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Nursing interventions for urinary incontinence and sexual dysfunction after radical prostatectomy

Intervenções de enfermagem para incontinência urinária e disfunção sexual após prostatectomia radical

Intervenciones de enfermería para incontinencia urinaria y disfunción sexual después de prostatectomía radical

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Descritores
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Descriptores
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Abstract
Objective: Investigate, in the literature, nursing interventions to promote urinary continence and adapt to sexual dysfunction after radical prostatectomy.
Methods: Integrative literature review in the databases PubMed, *Web of Science*, Scopus, CINAHL, and LILACS, using the descriptors "nursing care", "urinary incontinence", "erectile dysfunction", and "prostatectomy", and the keywords "nurse", "male sexual impotence" and "radical prostatectomy".
Results: Eighteen publications were included, eight of which described interventions for urinary incontinence, five for sexual dysfunction and five for both complications. Three intervention strategies were found: 16 interventions for incontinence and 12 for sexual dysfunction.
Conclusion: In the implementation strategies of interventions, the importance of nurses using different resources to attend to patients was observed. For urinary incontinence, the focus of interventions varied among educational, behavioral and physical. For sexual dysfunction, a predominance of psychoeducational actions was observed, involving the patients and, when possible the sexual partners.

Resumo
Objetivo: Investigar, na literatura, intervenções de enfermagem para promover continência urinária e adaptação à disfunção sexual após prostatectomia radical.
Métodos: Revisão integrativa da literatura nas bases de dados PubMed, *Web of Science*, Scopus, CINAHL, e LILACS, utilizando os descritores "cuidados de enfermagem", "incontinência urinária", "disfunção erétil", e "prostatectomia" e as palavras chaves "enf*", "impotência sexual masculina" e "prostatectomia radical".
Resultados: Dezoito publicações foram incluídas, entre essas, oito descreviam intervenções para a incontinência urinária, cinco para disfunção sexual e cinco para ambas as complicações. Foram encontradas três estratégias para implementação das intervenções, 16 intervenções para incontinência e 12 para disfunção sexual.
Conclusão: Nas estratégias para implementação das intervenções, notou-se a importância de que o enfermeiro utilize diferentes recursos para assistir os pacientes. Para a incontinência urinária, o foco das intervenções variou entre educativo, comportamental e físico. Para disfunção sexual, observou-se um predomínio de ações psicoeducativas aos pacientes e, quando possível, ao parceiro sexual.

Resumen
Objetivo: Investigar, en la literatura, intervenciones de enfermería para promover continencia urinaria y adaptación a la disfunción sexual después de prostatectomía radical.
Métodos: Revisión integrativa de la literatura en las bases de datos PubMed, Web of Science, Scopus, CINAHL, y LILACS, utilizando los descriptores "cuidados de enfermería", "incontinencia urinaria", "disfunción eréctil", y "prostatectomía" y las palabras claves "enf *", "impotencia sexual masculina" y "prostatectomía radical".
Resultados: Dieciocho publicaciones fueron incluidas; entre ellas, ocho describían intervenciones para la incontinencia urinaria, cinco para disfunción sexual y cinco para ambas complicaciones. Se encontraron tres estrategias para la implementación de intervenciones, 16 intervenciones para incontinencia y 12 para disfunción sexual.
Conclusão: En las estrategias para la implementación de las intervenciones, se notó la importancia de que el enfermero utilice diferentes recursos para asistir a los pacientes. Para la incontinencia urinaria, el foco de las intervenciones varió entre educativo, conductual y físico. Para la disfunción sexual, se observó un predominio de acciones psicoeducativas junto a los pacientes y, siempre que posible, junto al compañero sexual.

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Introduction

Prostate cancer (PC) is the most common male urologic cancer. According to the World Health Organization (WHO), 1,276,106 new cases of COP worldwide are estimated for 2018, accounting for 13.5% of all cancers diagnosed in men.[1] Radical prostatectomy (RP) is the surgical procedure frequently used for the treatment of clinically localized PC.[2]

The main disadvantage of PR is related to the occurrence of complications, such as urinary incontinence (UI) and erectile dysfunction (ED). The development of UI after RP is related to deficiency of the internal and external urethral sphincters, bladder dysfunction and weakness of the pelvic floor muscles. During the surgery, the sphincters located in the bladder neck are damaged and the external urethral sphincter may weaken due to the period when the urethra was compressed by the enlarged prostate. [2]

In addition, the man may face difficulty to obtain or maintain an erection due to the nerve bundle injuries caused by the surgery or post-surgical edema, leading to the compression of these bundles.[2]

Prostatectomy patients are not only subject to ED, but also to sexual dysfunction (SD), due to the problems related to sexual desire and mental health, to the altered ejaculation and orgasm process, and due to the changing dynamics of the couple's intimacy.[3]

Both complications, UI and ED, have a negative impact on patients' quality of life, resulting in psychological consequences such as depression,[4] low self-esteem[5] and difficulties in social interaction.[6] In addition, patients with UI may present recurrent urinary tract infections and dermatitis.[7,8]

In view of the above, it is necessary to systematize nursing care for prostatectomized patients. In addition, the importance of research on nursing interventions focused on these patients, which results in scientific evidence and contributes to the development of qualified nursing care, is highlighted.[9-12] The objective of this integrative review is to identify, in the literature, nursing interventions to promote urinary continence and adaptation to SD after RP.

Methods

The stages of the integrative review were: identification of the theme, definition of the research question, establishment of criteria for inclusion and exclusion of studies, definition of the information to be extracted from the selected studies, evaluation of included studies, interpretation of the results and presentation of the knowledge synthesis.[13]

The guiding question was: "What are the nursing interventions to promote urinary continence and adaptation to SD after RP described in the literature?" To select the articles, the online search was conducted in May 2018 in the databases National Library of Medicine and National Institutes of Health - PubMed, Web of Science, Scopus, Cumulative Index to Nursing and Allied Health Literature - CINAHL, COCHRANE Library and Latin American and Caribbean Literature in Health Sciences - LILACS.

The terms identified in the Health Sciences Descriptors (DeCS) and in the Medical Subject Headings (Mesh), were: nursing care, urinary incontinence, erectile dysfunction and prostatectomy. The key words used were: *nurs** (to obtain more results related to nursing), male sexual impotence and radical prostatectomy. The Boolean operators used were: AND and OR. The following search strategy was applied: ["nursing care" OR nurs* AND "erectile dysfunction" OR "male sexual impotence" OR "urinary incontinence" AND "prostatectomy" OR "radical prostatectomy"]. In LILACS, besides the terms in English, the versions added in Portuguese and Spanish were added. The advanced search was adopted in all databases, except in the COCHRANE Library, which does not offer this option. The references of the selected studies were also screened, as well as the reference lists of the excluded literature reviews, with a view to identifying studies that answered the guiding question.

Two researchers were independently responsible for the search and selection of the studies. The inclusion criteria were: articles that presented nursing interventions for UI and SD after RP,

in Portuguese, English or Spanish, published between 2014 and 2018. We chose to include studies from the past five years because previously published literature reviews already exist to get to know interventions for UI and SD after RP.[10,14] Secondary studies, abstracts published in scientific events, manuals of health organizations and studies without a clearly described method were excluded. The selection of the studies followed the recommendations of the Preferred Reporting Items for Systematic reviews and Meta-Analyses – PRISMA method[15] (Figure 1).

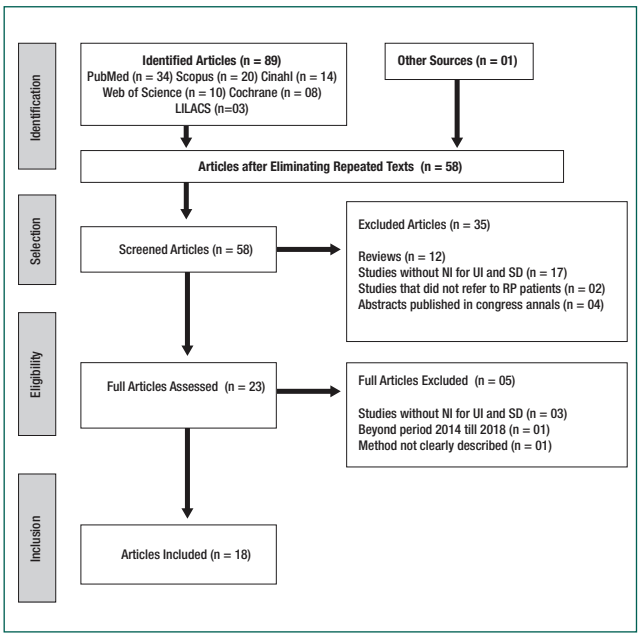

Figure 1. Flowchart of study identification, selection and inclusion process, adapted from PRISMA

The studies were analyzed considering the criteria, established by the authors, which were extracted and organized in a form developed for this purpose: reference, language, country of origin of the first author, evidence level, database, objective, study design, main nursing outcomes, conclusions and interventions for UI and/or SD. The evidence classification was as follows: Level I, systematic review or meta-analysis; Level II, randomized controlled clinical trial; Level III, controlled clinical trial without randomization; Level IV, well-designed cohort or case-control studies; Level V, systematic review of qualitative and descriptive studies; Level VI, descriptive or qualitative studies; and Level VII, opinion of authorities or expert report.[16]

Results

Of the 18 articles included,[5-8,11,12,17-28] 17 were found in the electronic databases and one in the references of the selected studies. In the reference lists of the excluded reviews, no study was found that complied with the inclusion criteria set. As for the language of the articles, 16 were published in English,[5,6,8,11,12,17-23,24-28] one in Spanish[7] and one in Portuguese.[23] As for the country where the study was developed, three were developed in Spain, followed by the United States, United Kingdom, Italy, Australia and China, with two studies each, and Brazil, Denmark, Sweden, Norway and The Netherlands, with one study in each country. Concerning the year of publication, one study was published in 2018,[11] one in 2017,[17] five in 2016,[18-22] five in 2015[5,23-26] and six in 2014.[6-8,12,27,28] As for the evidence level (EL), five studies presented level II,[5,11,12,21,27] ten level VI[17-26,28] and three level VII.[6-8]

What the strategies for the implementation of the interventions are concerned, Nursing interventions for UI and SD, Nursing interventions for UI and Nursing interventions for SD were the categories created after analyzing the studies. It is highlighted that nine studies[5-7,11,12,17,22,23,26] fit into more than one category.

The strategies for the implementation of the nursing interventions are: (1) include in the work routine: nursing consultations, telephone calls and home visits[5,7,11,21,22,27] (EL: II, VI, VII), (2) use didactic sources for educative purposes, such as: website, videos, written material[5] (EL: II) and provide a telephone number / e-mail address to allow the patient to express his doubts and concerns[6,8,17,26] (EL: VI, VII). The three strategies are applicable to UI as well as SD.

The interventions for UI and SD, interventions for UI and interventions for SD are described in chart 1.

Chart 1. Nursing Interventions for UI and SD, nursing interventions for UI and nursing interventions for SD

Nursing Interventions for UI and SD	EL
Teach the patient about prostate anatomy, RP and the relation between the surgical procedure and the complications – UI and SD.[6,17,23,28]	VI, VII
Provide information about the treatment, which are appropriate to each patient, considering the cultural level of each and the extent to which the patient wants to be informed.[5,12,18,19,22]	II, VI
Promote and moderate support groups for prostatectomized patients in order to share experiences and ways to manage the problem.[11,26]	II, VI
Teach the patient to perform the pelvic floor muscle exercises (PFME). Explain that the anal and urethral muscles are used for the exercise and that the buttocks, thighs and abdomen should be relaxed. The patient should see the retraction of the base of the penis and elevation of the testis. Instruct him top ut two fingers in his perineum to feel how it is contracted when performing the exercises. 1st stage: Perform 10 rapid contractions and relaxations, rest for two minutes and repeat. 2nd stage: Repeat the same exercises, but contract firmly for five seconds and relax as slowly as possible, relax for two minutes and repeat. The exercises should be performed in the morning and afternoon, in the following positions: lying down with the legs stretched, lying with the knees bent, standing with the legs spread, standing with the legs together and while walking. Advise him to contract the muscles before and during activities that cause urine leakage, such as coughing and sneezing.[6,21,24,25,27]	II, VI, VII
Engage the family and teach them the PFME so that they can encourage the patient to perform them.[11]	II
Provide the patient with written material, containing pictures and details about the execution of the PFME.[11,25,26,28]	II, VI
Provide functional electrical stimulation for patients with difficulties to perform the PFME.[24]	VI
Nursing Interventions for UI	**NE**
Explain the transitory nature of UI to the patient and that the achievement of urinary continence is a gradual process.[7,11]	II, VII
Present the types of protectors, pads and male diapers available in the market to the patient.[6,7,12,23]	II, VI, VII
Present the signs and symptoms of urinary infection to the patient (fever, pain while urinating, bad-smelling urine) and the need for treatment.[8]	VII
Talk to the patient about the need for greater sanitary care of the perineal skin.[6,7]	VII
Advise about the need for considerable fluid intake during the day (2500 to 3000 ml) to avoid urinary infection and intestinal constipation.[8]	VII
Advise the patient to reduce or quit the consumption of alcohol and caffeine products (chocolate, tea, cola soft drink).[6,8,12]	II, VI, VII
Nursing Interventions for SD	**NE**
Educate the patient and his sexual partner about PC and sexuality.[5]	II
Provide educative material to the patient and, if possible, to the sexual partner, with separate topics about SD after RP.[17]	VI
Explain the etiology of SD and its physical and mental consequences.[17,20]	VI
Explain about the functioning of erection.[23]	VI
Inform the patient about the impact of RP in ejaculation (reduction or absence of ejaculated fluid, possibility of climacturia).[7,17]	VI, VII
Present the treatment possibilities of ED (use of phosphodiesterase-5 inhibitors, intraurethral suppository, penile injection, vacuum erection device and penile prosthesis).[5,17,22,23]	II, VI
Teach the patient about the correct use of the medication prescribed by the physician for ED treatment.[7,23]	VI, VII
Teach the patient the definition of the term sexuality and encourage him to enhance expressions of affection and alternative forms of feeling pleasure that do not require penetration.[5,23]	II, VI
Know each patient's reality and expectations concerning the sexual activity and propose specific solutions and treatments for each case.[5]	II
Provide contact information of health professionals who can help the patient to cope with the SD.[17]	VI
Encourage the patient to raise doubts, fears and expectations related to SD to the health professionals.[5]	II
Engage the sexual partner in the SD treatment if applicable.[5,17,20]	II, VI

UI – urinary incontinence; PFME – pelvic floor muscle exercises; PC – prostate cancer; RP –radical prostatectomy; SD – sexual dysfunction; ED – erectile dysfunction

Discussion

As a contribution to clinical practice, the results of this review provide scientific support for the nurses to offer training on UI and SD contents and to intervene to improve the quality of life of prostatectomized patients. This review is limited by the lack of research focusing on homosexuals and bisexuals, as well as by the small number of experimental and quasi-experimental studies included.

When analyzing the nursing interventions identified in this study, we understand that all of them refer to the education and support that nurses should offer to prostatectomized patients. In this sense, the communication between patient and nurse stands out,[11,12,25] considered a key instrument to promote health education. Authors point to the need for prostatectomized patients to be followed before[22] and after the surgery[29] and for nurses to seek alternative patient education methods, which are not limited to leaflets and consultations.[17,22] This statement corroborates the findings in the category "Strategies for implementation of interventions" described in this review. Home visits, telephone calls, and group education are effective measures to promote the patients' quality of life.[11] In line with this argument, a Canadian study that followed 216 prostatectomized men in the postoperative period presents weekly telephone follow-up as an effective resource to assist patients. Both the men and their wives highly appreciated the nurses' constant support, as it helped to ease uncertainties about the surgical recovery and reduced visits to the physician.[30]

Regarding the category "Nursing Interventions for UI", four studies reported that the adoption of new habits contributed to the rehabilitation of urinary continence.[6-8,12] In addition to the find-

ings presented in this review, a clinical trial presents the following interventions: advise the patient to maintain a healthy diet, exercise and quit smoking.[31] It is worth mentioning that the Nursing Intervention Classification[32] presents, in the intervention Urinary Incontinence Care (0610), activities in the behavioral and physical areas in common with those pointed out in this article. Regarding the PFME exercises, all the studies related to the UI were mentioned as a strategy to achieve continence. International authors emphasize the duty and responsibility of the nurse to evaluate the UI of prostatectomized patients, to teach the correct execution of PFME, and to provide written material for performing the activity at home, before the discharge.[33] In this sense, two randomized clinical trials presented, among their results, that verbal and written instructions for performing these exercises are less costly and as effective as the intensive training sessions supervised by health professionals. [30,311]

The efficiency of PFME has also been demonstrated in the recovery of prostatectomized patients' sexual activity. A British author[2] argues that patients with ED after RP should practice PFME daily from the withdrawal of the catheter until the third postoperative month so that more oxygenated blood reaches the nerves damaged by the surgery. A Thai study compared the erectile function of patients who received instructions on pelvic muscle training shortly after catheter withdrawal and patients who received the same instructions three months after the surgery. The results revealed that patients who started PFME early showed better sexual functioning. [33]

Regarding the category "Nursing Interventions for SD", it was identified that the authors addressed not only the erectile function of the patients but the sexuality in a broad way. In the planning of the nursing interventions, it is important to be aware of the psychological impact the PC plays in the patient's mental health and body image, leading to a reduction in sexual desire and other disorders that affect the couple's satisfaction and intimacy. [3] Hence, it is fundamental that treatment is based on the physical and psychosocial changes that patients will experience.[3,17]

Regarding the nursing intervention "Teaching the patient about the correct use of medications prescribed by the doctor for ED treatment", it is worth mentioning that phosphodiesterase-5 (PDE5) inhibitors - sildenafil, tadalafil, vardenafil, and avanafil are considered the first-line treatment for ED.[34] These drugs should be ingested 30 to 60 minutes before sexual intercourse and come with headache, flushing and visual disorders as the main side effects. [35]

Generally, when PDE5's are not effective in promoting erectile function after RP, intracavernous injections of prostaglandins are indicated. [34] International authors conducted a study to test the effectiveness of a nursing care plan for men with ED after RP. The plan consisted of four visits, which provided information related to treatment for ED, education, and support for the patient and his/her partner, and active listening. Initially, a doctor prescribed oral medications (PDE5) for the patients and the nurse taught how to get the medication, duration of action, and side effects. Patients who did not respond to oral medication received the medical prescription of intracavernous injections. From that moment onwards, the nurse focused on training the man and his/her sexual partner to apply the injections. Both were instructed to apply the injection to the side of the corpus cavernosum, away from the urethra and the dorsal vascular bundle. The first injections were applied in the doctor's office and the dose was progressively increased until reaching a constant and lasting erection. After the dose was adjusted and the necessary preparation was verified, the couple applied the injection.[29]

The nursing interventions for SD listed in this study point to the importance of including the sexual partner in the planning of interventions for prostatectomy. Evidence reveals that SD generates changes that tend to affect the couple's intimate relationship[3,17] and that the support and affection of the spouse are fundamental for better coping and adaptation of the new sexual situation. Therefore, it is emphasized that it is important for health professionals to provide information about PC and sexuality to prostatectomized patients and their partners.[17]

This study is considered an initial step for future research that reveals better scientific evidence about the effectiveness of these interventions in the care for patients submitted to RP presenting UI and SD.

Conclusion

Regarding the strategies for the implementation of the nursing interventions, it was noted that nurses need to have different communicative resources to effectively assist the prostatectomized patient. Regarding the nursing interventions for UI, the focus of the approaches varied among educational, behavioral, and physical. In addition, it was verified that many interventions for UI also offer benefits for SD. In relation to the nursing interventions for SD, the predominance of psychoeducational actions was observed, that is, interventions aimed at teaching, clarifying doubts and psychological support to the patients and, if possible, to the sexual partners.

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