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The effects of pelvic floor rehabilitation in treating post-robotic-assisted laparoscopic prostatectomy urinary incontinence: a systematic review

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ABSTRACT

Background

The death rate for prostate cancer (PCa) is relatively high in men of African descent and is the sixth leading cause of cancer related death (Cassell *et al*., 2019). In Sub-Saharan Africa (SSA), it has been reported that PCa is the number one cancer affecting men (Rebbeck *et al*., 2011). More than 90 % of PCa cases are confined to the organ (Sridhar et al, 2017). Some reasons given by patients who present with advanced stages of PCa include inadequate treatment options, unaffordable medication and lack of screening programmes in their communities which in turn add to the constraints to the effective management of PCa in Africa (Adeloye *et al*., 2016).

Robot-assisted laparoscopic and traditional laparoscopic surgical approaches are becoming the minimally invasive standard of care when it comes to urological and abdomino-pelvic surgery (Kaplan *et al*., 2016). Robotic prostatectomy has had the widest uptake of all procedures that fall under robotic surgeries (Hutchinson *et al*., 2016). According to Arcila-Ruiz, 2018, however, the main complication following this type of surgery is urinary incontinence. During a robot-assisted laparoscopic radical prostatectomy (RARP), the sphincteric mechanism which is made up of the internal and external sphincters that along with the surrounding pelvic structures is altered and leads to urinary incontinence (Sridar *et al*., 2017). This impact to the quality of life following a prostatectomy has resulted in an increase in the number of patients seeking treatment for post-prostatectomy urinary incontinence (PPUI) is increasing (Arcila-Ruiz, 2018).

The physiotherapy management approaches for urinary incontinence include pelvic floor muscle rehabilitation, electrical stimulation, lifestyle changes as well as biofeedback (MacHold *et al.*, 2009).

Aim

The aim of this study was to conduct a review on the effects of pelvic floor muscle rehabilitation in the treatment of urinary incontinence post-robotic-assisted laparoscopic prostatectomy (RALP).

Methods

A three-step search strategy was utilised based on the Joanna Briggs Institute (JBI) for systematic reviews protocol. An initial search on PubMed was executed followed by scanning the title, abstract and index terms used to describe the article. A second search was then executed using the identified keywords (pelvic floor, robotic prostatectomy, levator ani, overactive bladder, complications, urinary incontinence, recovery, rehabilitation, physical therapy and physiotherapy) and index terms across all included databases. Thirdly, a reference list of all identified reports and articles was searched for additional studies. This search was limited to studies that were published in English between the years 2000 and 2018.

Results

Out of 261 studies found, 225 studies were excluded from the study due to not meeting the inclusion criteria. Thirty six studies were identified for review. Out of the 36 studies identified, 26 studies were excluded and 10 studies met the inclusion criteria for review. The studies were assessed by two reviewers independent of each other. The quality of the studies were assessed by critical appraisal using the JBI checklist the System for the Unified Management and Review of Information (SUMARI) software.

There were five studies that were in favour of perioperative rehabilitation for treatment of post-RALP urinary incontinence. Perioperative rehabilitation which included education, functional exercise prescription, electrotherapy modalities and guidance showed to have better outcomes in gaining continence post-RALP.

Conclusion

Pelvic floor rehabilitation for post-RALP urinary incontinence supported by biofeedback, functional exercises and Kegel exercises has shown to be effective. This review supports the use of perioperative rehabilitation for better outcomes in the recovery of continence following a RALP.