

Does Uro-Oncology Nursing Education Decrease the need for Out of Home Care following Radical Cystectomy? An Observational Study

Ismail Selvi

Department of Urology, Karabuk University Training and Research Hospital, Karabuk, Turkey

*Corresponding author

Ismail SELVI, MD, FEBU, Department of Urology, Karabuk University Training and Research Hospital, 78200, Karabuk, Turkey, Tel: +90 0370 415 80 00, Fax: +90 0370 412 56 28; E-mail: ismselvi33@hotmail.com

Submitted: 15 Feb 2019; Accepted: 21 Feb 2019; Published: 28 Feb 2019

Abstract

Objective: Our aim is to evaluate the effects of uro-oncology nursing education program on quality of life, general health status and the need for out of home care following radical cystectomy

Materials and methods: The datas of 60 patients who were underwent radical cystectomy due to bladder cancer and followed up between January 2013 and December 2017 were retrospectively evaluated. We have prepared a special education program for our nurses about uro-oncological surgeries and the follow-up process since January 2015. Patients were divided into two groups: 28 patients before nursing education and 32 patients after nursing education. We compared the patient satisfaction, the quality of health care given to the patients by nurses and the requirement of need for out of home care following discharge in the periods before and after nursing education.

Results: Although uro-oncology nursing education did not affect the rates of deterioration in activities of daily living, satisfaction rates of the patients and their relatives were observed as significantly higher in the period of following the Uro-Oncology Nursing Education Program (90.6% vs. 71.4%, $p=0.04$). The decline in anxiety/depression (28.1% vs. 53.6%, $p=0.04$) in this period was attributed to the nursing education. The patients and their relatives felt themselves better and in confidence about coping with undesirable problems related to cystectomy. Parallel to this situation, the need for out of home care such as skilled nursing or rehabilitation facilities were seen significantly lower following uro-oncology nursing education (28.1% vs. 64.3%, $p=0.005$).

Conclusion: The standardization of uro-oncology nursing care practices will provide better relief of symptoms related major uro-oncologic surgeries such as radical cystectomy and increase health related quality of life. It may contribute to declines of out of home care requirement.

Keywords: bladder cancer, out of home care, quality of life, radical cystectomy, satisfaction rates of patients, uro-oncology nursing education program

Introduction

Bladder cancer is the seventh most common cancer in the world. Male to female ratio is 3-4 / 1. The incidence increases over age of 60 years. Aging, smoking and exposure to some industrial chemicals are the main risk factors for bladder cancer [1]. 75–80% of the bladder cancers are non-muscle invasive (not involving the bladder muscle layer) and their treatment contain transurethral resection of tumors. Intravesical chemotherapy or BCG is necessary for high grade non-muscle invasive tumors. The gold standard treatment option for T2-T4aN0M0 (muscle-invasive) bladder cancer is radical cystectomy with bilateral pelvic lymph node dissection and urinary diversion. But radical cystectomy can be another option for multiple, large non-muscle invasive tumors if complete transurethral resection is not possible [2].

Metabolic complications may develop due to the use of the terminal ileum segment in urinary diversions. This can increase susceptibility to comorbidities. In addition, because patients undergoing radical cystectomy are elderly people, the needs for postoperative home care are high [3]. While mortality rates observed in the first 90 days after discharge were reported as 2-7% [4], short-term rehabilitation is required in 4.4% of the living patients and skilled nursing care is needed in 9.4% of them [5]. The undesired complications and outcomes usually decrease the health related quality of life. When home care may not be enough, an increase may be seen in the rates of non home-based care [6].

Although cancer-related survival is improved following radical cystectomy, the undesired complications and morbidities may worsen physical and psychosocial well-being. In recent years, the importance of complementary and integrative nursing care has been better understood. The nursing care is necessary to deal with these problems, increase the quality of life and provide general

well-being [7]. We aimed to evaluate the effects of uro-oncology nursing education on the need for out of home care following radical cystectomy.

Materials and Methods

The data of 68 patients who were underwent radical cystectomy and followed up at Department of Urology, Ankara Oncology Training and Research Hospital between January 2013 and December 2017 were retrospectively evaluated. Demographic and clinical datas, cancer related symptoms, postoperative comorbidities and presence of need for home care or out of home care in follow-up were recorded from the electronic patients files.

As a part of our patient follow-up approach, the following questions were asked to the patients and their relatives by the nurses at the time of discharge: “Do you think you are sufficiently informed about your disease?”

“Do you think you can get adequate counseling by nurses whenever you need after discharge?”

“Do you think you have enough training to take care of yourselves at home?”

Responses to these questions and the rates of patient satisfaction were recorded in patient files. Sixty patients with completely accessible data were included in our study.

We have prepared a special education program for our nurses about uro-oncological surgeries and the follow-up process since January 2015. In this context, more adequate and necessary informations were given to our nurses about the post-treatment care, complications, side effects related to radical cystectomy. European Association of Urology Nurses has emphasized the importance of urological nursing education in terms of cancer patients’ follow-up, treatment and general well-being since last few years [8]. Based on this, we realized uro-oncology nursing education programme with regular weekly trainings. General informations about the management of undesired complications and morbidities following radical cystectomy were given during the determined training hours. Moreover, presentations were done about ileal conduit care, how to perform clean intermittent catheterization in ileal conduit stricture, importance of continuity of clinical control examinations, awareness of patients about metabolic changes related to ileal resection, how to help family members to motivate the patients.

We divided 60 patients into two groups. Group I consisted of 28 patients who were underwent radical cystectomy between January 2013- December 2014. During this period, we did not planned the standart uro-oncology nursing education programme in our department. Group II consisted of 32 patients who were underwent radical cystectomy between January 2015- December 2017. In this period, we provided uro-oncology nursing education programme to our nurses. We compared the presence of undesired postoperative complications, the need for home care, the need for out of home care such as skilled nursing or rehabilitation facilities, the results of the mini survey conducted by our nurses and the rates of patient satisfaction between two groups.

Statistical analysis

The normality status was evaluated by Kolmogorov-Smirnov and Shapiro-Wilk tests. Independent sample t test or Mann-Whitney

U test for continuous variables and Pearson chi-square analysis for categorical variables were used. The analyzes were performed using IBM SPSS Statistics 21 (IBM, Armonk, NY USA) software. $p < 0.05$ was considered statistically significant.

Results

The mean age of all 60 male patients in our study was 63.82 ± 8.01 . At the time of performing radical cystectomy, 49 (81.7%) patients were in the muscle invazive stage, 11 (18.3%) patients were in the high grade, non-muscle invazive stage. The demographic and clinical datas, presence of undesired postoperative complications, the need for home care or out of home care and the results of the mini survey is listed in Table 1. The evaluation was done after at least 6 months following surgery.

Table 1: Demographic, clinical datas and undesired postoperative complications of the patients and the results of the mini survey

Parameters	Group I (n:28)	Group II (n:32)	Total (n:60)	p value
Age (mean±standard deviation)	64.93 ± 8.20	62.84 ± 7.81	63.82 ± 8.01	† 0.31
Body mass index (kg/m ²) (mean±standard deviation)	24.79 ± 2.06	24.57 ± 2.15	24.67 ± 2.09	† 0.69
Smoking (n,%)				
Yes	13 (46.4)	22 (68.8)	35 (58.3)	‡ 0.08
No	15 (53.6)	10 (31.3)	25 (41.7)	
Hypertension (n,%)				
Yes	14 (50.0)	21 (65.6)	35 (58.3)	‡ 0.22
No	14 (50.0)	11 (34.4)	25 (41.7)	
Diabetes (n,%)				
Yes	13 (46.4)	19 (59.4)	32 (53.3)	‡ 0.31
No	15 (53.6)	13 (40.6)	28 (46.7)	
Estimated glomerular filtration rate (eGFR) (mean±standard deviation)	78.76 ± 7.80	75.42 ± 9.79	76.98 ± 9.01	† 0.15
Score of American Society of Anesthesiology (median, 25 th -75 th percentile)	2 (2-3)	3 (2-3)	2 (2-3)	§ 0.27
Problems related to ileal conduit (n,%)				
Present	17 (60.7)	15 (46.9)	32 (53.3)	‡ 0.28
Absent	11 (39.3)	17 (53.1)	28 (46.7)	
Limitation in mobility(n,%)				
Present	15 (53.6)	16 (50.0)	31 (51.7)	‡ 0.78
Absent	13 (46.4)	16 (50.0)	29 (48.3)	
Abdominal discomfort (n,%)				
Present	10 (35.7)	21 (65.6)	31 (51.7)	‡ 0.02*
Absent	18 (64.3)	11 (34.4)	29 (48.3)	
Disturbed sleep (n,%)				

Present	15 (53.6)	19 (59.4)	34 (56.7)	‡ 0.65
Absent	13 (46.4)	13 (40.6)	26 (43.3)	
Dry mouth (n,%)				
Present	13 (46.4)	20 (62.5)	33 (55.0)	‡ 0.21
Absent	15 (53.6)	12 (37.5)	27 (45.0)	
Fatigue (n,%)				
Present	13 (46.4)	11 (34.4)	24 (40.0)	‡ 0.34
Absent	15 (53.6)	21 (65.6)	36 (60.0)	
Drowsiness (n,%)				
Present	13 (46.4)	16 (50.0)	29 (48.3)	‡ 0.78
Absent	15 (53.6)	16 (50.0)	31 (51.7)	
Nausea (n,%)				
Present	13 (46.4)	17 (53.1)	30 (50.0)	‡ 0.60
Absent	15 (53.6)	15 (46.9)	30 (50.0)	
Vomiting (n,%)				
Present	15 (53.6)	14 (43.8)	29 (48.3)	‡ 0.44
Absent	13 (46.4)	18 (56.2)	31 (51.7)	

† Independent sample t test ‡ Chi-square § Mann-Whitney U
* p < 0.05 (There is a significant difference between the groups)

There were not significantly differences between groups in terms of age, body mass index, eGFR, score of American Society of Anesthesiology (ASA), rates of hypertension, diabetes mellitus and smoking ($p > 0.05$). When the observed undesirable complications and symptoms were evaluated, no differences were found between each groups in terms of problems related to ileal conduit ($p = 0.28$), limitation in mobility ($p = 0.78$), disturbed sleep ($p = 0.65$), dry mouth ($p = 0.21$), fatigue ($p = 0.34$), drowsiness ($p = 0.78$), nausea ($p = 0.60$), vomiting ($p = 0.44$), difficulty remembering ($p = 0.83$), pain ($p = 0.78$) and lack of appetite ($p = 0.40$). However, while abdominal discomfort was higher in group II ($p = 0.02$), the incidence of anxiety/depression was lower in this group ($p = 0.04$). The satisfaction rates of the patients and their relatives were observed as significantly higher in the period of following the Uro-Oncology Nursing Education Program (90.6% vs. 71.4%, $p = 0.04$) (Table 1). The decline in anxiety/depression can be attributed to the Uro-Oncology Nursing Education.

According to mini survey, we thought that the patients and their relatives felt themselves better and in confidence about coping with undesirable problems related to cystectomy (table 1). As a result of uro-oncology nursing education and providing better health services to patients, the need for out of home care such as skilled nursing or rehabilitation facilities were seen significantly lower in Group II (28.1% vs. 64.3%, $p = 0.005$).

Discussion

Most of the previous studies in literature have evaluated morbidity and mortality related to radical cystectomy [2]. Patients' functional status have been investigated with several indexes. Preoperative dependent and partial-dependent patients have been observed as more likely to have surgical undesired complications [9]. Pearl et al. [5] declared that the modified Frailty Index showed the increased probability of postoperative need for skilled nursing or rehabilitation facilities. According to their results, frailty was found as a significant predictor for non-home discharge following cystectomy regardless of operative complications, age, and comorbidities. They aimed to

predict the reduction in patient morbidity, hospital readmissions and health care costs related to radical cystectomy with the preoperatively evaluation of modified Frailty Index. In other studies, ASA score and Charlson Comorbidity Index were often used for prediction of intraoperative complications. But no reliable tools to predict the need for nursing facility after discharge have been formed [10].

Although it was shown that poor preoperative exercise tolerance, limited functions, positive surgical margins and longer length of hospital stay were correlated with postoperative need for nursing home care, this evaluation needs to be supported by other studies [10,11]. Murray et al. [2] stated that patients who were discharged from high volume centers performing radical cystectomy (more than eight per year) had lower postoperative need for nursing facilities. Moreover, patients with higher risk of 30-day mortality were shown to have need for nursing or rehabilitation facilities following discharge [5]. Similar to these studies, we found that ASA score which predicts the probability of morbidities related to major surgeries, were higher in patients requiring skilled care or rehabilitation facilities.

Bed mobility, transfer, dressing, locomotion, and toilet usage require gross motor function and strength, so these are the most deteriorating functions following radical cystectomy. On the other hand, eating is the well preserved and last decreased function. According to Murrey et al. [2], there were not differences in terms of activities of daily living between patients living in nurse home prior to cystectomy and patients not living. But a great impairment was observed in the ability of performing activities of daily living in postoperatively. On the other hand, the risks of postoperative mortality, readmission and length of hospital stay were found higher in the patients who did not take adequate support in nursing or rehabilitation facilities [12,13]. In our study, although uro-oncology nursing education did not affect the rates of deterioration in activities of daily living, we observed an increase in the ability of dealing with these problems. In this way, the requirement of nursing or rehabilitation facilities following discharge significantly decreased.

The palliative support and nursing care can improve health related quality of life in both early and advanced stage cancers. The roles of nurses for providing complementary and integrative care practices in cancer treatment has been more widely known since last few years [7]. Besides nursing care, it is also well known that the encouraging of patients with malignancy for physical activity and exercise may provide a positive effect on fatigue, depression, anxiety, cognitive capacity, muscle strength and quality of life [14,15].

To our knowledge, this is the first study to evaluate the effects of uro-oncology nursing education on the need for out of home care following radical cystectomy. One of our main aims was to raise awareness of patients about the importance of continuity of follow up examinations, short and long term-side effects related to cystectomy and management of these side effects. By doing this, we intended to decrease the need for out of home care after discharge. We can say that uro-oncology nursing education program has a great benefit in this regard.

Our study's main limitations are retrospective, non randomized, single center design with low number of patients. Our evaluation needs to be supported by prospective, randomized, controlled, multicenter, long-term follow-up studies containing external

validated international surveys such as The European Organization of Research and Treatment of Cancer Quality of Life Questionnaire or the 36-Item Short Form Health Survey (SF 36). Moreover, Nursing education programme given in our department needs to be controlled by the European Association of Urology Nurse to determine whether it conforms to the standard quality.

Conclusion

It is obvious that the standardization of uro-oncology nursing care practices in worldwide will provide better relief of symptoms related major uro-oncologic surgeries such as radical cystectomy and increase health related quality of life. This may provide the patients' relatives to become more conscious, so declines of out of home care requirement can be possible.

Conflict of interest: None

Acknowledgements: I would like to thank all the nurses who worked in our clinic for their contributions and helps.

References

1. Bladder cancer: diagnosis and management of bladder cancer: © NICE Guidance (2017) Bladder cancer: diagnosis and management of bladder cancer. *BJU Int* 120: 755-765.
2. Murray KS, Prunty M, Henderson A, Haden T, Pokala N, et al (2018) Functional Status in Patients Requiring Nursing Home Stay After Radical Cystectomy. *Urology* 121: 39-43.
3. Kukreja JB, Chang CM, Chen TY, Shi Q, Wang XS, et al. (2017) Measuring and improving symptom burden in radical cystectomy patients undergoing traditional care compared to enhanced recovery. *Journal of Clinical Oncology* 35(6_suppl): 340-340.
4. Quek ML, Stein JP, Daneshmand S, et al. (2006) A critical analysis of perioperative mortality from radical cystectomy. *J Urol* 175: 886–889. discussion 889-890.
5. Pearl JA, Patil D, Filson CP, Arya S, Alemozaffar M, et al. (2017) Patient Frailty and Discharge Disposition Following Radical Cystectomy. *Clin Genitourin Cancer*. 15: e615-e621.
6. Sacks GD, Lawson EH, Dawes AJ, et al. (2015) Which patients require more care after hospital discharge? An analysis of post-acute care use among elderly patients undergoing elective surgery. *J Am Coll Surg* 220: 1113-1121.
7. Pehlivan S, Lafçi D, Vatansever N (2017) Complementary and integrative care practices in symptom management in breast cancer patients. *Nurs Palliat Care* 2: 1-4.
8. Punshon G, Endacott R, Aslett P, Brocksom J, Fleure L, et al. (2017) The Experiences of Specialist Nurses Working Within the Uro-oncology Multidisciplinary Team in the United Kingdom. *Clin Nurse Spec* 31: 210-218.
9. Patel HD, Ball MW, Cohen JE, Kates M, Pierorazio PM, Allaf ME (2015) Morbidity of urologic surgical procedures: an analysis of rates, risk factors, and outcomes. *Urology* 85:552–559.
10. Aghazadeh MA, Barocas DA, Salem S, et al. (2011) Determining factors for hospital discharge status after radical cystectomy in a large contemporary cohort. *J Urol* 185: 85–89.
11. Taub DA, Dunn RL, Miller DC, Wei JT, Hollenbeck BK (2006) Discharge practice patterns following cystectomy for bladder cancer: evidence for the shifting of the burden of care. *J Urol* 176: 2612–2617. discussion 2617-2618.
12. Hu M, Jacobs BL, Montgomery JS, et al. (2014) Sharpening the focus on causes and timing of readmission after radical cystectomy for bladder cancer. *Cancer* 120: 1409-1416.
13. Skolarus TA, Jacobs BL, Schroeck FR, et al. (2015) Understanding hospital readmission intensity after radical cystectomy. *J Urol* 193: 1500-1506.
14. Lipsett A, Barrett S, Haruna F, Mustian K, O'Donovan A (2017) The impact of exercise during adjuvant radiotherapy for breast cancer on fatigue and quality of life: A systematic review and meta-analysis. *Breast* 32: 144-155.
15. Selvi I (2018) The effects of uro-oncology nursing education on quality of life in patients with prostate cancer. *Nurs Palliat Care* 3: 1-5.

Copyright: ©2019 Ismail SELVI. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.