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Review Article

Telephone follow-up of patients after radical prostatectomy: a systematic review¹

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Objective: to assess and summarize the best scientific evidence from randomized controlled clinical trials about telephone follow-up of patients after radical prostatectomy, based on information about how the phone calls are made and the clinical and psychological effects for the individuals who received this intervention. **Method:** the search was undertaken in the electronic databases Medline, Web of Science, Embase, Cinahl, Lilacs and Cochrane. Among the 368 references found, five were selected. **Results:** two studies tested interventions focused on psychological support and three tested interventions focused on the physical effects of treatment. The psychoeducative intervention to manage the uncertainty about the disease and the treatment revealed statistically significant evidences and reduced the level of uncertainty and anguish it causes. **Conclusion:** the beneficial effects of telephone follow-up could be determined, as a useful tool for the monitoring of post-prostatectomy patients.

Descriptors: Prostatectomy; Health Education; Telephone; Patient Discharge.

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Introduction

The education of postoperative patients is fundamental to provide appropriate knowledge to individuals with a view to self-care at home and, thus, to reduce the occurrence of complications after the discharge and to improve their recovery and quality of life⁽¹⁾.

The educative interventions related to the patients' preparation for hospital discharge should be based on the following priorities: increase of individual knowledge about self-care and promotion of behavioral change to stimulate self-care⁽¹⁾.

The diagnosis of prostate cancer can result in anguish and stress for the patient, mainly regarding the uncertainty about the treatment and recovery⁽²⁻³⁾. Radical prostatectomy is the most used procedure among the different treatments for this type of cancer, but can cause changes in patients' quality of life, as they may suffer from urinary incontinence and sexual impotence, among other symptoms, deriving from the surgical procedure⁽³⁻⁴⁾.

Education and counseling are regular and fundamental items for care delivery to men submitted to this type of surgery, in the pre as well as in the postoperative phase. These items should be focused on providing the best information on the patients' preparation for surgical wound care and indwelling urinary catheter maintenance at home, as well as on coping with physical side effects, such as urinary incontinence and erectile dysfunction, and the consequent psychological suffering these effects cause for the men and their wives⁽³⁻⁵⁾.

The shorter hospital stay results in few opportunities to advise the patients and answer their concerns^(3,6-7). In addition, most of the complications happen at home⁽¹⁾. Hence, post-discharge follow-up is essential for patients and their relatives to be prepared for self-care and lifestyle changes. Another benefit is the bonding between the health team and the patients, which can further the professionals' confidence and the feeling of safety in view of concerns and doubts^(2,8).

Written information, a list of teaching items offered at the hospital to guarantee the consistency of patient teaching, the partner's involvement in teaching sessions and telephone follow-up after discharge from hospital have been identified as important strategies for the development of educative programs⁽⁹⁾, also for discharge⁽¹⁾.

Interventions related to postoperative education after radical prostatectomy, including telephone follow-

up, can enhance the patients' physical recovery, emotional wellbeing and adherence to self-care after discharge from hospital, considering that patients will feel safer if they know what they are going to face and what to do to minimize the effects⁽³⁾. The telephone follow-up and education strategy adopted by health professionals offers valuable support for patients and permits reinforcing discharge orientations, symptom management, information exchange, early identification of signs of complications, besides the clarification of doubts and concerns. The main objective of this kind of intervention is to further adherence to post-discharge care and to facilitate the transition between the hospital and the return home. This reduces the stress and increases the patients' knowledge to cope with the symptoms, resulting in increased confidence in the patient-professional relationship and in the quality of services after discharge from hospital⁽⁷⁻⁸⁾.

The telephone follow-up method has been used mainly as a form of monitoring for those patients submitted to surgical procedures, who are not characterized as high-risk patients, allowing them to lead a life as normal as possible and distanced from the hospital environment. This care strategy is considered better for the service, by reducing the workload in the conventional outpatient monitoring system, allowing the professionals to focus on care for the patients who actually need hospital care^(6,10), which consequently also reduces the spending on possible readmissions⁽¹⁰⁻¹¹⁾.

Telephone follow-up involves a range of aspects, such as the frequency, duration and time of discharge when the call starts, the professional making the call, the objective of the telephone contacts, the format and content addressed⁽⁷⁻⁸⁾.

In view of these considerations, it was considered pertinent to assess and summarize the best scientific evidence about the telephone follow-up of patients after radical prostatectomy and to obtain information about how the phone calls are made and the clinical and psychological effects for the individuals who received this intervention.

Methods

A systematic literature review was undertaken, which is aimed at joining all evidences available, in accordance with pre-specified eligibility criteria, in order to answer a specific research question. A systematic method is used, providing more reliable results based on which conclusions can be drawn and decisions made⁽¹²⁾.

Based on the Cochrane review method, the steps followed in this systematic review were: definition of the research question and inclusion criteria, search and selection of the studies, data collection, assessment of methodological quality of the studies included, data analysis, identification of bias, summarization and presentation of results in tables, interpretation of the results and presentation of the conclusions⁽¹²⁾.

Thus, the guiding question to achieve the proposed objective was: "What are the effects of telephone use on patient follow-up after prostatectomy?".

The inclusion criteria for the articles were: clinical trials (including controlled and non-controlled studies and randomized controlled clinical trials)⁽¹³⁾, published in English, Portuguese or Spanish, involving patients submitted to radical prostatectomy and that used phone calls as the intervention for post-discharge follow-up. The publication time of the search was not limited because of the specific study design, thus increasing its scientific evidence strength.

The search was undertaken in six electronic databases: Medical Literature Analysis and Retrieval System on-line (Medline), Web of Science, Excerpta Médica (EMBASE), Cumulative Index to Nursing and

Allied Health Literature (CINAHL), *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS) and the Cochrane Library's Cochrane Central Register of Controlled Trials.

The controlled descriptors from the U.S. National Library of Medicine (NLM) MeSH vocabulary were used: "prostatectomy", "telenursing", "telephone" and "hotlines". The Boolean operator AND was used for restrictive combinations between the descriptor "prostatectomy" and the others. Based on the references of the selected articles, a manual search was undertaken of articles that were not found in the databases.

Using the above descriptors, 368 papers were found. Nevertheless, 363 of these were excluded: different theme (179); repeated (143); telephone for data collection (30); different study design – four descriptive, two qualitative and one narrative review (7); editorial (1); research protocol (1); language – Japanese (1); telephone follow-up in men with prostate cancer without specifying the treatment (1). It is highlighted that, based on the article search strategy through the references of the selected articles, no clinical trial was found. Table 1 describes the reasons for excluding the articles and their respective databases.

Table 1 - Selection of publications from databases according to the exclusion criteria. Brazil, 2013

Exclusion criteria	PubMed (N=76)	CINAHL (N=13)	Web of Knowledge (N=84)	EMBASE (N=183)	Cochrane (N=9)	Lilacs (N=3)	Total
Not related to the theme	50	3	22	102	0	2	179
Telephone for data collection	16	3	4	7	0	0	30
Language	1	0	0	0	0	0	1
Duplicity	0	5	54	74	9	1	143
Research Protocol	1	0	0	0	0	0	1
Descriptive study	4	0	0	0	0	0	4
Qualitative study	2	0	0	0	0	0	2
Editorial	1	0	0	0	0	0	1
Narrative review	0	1	0	0	0	0	1
Cancer follow-up	0	0	1	0	0	0	1
Total papers excluded	75	12	81	183	9	3	368
Sample	1	1	3	0	0	0	5

To extract the data, an instrument was used based on the Cochrane Manual of Systematic Intervention Reviews, which identifies the following data: title, journal, database, publication year, place of data collection, objective, methodological details, interventions, outcome measures and statistical analysis, results, implications for practice, evidence level and Jadad score⁽¹⁴⁾.

The Jadad score assesses the methodological quality of the study⁽¹⁴⁾. One point is attributed to

each positive answer in case the study is described as randomized, double-blind and the exclusions and sample losses are described. In addition, another point is attributed to each item if the randomization and blinding are appropriate. If considered inappropriate, however, one point is subtracted from each item. The total score can range between zero and five. Scores equal or superior to three reveal studies of appropriate methodological quality.

Results

Among the five papers selected, one was found in PubMed⁽¹⁵⁾; one in CINAHL⁽¹⁶⁾; and three in the Web of Knowledge⁽¹⁷⁻¹⁹⁾. The journals where the studies were published are: Urologic Nursing⁽¹⁶⁾; Urology⁽¹⁵⁾; Cancer⁽¹⁸⁻¹⁹⁾; and International Journal of Urological Nursing⁽¹⁷⁾. Figure 1 describes all studies in detail, considering the objective, sample,

data about the telephone intervention, results and implications.

In the assessment of the studies through the Jadad scale, three^(15,17-18) obtained score three, as they were randomized, satisfactorily described the randomization process and reported on sample losses; two^(16,19) received score two, as they did not describe the randomization form. It is highlighted that none of the five studies was double blind.

Author, year, country	Objective / Sample	Details about the telephone intervention	Results	Implications of telephone use
Moore et al, 2008, Canada	Test the effectiveness of weekly Pelvic Floor Muscle Training (PFMT) by a physical therapist for incontinence versus a sole PFMT training and telephone support. Control group (support): 99 Intervention group (PFMT): 106	Urologic nurse, four weeks after the surgery, with a mean duration of 15 minutes and weekly frequency during the first three months; and monthly after that period, until completing one year. PFMT training, information about catheter maintenance, urinary tract infection, medication, erectile function, emotional recovery and counseling.	Urinary symptoms and quality of life (International Prostate Symptom Score – IPSS / QOL): mild preoperative symptoms; return to baseline level in eight weeks*; QOL: worse response during first four weeks (main incontinence period)*. Perception about incontinence (Likert questionnaire): in one year, perceived as “non-problematic” by 55% control group and 53% intervention group; “somewhat problematic” by 41% and 38%; and “very problematic” by 4% and 9%, respectively. Costs: lower in control group (received support).	Verbal and written instructions combined with telephone follow-up were as effective as intensive PFMT by therapists, but more economical. Support and incentive received were more valued during the first 12 weeks.
Mishel et al, 2002, United States	Test the effectiveness of a telephone intervention directly with the patient or expanded to a relative in order to manage the uncertainty related to the disease and treatment. 239 men (134 Caucasians and 105 African Americans)	Trained nurses, weekly during eight consecutive weeks. One semistructured interview assessed the concerns and uncertainties related to cancer. Information about their problems; Kegel exercises for incontinence and methods for impotence; assertive communication skills; encouraged family members to discuss the symptoms and offered information about how to help in their management.	Cognitive reformulation (subscale of Self Control Scale): complemented intervention group compared with control group during first four months† (P= 0.009). Patient x professional communication (questionnaire):* Knowledge about cancer (Cancer Knowledge Scale):* Control of treatment side effects (Symptom Distress Scale): †(P=0.02); this difference was larger among Caucasians in the complemented intervention group (P=0.02). The mean number of symptoms reported by the intervention group compared to the control group between the fourth and the seventh month was smaller† (P= 0.02). The intensity of the symptoms reported decreased over time in all groups (P=0.001), without any difference between the intervention groups. Erectile dysfunction: * The initial four months were considered the most timely period for a psychoeducative intervention because this period is more critical.	Direct intervention or expanded to a relative resulted in significant improvement in uncertainty management. INTERVENTION GROUP reported control of the urine flow from the start until the fourth month of the study. Although effective to solve problems, this intervention did not affect the symptom intensity.
Campbell et al 2007, United States	To assess the feasibility and effectiveness of coping skills training (CST) related to the disease in African-American men and their intimate partners. Control Group: 18 Intervention Group: 12	Psychologists holding a Ph.D., six weekly sessions of one hour each. Information about prostate cancer, its physical effects in the long term and in the couple's life; symptoms management, problem-solving and communication skills; muscle relaxation techniques; and coping maintenance plan.	Self-efficacy (Self-Efficacy for Symptom Control Inventory – SESCOI):* Self-efficacy partners (Self-Efficacy for Symptom Control Inventory – SESCOI):*, but intervention group members demonstrated lower levels of depression and fatigue and greater energy. Quality of life of partners (Profile of Mood States-Short Form POMS-SF and Caregiver Strain Index CSI):*, intervention group declared moderate effect on depression and fatigue, greater energy and less tension. 87% of the couples in the intervention group described the CST intervention as beneficial.	Among the skills taught, communication was considered the most valuable. This intervention form is a promise to improve the postoperative phase. Demonstrated potential to help in the life of the intimate partner.

(The Figure 1 continue in the next page...)

Author, year, country	Objective / Sample	Details about the telephone intervention	Results	Implications of telephone use
Jensen et al, 2011 Denmark	Investigate the efficacy of telephone consultations (TC) by nurses during the immediate postoperative period after radical prostatectomy; its optimization during rehabilitation and patient satisfaction. Control Group: 49 Intervention Group: 46	Specialized clinical nurses three days after discharge, duration 15 minutes, using a semistructured interview.	The data were collected through questionnaires: Satisfaction, sense of safety and postoperative discomfort:* Global efficacy:* Intestinal discomfort: reduced by 24%† (P=0.03). Almost 70% of the men in both groups reported incontinence problems and intestinal constipation was present in 40% of them. More than 50% reported pain and 75% limited activity performance. 26% reported the need for assistance from other professionals. Rehabilitation was significantly better in patients that considered the TC useful in the intervention group.	Patients in general were sufficiently educated to manage postoperative clinical aspects. Telephone monitoring can be considered an additional rehabilitation service.
Inman, et al, 2011 United States	Determine whether educational follow-up by phone (TFU) after radical prostatectomy enhances the patient's understanding about care management at home; whether it reduces his search for health resources; whether it increases the satisfaction and identifies possible patient concerns 30 days after discharge. Control group: 30 Intervention group: 30	Urologic nurse, three to five days after discharge, duration 10 minutes. Protocol with questions "how are you doing?"; "have you had problems or concerns since your discharge?". The reinforcement was provided as needed. Assessed the understanding about care management at home, resource use and possible doubts.	Patient understanding about health and medication management (The 3-item Care Transitions Measure CTM-3) * 34% of the control group (10/29) and 17% of the intervention group (5/30) identified topics they would like to have received before discharge. Although the written material addressed significant information about postoperative care, other concerns were identified through each participant's experience. Although the information was taught in the verbal and written form, many patients indicated difficulties to recall it. Control group participants more often made unplanned phone calls and had more doubts about their care. Most of the concerns the participants reported can be solved by nursing.	The strategy enhanced the patients' recall of the information received upon discharge from hospital and solved other questions deriving from his experience at home. The patients considered it useful and it reduced the need to use other resources.

* No statistically significant difference

† Statistically significant difference

Figure 1 - Characteristics of clinical trials included in the systematic review regarding telephone follow-up after radical prostatectomy

Two papers⁽¹⁸⁻¹⁹⁾ tested psychological support interventions through telephone follow-up. One tested the management of uncertainty deriving from lack of knowledge and concerns, directly involving the patient and expanded to a relative⁽¹⁸⁾, and the other skills training for coping with the adverse effects of treatment⁽¹⁹⁾.

The other studies⁽¹⁵⁻¹⁷⁾ tested interventions focused on the physical effects of treatment, such as pelvic floor muscle training for urinary incontinence⁽¹⁵⁾ and the reinforcement of information received upon discharge for home care management⁽¹⁶⁻¹⁷⁾.

Content of phone calls

In two studies⁽¹⁸⁻¹⁹⁾, the calls contained information on prostate cancer, treatment symptoms, symptom management methods and skills teaching for better communication. One of them⁽¹⁹⁾ also taught relaxation

techniques and formulated a plan to cope with the disease and treatment.

Other contents addressed were pelvic floor muscle training associated with information about urinary catheter management, urinary tract infection prevention, medication, erectile dysfunction, emotional recovery and counseling⁽¹⁵⁾.

Some authors described the use of a protocol for telephone follow-up, with questions about home care management and doubts or concerns⁽¹⁶⁻¹⁷⁾.

Responsible professionals and duration of the calls

The telephone calls focused on the physical effects were made by urologic nurses⁽¹⁵⁻¹⁷⁾. In two studies, one call was made three to five days after the discharge, which took between 10 and 15 minutes⁽¹⁶⁻¹⁷⁾; in another study, the calls started four weeks after the surgery, with a mean duration of 15 minutes and weekly frequency

during the first three months and then monthly for one year, totaling 21 calls⁽¹⁵⁾.

The telephone interventions related to psychological factors were made by trained nurses⁽¹⁸⁾ and psychologists⁽¹⁹⁾ and happened weekly, totaling six to eight calls. The duration of the calls was mentioned in only one study⁽¹⁹⁾, in which psychologists performed the intervention during one hour. It is highlighted that none of the authors mentioned the initial period of the interventions.

Outcomes measured

The outcomes measured were urinary incontinence⁽¹⁵⁾; quality of life^(15,19); concerns/uncertainties^(16,18); control of adverse effects of treatment⁽¹⁸⁾; self-efficacy⁽¹⁹⁾; home care management⁽¹⁶⁾; use of medical resources during postoperative period⁽¹⁶⁾; satisfaction⁽¹⁶⁻¹⁷⁾; confidence regarding home care⁽¹⁷⁾ and rehabilitation related to urinary catheter maintenance, wound treatment, pain, intestinal function and activities of daily living⁽¹⁷⁾.

To assess the urinary incontinence, the 24 Hour Pad and the Incontinence Impact Questionnaire (IIQ-7) were used⁽¹⁵⁾. The results were not significant between the groups and it was detected that the first four months are the main incontinence period.

To assess the uncertainty/concerns, the *Mishel Uncertainty in Illness Scale* and the *Self-Control Scale* were used, with its subscales "cognitive reformulation" and "problem solving", associated with a semistructured interview⁽¹⁸⁾, besides self-reporting⁽¹⁶⁾. Uncertainty declined significantly ($P=0.01$), with differences between the cognitive reformulation ($P=0.005$) and problem solving groups ($P=0.009$), mainly during the first four months ($P=0.05$)⁽¹⁸⁾. The related concerns were the side effects of the treatment, such as incontinence and erection problems⁽¹⁸⁾; besides bladder spasms, scrotal swelling, pain, constipation, physical exercise level⁽¹⁶⁾ and communication with the professional⁽¹⁸⁾ (Figure 1).

The quality of life was assessed through the International Prostate Symptom Score - IPSS⁽¹⁵⁾, Expanded Prostate Cancer Index Composite - EPIC (with its domains about urinary function, intestinal function, hormonal function, among others) and the Physical Function and Mental Health Scales of the Short Form-36 Health Survey SF-36⁽¹⁹⁾. No significant differences were found between the groups in the studies under analysis although, after one year, urinary incontinence did no longer interfere in the quality of life ($P=0.001$)⁽¹⁵⁾ and the intestinal function demonstrated a significant effect,

resulting from a decline in the discomfort resulting from treatment ($P=0.042$)⁽¹⁹⁾.

The Symptom Distress Scale was used to assess the control of adverse treatment effects⁽¹⁵⁾. According to specific items about prostate cancer, men from the intervention group demonstrated a better urinary flow control ($P=0.03$), mainly during the first four months of the study ($P=0.01$) (Figure 1).

The use of medical resources in the postoperative period⁽¹⁶⁾ was verified based on self-reporting. Sixty percent of the men from the control groups used unplanned resources, such as medical visits, against 47% in the intervention group, four of whom (28.5%) used the resources before receiving the intervention. As regards the rehabilitation⁽¹⁷⁾, the reductions were clinically relevant in the domains pain control (23%), urinary catheter management (18%) and wound treatment (13%).

Discussion

The treatment of cancer and its side effects imply uncertainties and psychological suffering for the patients. Interventions aimed at reducing these effects are valid to improve the patients' quality of life. A study in the United States that involved patients submitted to stem cell transplantation verified the effectiveness of a cognitive-behavioral therapy by telephone, offered by psychologists, and found a reduction in the post-traumatic stress caused by the procedure and its consequent anguish and depression⁽²⁰⁾. Significant improvements were also observed in a sample study, permitting reductions in the uncertainty and, consequently, in the anguish caused by radical prostatectomy ($P=0.01$)⁽¹⁸⁾.

As regards the physical complications, urinary incontinence is the most frequent and affects the patient's self-esteem, favoring the occurrence of dermatitis and constant urinary infections⁽⁵⁾. To correct this alteration, different types of treatment exist, classified as conservative or invasive. The most common form of conservative treatment is pelvic floor muscle training, which involves repeated and progressive muscle contractions to strengthen the pelvic floor and consequently improve the bladder function. Evidence shows that patients participating in sessions of this treatment revert this picture faster when compared to patients who do not receive any kind of intervention⁽²¹⁾.

No consensus exists in the literature about the initial period of the training or how many exercises or sessions

are needed. No reports exist either about the benefit of telephone follow-up in addition to this intervention. One of the studies in the sample used telephone follow-up in combination to a single pelvic floor muscle training session, which took place four weeks after the radical prostatectomy⁽¹⁵⁾ and found that this combination was as effective as training directly with the patient, besides entailing lower costs and enhancing the solution of patients' doubts.

One relevant point indicated in one of the studies⁽¹⁵⁾ was the most critical period for urinary incontinence, that is, the first four months after the surgery. This finding was reaffirmed in other papers in the sample, considering this period as the most relevant for a psychoeducative intervention⁽¹⁸⁾.

Urinary incontinence and sexual dysfunction deriving from the surgery also have a negative influence on the marital relation and on the couple's quality of life, entailing psychic suffering, fatigue and changes in social and sexual life, demanding interventions that minimize these effects⁽⁵⁾.

With this goal, one study in the sample tested coping skills related to the disease in patients and their wives⁽¹⁹⁾, showing that, even without significant differences between the groups, depression and fatigue improved in the women who received the intervention, enhancing the couple's energy. American researchers support this findings after verifying that an intervention by nurses through visits and telephone calls, using a standardized protocol, achieved a modest improvement in the sexual function and in the couple's marital relationship, although without statistical significance⁽³⁾.

Another important question addressed in the sample studies is the relation between telephone follow-up and a reduction in the search for health resources⁽¹⁶⁾. Although no significant results were found, the patients in the intervention group used fewer resources in the postoperative period, reducing the number of readmissions and, consequently, causing resource savings for the health sector. At a hospital in the United States, after testing telephone follow-up with its patients, mainly those submitted to cardiac surgeries, a decrease was found in readmissions and an increase in the satisfaction of its clients⁽¹¹⁾.

Reinforcing the orientations provided during hospital discharge is also possible by telephone, facilitating the transition process from discharge to home care. Chinese researchers verified the feasibility of telephone follow-up by nurse experts in care delivery to post-intestinal

stoma patients⁽²²⁾. Besides reinforcing the information granted in the discharge period, this was a proper moment for problem solving, such as the correction of inappropriate stoma management. One of the studies in the sample also reaffirms this feasibility and identified that post-prostatectomy patients, despite receiving oral and written information upon discharge, forget about the orientations and experience other concerns at home that were not clarified during the hospitalization⁽¹⁶⁾.

Final considerations

After analyzing the five studies in the sample, telephone use can be summarized as a strategy for post-discharge follow-up with a view to assessing the patient's knowledge, discussing the concerns and offering help to cope with them, monitoring physical and psychological symptoms, as well as encouraging behavioral and lifestyle changes.

Only the study that tested a psychoeducative intervention to manage the uncertainty related to the disease and treatment offered statistically significant evidence about post-prostatectomy telephone follow-up, with a significant reduction in the level of uncertainty and anguish it produced.

Nevertheless, it could be identified that, in comparison with the advances in the control group, the use of telephone follow-up for patients after prostatectomy also reduced the demand for health services, helped to control adverse effects like urinary incontinence, reinforced information provided during discharge, solved doubts resulting from the home care experience, reduced physical alterations like anxiety and depression in patients and their wives and taught skills to manage the sexual dysfunction.

The range of interventions and the different outcomes measures in the sample studies made it impossible to statistically analyze the results found. This diversity also made it difficult to infer about the best time, quantity and frequency of the phone calls.

Nevertheless, this study was considered important to determine the beneficial effects of telephone follow-up in this surgical modality. Due to the reduced hospitalization period, the time available to provide information for discharge has been short and, hence, telephone follow-up turns into a useful tool for nurses and other professionals to act in this transition period, with a view to enhancing the health-related quality of life of patients and their relatives.

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