RCT of urethral versus suprapubic catheterization
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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
This study examined the clinical and economic impact of intermittent urethral catheterisation, compared with indwelling suprapubic catheterisation, for women undergoing surgery for urodynamic stress incontinence or uterovaginal prolapse. Shorter hospital stay and a faster return to normal bladder emptying were observed with intermittent compared with suprapubic catheterisation, which had slightly higher costs. The clinical analysis was well carried out, but there were some methodological limitations in the economic analysis that might affect the validity of the authors’ conclusions.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study examined the clinical and economic impact of intermittent urethral catheterisation, compared with indwelling suprapubic catheterisation, for women undergoing surgery for urodynamic stress incontinence or uterovaginal prolapse.

Interventions
Suprapubic catheterisation, which was the insertion of an indwelling catheter through the anterior abdominal wall and into the dome of the bladder, was compared against intermittent catheterisation, which was episodic urethral catheterisation for drainage.

Location/setting
UK/hospital.

Methods
Analytical approach:
The analysis was based on a single study with a short time horizon, which was the length of hospital stay. The authors did not state the perspective adopted.

Effectiveness data:
The clinical data came from a prospective, randomised controlled trial of 38 women undergoing suprapubic catheterisation and 37 women undergoing intermittent catheterisation; 36 women in each group completed the trial. The inclusion and exclusion criteria were reported. Blinding was not feasible due to the nature of the intervention. Power calculations were performed to define the sample size. Women were followed-up until they were discharged. The primary endpoint of the analysis was the length of hospital stay.

Monetary benefit and utility valuations:
Not considered.

Measure of benefit:
The key endpoint was the length of hospital stay. Other endpoints were the time to resume normal bladder emptying, the number of urinary tract infections (UTIs), the days of catheterisation, pain scores, and patient satisfaction.

Cost data:
The economic data consisted of the costs of consumables (catheters, drainage systems, and catheterisation and dressing...
packs) and nurse time to change dressings, remove the suprapubic catheter, and carry out intermittent catheterisation, using an aseptic technique. Where necessary, the time taken to teach patients in either group intermittent self-catheterisation, before hospital discharge, was considered. The resource use data were from the clinical trial and the unit costs were based on official hourly rates for band five nurses. All costs were in UK pounds sterling (£).

Analysis of uncertainty:
Not considered.

Results
The median length of hospital stay was six days (range two to 15) in the suprapubic group and five days (range two to 19) in the intermittent group (p=0.003). The days of catheterisation were significantly fewer in the intermittent group. No statistically significant differences were observed between groups in the number of UTIs after surgery, the pain scores, and patient satisfaction.

The average cost per patient was £30.30 in the suprapubic group and £26.80 in the intermittent group. This difference was not statistically significant. The consumable costs were higher for suprapubic catheterisation, while nurse time costs were higher for intermittent catheterisation.

Authors’ conclusions
The authors concluded that a shorter hospital stay and a faster return to normal bladder emptying were observed with intermittent urethral catheterisation, compared with suprapubic catheterisation, which had slightly higher costs.

CRD commentary
Interventions:
The two comparators were appropriately selected, as they were the feasible options for these patients. A clear description of the two strategies was provided.

Effectiveness/benefits:
The clinical data came from a well-conducted clinical trial and its randomised design should ensure the validity of the clinical estimates. The details of the randomisation procedure and the exclusion criteria were explicitly reported. The study groups were well balanced at baseline, in their ages and the type of surgery. The authors stated that the analysis was based on intention-to-treat, but the three women who were randomised and did not complete the trial were not included. Power calculations were carried out to ensure an appropriate sample size, but it was unclear whether there was sufficient power for all the outcomes. The evidence was from a single institution and the medical expertise and type of care delivered might not be transferable to other medical centres.

Costs:
The perspective was not stated, but only those costs directly associated with the catheterisation procedures were considered. The authors reported that the study was restricted to the supply and labour costs, which were similar between groups. The inclusion of the costs associated with hospital stay would have been appropriate. The unit costs and resource quantities were reported, enhancing the transparency of the analysis. Reflation exercises for other time periods might be difficult as the price year was not reported; the trial that supplied the resource data was conducted in 2004. The use of alternative cost estimates was not considered.

Analysis and results:
The results were clearly reported and the costs and benefits were not synthesised as a cost-consequences analysis was conducted. The authors did not investigate the uncertainty. They stated that a drawback of their study was that the suprapubic catheters were left on free drainage for 48 hours after surgery, which did not allow voluntary bladder emptying, while patients with intermittent catheters had the opportunity to empty voluntarily during these first 48 hours. The difference in the duration of catheter drainage and hospital stay might have been due to this practice. This appears to have been the first economic evaluation comparing suprapubic versus intermittent catheterisation.

Concluding remarks:
The clinical analysis was well carried out, but there were some methodological limitations in the economic analysis that
might affect the validity of the authors' conclusions.

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