The perception of a new compact Micro-hole Zone Catheter by female users of intermittent catheterisation is significantly higher for handling, sensation, confidence, and satisfaction compared with a Conventional Two-Eyelet Catheter

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Introduction:

Individuals who rely on intermittent catheterisation (IC) with conventional eyelet catheters (CECs) can experience urine flow stops during catheterisation. These flow-stops require catheter repositioning to restart the flow, which can be a source of discomfort in itself, but they also risk being mistaken for an empty bladder and can leave the IC user feeling uncertain about residual urine in the bladder and the associated increased risk of urinary tract infections (UTIs). The Micro-hole Zone Catheter (MHZC) is a female compact catheter designed to improve the catheterisation experience by enabling complete bladder emptying without flow-stops. The aim of this evaluation was to compare the catheter perception of the new MHZC to a compact CEC in female IC users.

Method:

Key eligibility criteria:

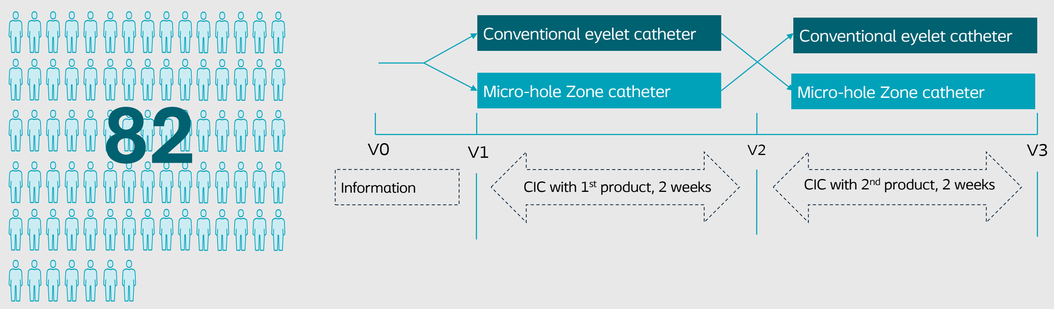
- IC user for >1 month
- IC as primary bladder emptying method
- Neurogenic and non-neurogenic bladder dysfunction
- No UTI symptoms at inclusion
- Experience w. compact catheter (50%/>2w)

All data was collected at V2 and V3 after each of the two 2-week test periods at home exclusively using either the MHZC or the CEC.

A perception questionnaire included questions on 'Handling', 'Sensation', 'Confidence and Control', and 'Satisfaction' scored on a 5-point Likert scale. Scores were based on the previous 14 days of home use.

Discomfort was scored on a 10 cm Visual Analogue Scale (VAS) in relation to insertion, emptying, completion, and withdrawal of the catheter during self-catheterisation performed during the site visits.

Figure 1: Design of evaluation



Micro-hole Zone catheter (MHZC)

Conventional Eyelet Catheter (CEC)

Results - Perception

More users had with a positive perception of the MHZC compared to the CEC on:

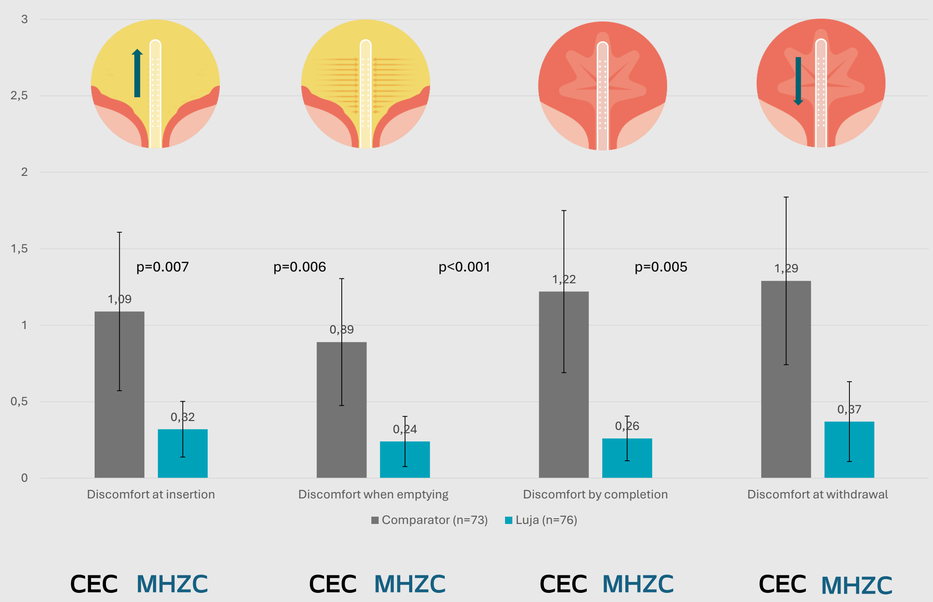
- All six handling-related questions **(p-values <0.05)**
- Six out of seven confidence-related questions **(p-values <0.05)**
- All four sensation-related questions **(p-values <0.001)**
- All three satisfaction-related questions **(p-values <0.001)**

With CEC: 25% of users felt pinching/ stinging

With MHZC: 5% of users felt pinching/ stinging

Results - Discomfort

Figure 5: Discomfort scores relating to catheter insertion, emptying, completion, and withdrawal using VAS were very low for MHZC with means ranging from 0.24 to 0.37 cm.



Results - Perception

Figure 2: Significantly more users felt confident that the MHZC emptied their bladder completely compared to the CEC.

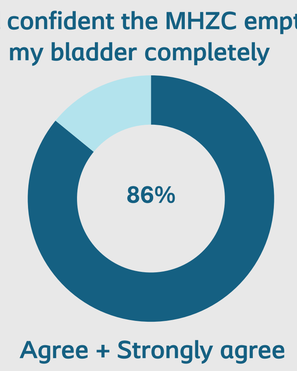


Figure 3: Significantly more users felt that the MHZC was easy to use compared to the CEC.

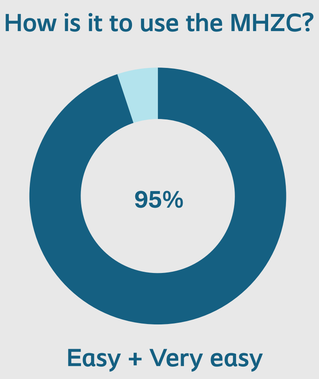
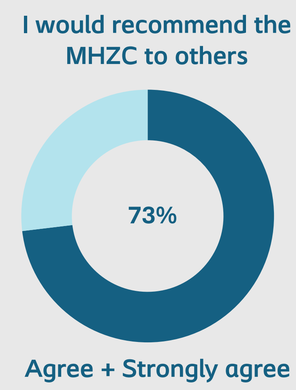


Figure 4: Significantly more users would recommend the MHZC to others compared to the CEC.



Conclusion:

After using the compact MHZC, experienced female IC users reported significantly higher rates of positive perception of the handling, sensation, confidence and control, as well as satisfaction with the new catheter, than after using the CEC. The results demonstrated that using the MHZC enabled IC users to feel secure about having emptied their bladders fully while experiencing minimal discomfort and reducing the risk of feeling a pinching sensation.

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