

A Systematic Review of Nurse-Led Cystoscopy as a Safe and Effective Alternative to Consultant-Led Services

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INTRODUCTION

- The growing awareness of lower urinary tract symptoms (LUTS) among women where prevalence is estimated at 76% (Coyne et al., 2009), has led to an increased demand for cystoscopy.
- Unfortunately, this led to longer wait times , particularly in the post-pandemic era.
- To address the mismatch between demand and workforce capacity, nurses trained to perform cystoscopy under the supervision of urologists (Richardson and Cunliffe, 2003).
- Nurse-led cystoscopy clinics have been established in urology (Gidlow et al., 2000), although this approach is relatively new in urogynaecology.

OBJECTIVE

To evaluate the safety, efficacy, acceptability, and training requirements for cystoscopy performed by nurses.

METHODS

- **Review protocol:** The protocol, established a priori, was registered with the PROSPERO database (CRD42021270171).
- **Literature search:** Relevant studies were identified through electronic searches of databases including PubMed and Embase up to February 4, 2021. Conference abstracts from international organizations such as the International Continence Society (ICS) and the International Urogynaecology Association (IUGA) etc.
- **Inclusion and exclusion criteria:** Studies reporting on nurse-led cystoscopy and the relevant outcome measures (listed below) in adult patients were included.
- **Study selection and data extraction:** Two reviewers independently screened titles and abstracts, and full-text articles were assessed for eligibility. A standardized data extraction form was used to extract data,.
- **Quality assessment:** The Critical Appraisal of Skills Programme (CASP) checklist was used
- **Data synthesis:** A thematic analysis and narrative synthesis were performed to analyse and summarise the results.
- **Outcome measures:** Both quantitative and qualitative outcome measures were considered: patient acceptability, diagnostic yield, user learning curve, costs, impact on wait lists, process, training required, implementation issues, user impressions, acceptability, staff impressions, and service impact.

SAFETY

- **Comparable cancer detection rates-** Madaan 2021, Kavanagh 2016
- **Proven diagnostic accuracy** – Krieg 2020, McConkey 2019, Quallich 2019, Gidlow 2000 (*sensitivity 96% for both nurses and doctors*), Forsyth 2005, Taylor 2002
- **Equal reporting and over-reporting rate-** Smith 2016
- **No difference in referral to GA cystoscopy** - Kavanagh 2016, Sapre 2012, Radhakrishnan 2006 (*equivalence after 1 year*), Fagerberg and Nostell 2005, Lewin and Lupton 2005, Gidlow 2000 (*specificity 100% for accurate referral for GA cystoscopy in both groups*)
- **No difference in discharge rate** - Radhakrishnan 2006

Complications

- 1 case of urosepsis - Krieg 2020
- 2 major complications (managed conservatively)- Sapre 2012

TRAINING

- **Supervised procedures before independent practice-** Krieg, 2020, Osborne 2007
- **Theory learning followed by supervised practice-** Quallich 2019, Bsc and MNrs 2011
- **Training using structured competency framework (BAUN and BAUS guideline)-** McConkey and Hahessy 2018, Sapre 2012, Forsyth 2005

EFFICACY

- **2 week wait targets met 100% -** Madaan 2021
- **Same time taken to complete procedure (nurse and doctors)-** McConkey 2019, Osborne 2007
 - **Waiting time reduced-** Quallich 2019, Radhakrishnan 2006, A.M 2014
- **Less patients per list for nurses-** Smith 2016
- **Helped ease the pressure on the day unit-** Booth 2005

STAFF ACCEPTABILITY

- **Good to outstanding multisource feedback** - R 2020
- **Resident training days maintained alongside nurse training-** Quallich 2019

PATIENT ACCEPTABILITY

- **92-100% positive patient experience reported with a nurse-led service-** Madaan 2021, Sapre 2012
- **Statistically significant lower post-operative pain with nurses-** Arndal 2015
- **Better approach to counselling after cancer diagnosis which patients preferred-** Taylor 2003

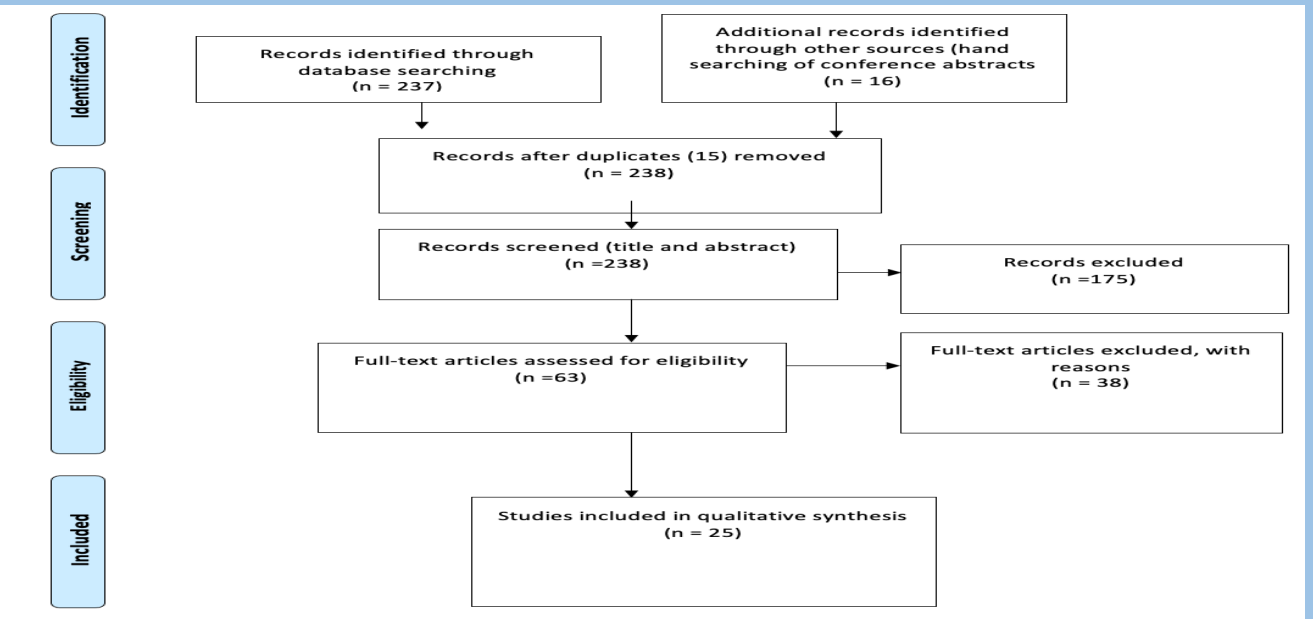
DISCUSSION

- All studies in this review were from urology departments that predominantly focused on bladder cancer surveillance as the indication for cystoscopy. In contrast, the indication for cystoscopy in urogynaecology is largely focused on LUTS. It is important to interpret the results considering these differences.
- The review provides evidence that nurse-led cystoscopy is a safe and viable alternative to a consultant-led service. While the evidence was derived from non-randomized controlled trials, most studies included were of acceptable quality.
- The review found no significant difference in diagnostic yield, cancer detection rates, and accuracy of findings between nurses and doctors. In fact, one study reported a high sensitivity of 96% for nurse-led cystoscopy, which was supported by other studies that examined safety.
- All seven studies that reported on patient acceptability demonstrated positive responses ranging from 92% to 100%. The evidence also indicates that multidisciplinary team support and training were important factors in the successful implementation of this service, suggesting that staff found the service acceptable.
- Nurse-led cystoscopy had a positive impact on the waitlist and resulted in improved continuity of care.

CONCLUSION

Though the indication for cystoscopy differed between urology and urogynaecology, nurse-led cystoscopy was shown to be a safe and acceptable alternative to a consultant-led service. The results of this review suggest that nurse-led cystoscopy has a positive impact on waitlists and continuity of care.

Note: This work formed part of the author's MSc dissertation to demonstrate feasibility of setting up a nurse led cystoscopy service in urogynaecology in Thames Valley. The dissertation can be viewed using the QR code



PRISMA flow diagram

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