

AN ASSESSMENT OF THE IMPACT OF SHORT TERM CATHETERISATION IN MEN AND WOMEN USING VALIDATED QUESTIONNAIRES.

Hypothesis / aims of study

To quantify the impact of short term catheterisation in a number of domains associated with activities of daily living and sexual function. We hypothesise that short term catheterisation has a high impact and high dissatisfaction rate across patients of all ages.

Study design, materials and methods

The study enrolled men and women of any age, without exclusions, who had a short term indwelling urinary catheter defined as anticipated less than 6 weeks duration. Information was collected from patients at the time of trial of catheter removal. Follow up data was collected by additional telephone interview 2-4 weeks after successful catheter removal.

Three questionnaires were administered; a sexual health inventory (SHIM), for men only; the short form health survey (SF-36), and the International Consultation on Incontinence modular long term catheter quality of life questionnaire (ICIQ) [1]. After the catheter was removed patients completed the SF-36 to assess any change in health state. Statistical analysis was done using the software packages Minitab 17 and SAS 9.4. A t-test was performed on the data collected from the men's sexual health questionnaire to determine if age was a variable that significantly interacted with SHIM score,

A two-sample t-test was performed on the data obtained from the ten patients that were interviewed both while catheterised and after the catheter was removed. The test was performed on each of the eight domains of the SF-36 to determine if there was a statistically significant difference to a patient's well being. A p-value of less than 0.05 was considered statistically significant.

Results

The study recruited a cohort of 28 patients aged 37-83. 16 patients provided follow up data, giving a response rate of 57.1%. Of the responders 10 had their catheter successfully removed and 6 remained catheterised. The study included 3 female patients aged median (range) XX (57- 83) years and 25 male patients aged 37-81. Follow up data was acquired from 8 male patients aged 37-81 and two female patients aged 57-83.

The two-sample t-test was performed on the 8 domains of the sf-36 questionnaire comparing scores during catheterisation and after successful removal. All eight domains tested showed an increase (improvement) in scores after the catheter was removed quantifying the impact of catheterisation. There was a statistically significant difference of physical functioning during catheterisation, mean= 55.0 vs 89, (p=0.016). Physical functioning incorporates items such as moderate activity, kneeling and dressing. The means of the limitations due to physical health values pre and post catheter was 33.8 vs 85 (p=0.001), which was the lowest value recorded for the SF-36 data. The role limitations due to emotional health pre and post means were 45.0 vs 90 (p= 0.007). The statistical analysis for the catheters impact on social function gave a statistically significant difference with the initial mean of 63.8 vs 97.5 (p= 0.016). There was not a statistically significant difference in the energy, general health, emotional well being or pain domains.

A two- sample t-test was performed on the totals of all the domains for each patient to compare if there was an overall statistically significant difference in a patient's quality of life during catheterisation and after the catheter was removed. This gave pre and post values 481 vs 669 (p>0.0001). The physical component score gave pre and post values of 49 vs79 (p=0.006) The mental component score means pre and post were 66 vs 84 (p=0.025). A two sample t-test performed on the men's sexual health data indicated sexual function score strongly interacted with age. (p-value=0.00008). However comparison with previously published SHIM data in non catheterised men showed men aged less than 50 years maintained high SHIM scores despite having an indwelling catheter. There was no statistically significant difference in the ICIQ scores of the 25 male participants (38.5 vs 48.6) compared to those of the three female patients (48.6 ± 16.2). (p-value=0.428). There was found to be no discernible interaction between a patient's age and the effects the catheter had on their well being when the total results from the ICIQ questionnaire were analysed. This is demonstrated by the lack of any correlation of the data points concerning a patient's age and total score seen.

Interpretation of results

The data collected is subjective to the individual patient, however the use of validated standardised questionnaires minimises subjective variation allowing comparison of the impact the catheter had upon the patient's lifestyle.

The result of the men's sexual health analysis demonstrated that age is the major factor that causes changes in sexual function. Younger men demonstrated no decrease in sexual function despite the presence of a catheter. There was a high proportion of erectile dysfunction, this is likely due to the majority of patients being elderly, with an average age of 70.08.

The decline in social activity and leaving the house that was seen in both the ICIQ and initial SF-36 questionnaires could be the discomfort caused by the catheter and bag and difficulty hiding it. The Foley catheter has undergone few significant changes since it was first developed in 1937 and with the surge of modern technology it would be possible to make amendments that could have a positive impact on patients' lives.[2]

Anecdotal Current views that older patients tolerate catheters better and that they have less of an impact was not supported by our study.

The results of the ICIQ showed that in general, having a catheter did not cause embarrassment to patients. This was not consistent with prior literature that suggests embarrassment and stigmatisation towards catheters as one of the aspects patients were most concerned over [3]. The deviation in these results from those published could be due to the cultural setting of the patients interviewed.

There was no difference in the scores of men and woman although only a few women were captured in the study. There are currently no publications comparing male and female urinary catheterisation.

This study demonstrates that patients' quality of life was impacted upon as a direct consequence of having a short term urinary catheter. The study also found that the majority of patients would stop leaving the house and travelling while catheterised. More comfortable catheter designs and increasing a patient's understanding of lifestyle adaptations could give patients confidence to engage in more social activities. Further qualitative studies are required to better characterise individual reaction to need for indwelling catheter.

Concluding message

There is a current trend towards daycase urological surgery being facilitated by the discharge of the patient home with a short term catheter in situ however this study would suggest that even a short period of catheterisation has a profound effect on well being regardless of age. Current catheter designs and drainage apparatus are poorly regarded and tolerated and further research and development in more acceptable devices is warranted.

References

1. RAND (1996) SF-36v2 Health Survey
2. Feneley, R. C. L., Kunin, C. M., and Stickler, D. J. (2012) An indwelling urinary catheter for the 21st century. BJU International 109, 1746-1749
3. Fowler, S., Godfrey, H., Fader, M., Timoney, A. G., and Long, A. (2014) Living with a long-term, indwelling urinary catheter: catheter users' experience. J Wound Ostomy Continence Nurs 41, 597-603

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** questionnaire based audit of impact on quality of life by established clinical treatment pathway, registered with the hospitals institutional audit department. and hence not requiring separate ethics committee approval. **Helsinki:** Yes **Informed Consent:** Yes