and positive reinforcement. Future research might investigate the effectiveness of BT in group sessions, where patients might benefit from each other.

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