Internet-based Treatment of Stress Urinary Incontinence

Treatment Outcome, Patient Satisfaction, and Cost-Effectiveness

Malin Sjöström

Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för avläggande av medicine doktorsexamen framläggs till offentligt försvaret i Hörsalen Snäckan (Aulan), Östersunds sjukhus, hus 16, ingång 6, fredagen den 31 januari, kl. 13:00.
Avhandlingen kommer att försvaras på svenska.

Fakultetsopponent: Professor Steinar Hunskår, Institut for global helse og samfunnsmedisin, Allmenmedisin, Bergens universitet, Bergen, Norge.
Abstract

**Background** Stress urinary incontinence (SUI) is the leakage of urine when coughing, sneezing, or on exertion. It affects 10–35% of women, and can impair quality of life (QOL). First-line treatment is pelvic floor muscle training (PFMT). However, access barriers and embarrassment may prevent women from seeking care. There is a need for new, easily accessible ways to provide treatment.

**Aim** To evaluate the treatment outcome, patient satisfaction, and cost-effectiveness of an Internet-based treatment programme for SUI.

**Methods** We recruited 250 community-dwelling women aged 18–70 years, with SUI ≥1/week via our website. Participants were randomised to 3 months of PFMT with either an Internet-based programme (n=124), or a programme sent by post (n=126). We had no-face-to-face contact with the participants, but the Internet group received individually tailored e-mail support from an urotherapist. Treatment outcome was evaluated after 4 months with intention-to-treat analysis. After treatment, we telephoned a strategic selection of participants (Internet n=13, postal n=8) to interview them about their experiences, and analysed the results according to grounded theory principles. We also performed a cost-utility analysis with a 1-year societal perspective, comparing the treatment programmes with each other and with a no-treatment alternative. To scrutinize our measure of QOL, we performed a reliability study of the ICIQ-LUTSqol questionnaire.

**Results** Participants in both intervention groups achieved highly significant improvements (p<0.001) with large effect sizes (>0.8) in the primary outcomes symptom score (ICIQ-UI SF: mean change Internet 3.4 [SD 3.4], postal 2.9 [3.1]), and condition-specific QOL (ICIQ-LUTSqol: mean change Internet 4.8 [SD 6.1], postal 4.6 [SD 6.7]); however, the differences between the groups were not significant. Compared with the postal group, more participants in the Internet group perceived they were much or very much improved after treatment (40.9% vs. 26.5%, p=0.01), reduced their use of incontinence aids (59.5% vs. 41.4%, p=0.02), and indicated satisfaction with the treatment programme (84.8% vs. 62.9%, p<0.001).

Results from the interviews fell into three categories: about life with SUI and barriers to seeking care; about the treatments and the patient-provider relationship; about the sense of empowerment many women experienced. A core category emerged: “Acknowledged but not exposed.”

The extra cost per quality-adjusted life year (QALY) gained through use of the Internet-based programme compared with the postal programme was €200. The extra cost per QALY for the Internet-based programme compared with no treatment was €30,935.

The condition-specific questionnaire ICIQ-LUTSqol is reliable in women with SUI, with high degrees of agreement between overall scores (Intraclass correlation coefficient 0.95, p<0.001).

**Conclusion** Internet-based treatment for SUI is a new, effective, and patient-appreciated treatment alternative, which can increase access to care in a sustainable way.

**Keywords** Stress urinary incontinence, Internet, randomised controlled trial, pelvic floor muscle training, self care, quality of life, qualitative research, cost-utility analysis, validation study