

## INCONTINENCE

## Using a virtual reality dance game to improve mixed incontinence

A team of researchers from Canada and Switzerland have tested the feasibility of using virtual reality rehabilitation in combination with pelvic floor muscle exercises to treat mixed urinary incontinence (MUI) in older women, with promising results.

Chantale Dumoulin and colleagues were looking for ways to improve patient adherence to pelvic floor muscle training, which is an important predictor of overall effectiveness. Inspired by the use of video gaming to improve treatment effectiveness in patients with stroke and balance problems, they developed a programme that combined pelvic floor muscle exercises and computer gaming in an attempt to enhance motivation and, therefore, participation of older women with MUI.

Researchers recruited 24 women (mean age of 70.5 years) with MUI through newspaper advertisements and promotional activities at seniors' organizations. Groups of eight patients attended a weekly 60 min exercise class,

comprising 10 min of patient education, 30 min of static pelvic floor muscle and deep abdominal exercises and 20 min of virtual reality rehabilitation using a dance game that incorporated pelvic floor muscle contractions with stepwise dance movements.

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Dumoulin and team were primarily focused on the feasibility of such a programme, which they measured via the rates of participation and completion of the intervention; 91% of women attended at least 10 of the 12 weekly sessions, 92% of women adhered to a home exercise programme afterwards and 96% of women completed the required pretreatment and post-treatment evaluations.

To measure effectiveness of the intervention on MUI symptoms,

the investigators assessed patients twice before they embarked upon the 12-week programme and once afterwards, using a 72 hr urinary diary, the Urogenital Distress Inventory, the Incontinence Impact Questionnaire and the ICIQ-UI short form. Statistically significant improvements in all measures of incontinence symptoms and quality of life were reported after the programme.

Although this study is limited by its small sample size and lack of a control group, there are certainly some positive findings to consider—perhaps most importantly, the high level of patient satisfaction with the programme (91%). If a virtual reality dance game can help engage women with pelvic floor muscle training, then half the battle is won.

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