DOI: 10.2478/pielxxiw-2024-0004

Readiness to discharge patients after radical prostatectomy with the assistance of the da Vinci robot

Gotowość do wypisu pacjentów po radykalnej prostatektomii w asyście robota da Vinci

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A – Development of the concept and methodology of the study/Opracowanie koncepcji i metodologii badań; B – Query - a review and analysis of the literature/Kwerenda – przegląd i analiza literatury przedmiotu; C – Submission of the application to the appropriate Bioethics Committee/Złożenie wniosku do właściwej Komisji Biotycznej; D – Collection of research material/Gromadzenie materiału badawczego; E – Analysis of the research material/Analiza materiału badawczego; F – Preparation of draft version of manuscript/Przygotowanie roboczej wersji artykułu; G – Critical analysis of manuscript draft version/Analiza krytyczna roboczej wersji artykułu; H – Statistical analysis of the research material/Analiza statystyczna materiału badawczego; I – Interpretation of the performed statistical analysis/Interpretacja dokonanej analizy statystycznej; K – Technical preparation of manuscript in accordance with the journal regulations/Opracowanie techniczne artykułu zgodne z regulaminem czasopisma; L – Supervision of the research and preparation of the manuscript/Nadzór nad przebiegiem badań i przygotowaniem artykułu

STRESZCZENIE

GOTOWOŚĆ DO WYPISU PACJENTÓW PO RADYKALNEJ PROSTATEKTOMII W ASYŚCIE ROBOTA DA VINCI

Cel pracy. Celem badania była ocena gotowości do wypisu pacjentów po radykalnej prostatektomii w asyście robota da Vinci.
Materiał i metody. Badaniem objęto 100 pacjentów w dniu wypisu, leczonych w jednym z warszawskich szpitali, na przełomie 2022 i 2023 roku. Badanie przeprowadzono za pomocą sondażu diagnostycznego, narzędziem był kwestionariusz C-HOBIC. W analizie statystycznej wykorzystano program SPSS. Przyjęto istotność statystyczną $p<0,05$.
Wyniki. Pacjenci wykazywali dobrą gotowość do wypisu, zwłaszcza w kategorii wiedzy na temat zażywania leków. Najniższą gotowość wykazali w zakresie obserwacji niepokojących symptomów związanych ze zdrowiem. Poziom wykształcenia miał wpływ na zdolność pacjentów do przyjmowania leków.
Wnioski. Pacjenci wykazują dobrą gotowość do opuszczenia szpitala. Ich wiedza na temat zażywania leków jest szczególnie dobra, choć umiejętność zauważania symptomów lub zmian w zdrowiu wymaga nieco większej uwagi. Edukacja przed wypisem ze szpitala jest kluczowym elementem przygotowania pacjentów do samoopieki w warunkach domowych.

Słowa kluczowe: samoopieka, gotowość do wypisu, prostatetomia, operacja robotyczna

ABSTRACT

READINESS TO DISCHARGE PATIENTS AFTER RADICAL PROSTATECTOMY WITH THE ASSISTANCE OF THE DA VINCI ROBOT

Aim. The study aimed to assess the readiness for discharge of patients after da Vinci robot-assisted radical prostatectomy.
Material and methods. The study included 100 patients on the day of discharge, treated in one of Warsaw's hospitals at the turn of 2022 and 2023. The study was conducted by means of a diagnostic survey, the tool was the C-HOBIC questionnaire. The SPSS programme was used in the statistical analysis. A statistical significance of $p<0.05$ was assumed.
Results. Patients demonstrated good readiness for discharge, especially in terms of knowledge about taking medications. They showed the lowest readiness when it came to observing disturbing health-related symptoms. Education level had an impact on patients' ability to take medications.
Conclusions. Patients show good readiness to leave the hospital. Their knowledge of how to take medications is particularly good, although being able to notice symptoms or changes in health requires a little more attention. Pre-discharge education is a key element in preparing patients for self-care at home.

Key words: robotic surgery, prostatectomy, self-care, discharge readiness

INTRODUCTION

A hospital stay is not only associated with the possibility of diagnosis and treatment but is also a time for preparing patients to return home after illness or surgery. Education is a key component of preparing a patient for discharge. The available literature includes reports that emphasize the importance of including patients in surgical wards in the hospital discharge procedure [1].

According to the World Health Organization (WHO), non-compliance with therapeutic recommendations is one of the main reasons that prevent the achievement of the intended effects of therapy. According to reports, patients do not fill from 1/4 to 1/3 of prescribed prescriptions, while among chronically ill patients, the recommendations are not followed even in over 50% of cases [2]. Research carried out in Poland indicates a more serious situation in this respect, both in the case of chronic and acute diseases, because every fourth person does not follow the recommendations given to him [3]. Non-compliance with treatment recommendations may lead to serious consequences, including rehospitalisation and even death. It is worth emphasising that compliance with therapeutic recommendations can improve clinical outcomes and reduce healthcare costs [4]. Therefore, preparing patients for home self-care is crucial.

The concept of readiness for hospital discharge has been defined as a composite estimate of an individual patient's ability to leave the hospital sufficiently to ensure safe discharge. Discharge from the hospital itself is described as successful if, within 6 weeks, there is an improvement in the quality of life, patient satisfaction and no re-hospitalisation due to the same disease [5]. An important aspect is the assessment of the patient's readiness for discharge from the hospital, including the ability to take prescribed medications, recognise and manage symptoms, perform activities of daily living, and cope with changes in health status. The analysis of the problem indicates the advisability of monitoring the patient's readiness upon discharge from the hospital [6]. In the case of surgical procedures, assessing readiness for discharge is important to minimise the risk of complications and readmission. The da Vinci robotic surgical system uses minimally invasive surgery with less surgical trauma and complications. The patient usually receives a discharge letter on the 3rd or 4th day after the procedure. Preparation of a patient for discharge can be assessed both from the perspective of medical staff and the patient and his family [7]. The work focuses on research aimed at patients.

AIM

The study aimed to analyse the readiness of patients for discharge after radical prostatectomy using the da Vinci robot and to investigate whether socio-demographic and medical variables affect the overall readiness and its individual categories.

MATERIAL AND METHODS

The study was conducted between November 2022 and February 2023 at the Urology Department of the Medicover Hospital in Warsaw. A diagnostic survey method was used, using a standardised and validated Readiness for Discharge Questionnaire, supplemented with questions regarding the socio-demographic and medical data of the respondents. This tool was developed by the Canadian Health Outcomes for Better Information and Care (C-HOBIC) project in 2012 to improve the quality of care in Canada. The questionnaire was validated for Polish conditions and consent was obtained from its authors for use. The questionnaire assesses 8 categories that concern knowledge about the drugs taken, the ability to recognise disturbing changes and how to seek help, and people ready to help the patient during convalescence and engage in physical activity. The overall assessment of readiness for discharge is based on a rating scale from 0 (unprepared) to 5 (very well prepared), which gives a rating range from 0 to 40 points [8,9].

The study involved 100 men out of 105 hospitalised for radical prostatectomy with the use of the da Vinci robot. The average age of the participants was 64.3 ± 8 years, the youngest was 44 and the oldest was 88. Almost 2/3 of the participants (64%) had higher education. The respondents differed in terms of place of residence, and 55% were professionally active (Tab. 1).

Tab. 1. Sociodemographic characteristics of the study group

The variables		n	%
Education	Primary	1	1
	Lower-secondary	0	0
	Vocational	6	6
	Secondary	29	29
	Higher	64	64
Place of residence	Village	24	24
	A city with 20,000 to 50,000 inhabitants	20	20
	A city with 50,000 to 100,000 inhabitants	16	16
	A city with 100,000 and 200,000 inhabitants	10	10
	A city with 100,000 and 200,000 inhabitants	9	9
	A city with more than 500,000 inhabitants	21	21
Labour market status	Employed	55	55
	Unemployed	2	2
	Retired	39	39
	Pension	4	4

n – abundance, % – percentage content

When it comes to 54% of respondents, they had comorbidities, and 69% took medications on a permanent basis. The number of 71% of the respondents had undergone a surgical procedure in the past. Nearly all (95%) received self-care education after leaving the hospital including proceedings with Foley catheter, surgical wound, with 88% receiving written instructions from a doctor or nurse. Preparation for discharge was rated as very good

(76%) or good (23%) by the majority of participants, and only one person rated it as satisfactory.

The average duration of hospitalisation was 5.2 ± 0.6 days and for 74% of the respondents it lasted five days. Non-parametric tests were used in statistical analyses due to differences in group sizes and the nature of the variables. Spearman's rho correlation, chi-square tests, Friedman test, and Kolmogorov-Smirnov test were used. Analyses were carried out using SPSS version 21, $p < 0.05$ was considered as statistical significance.

The Bioethical Committee of the Medical University of Warsaw issued a positive opinion on the compliance of the study with the principles of scientific research ethics (AKBE/210/2022). Consent was obtained from the Management of the Medicover Hospital in Warsaw and the Head of the Urology Clinic of this hospital. The patient's voluntary completion of the questionnaire was considered as consent to participate in the study.

RESULTS

The respondents achieved a general readiness for discharge in the range of 28-40 points, with an average of 35.8±3.6. The most frequently obtained result was 40 points (23%), followed by 32 (16%), 39 (12%) and 38 points (10%) (Kolmogorov-Smirnov test Z=1.74; p=0.003). Knowledge about medications and the ability to take them was rated the highest, while the ability to recognise symptoms/health changes was rated the lowest (Tab. 2). However, all categories had scores above 4, indicating good readiness for discharge across the board.

Tab. 2. Descriptive statistics for individual dimensions of discharge readiness

	M	SD	Me	Mo	Min	Max
Knowledge about medicines	4.57	0.54	5	5	3	5
Knowledge about the reasons for taking medications	4.56	0.56	5	5	3	5
Ability to take prescribed medications	4.57	0.52	5	5	3	5
The ability to notice symptoms or changes	4.32	0.66	4	4	2	5
Ability to follow recommendations	4.51	0.58	5	5	3	5
Knowledge related to people's daily activities	4.46	0.74	5	5	0	5
Knowledge related to people or institutions in an emergency	4.41	0.79	5	5	1	5
Ability to undertake daily physical activity	4.44	0.76	5	5	1	5

M – average, SD – standard deviation, Me – median, Mo – modal, Min – minimum value, Max – maximum value

There were no statistically significant correlations between age and eight dimensions of readiness for discharge, as well as the overall result ($p < 0.05$). However, the level of education showed a significant statistical relationship only in the context of the ability to take prescribed medications – the higher the education, the greater the confidence in taking the prescribed medications (Tab. 3).

Tab. 3. Relationships between readiness for discharge and educational level

		Level of education
Knowledge about medicines	rho	.164
	p	.102
Knowledge about the reasons for taking medications	rho	.097
	p	.335
Ability to take prescribed medications	rho	.286
	p	.004
The ability to notice symptoms or changes	rho	.193
	p	.054
Ability to follow recommendations	rho	.192
	p	.056
Knowledge related to people's daily activities	rho	.086
	p	.394
Knowledge related to people or institutions in an emergency	rho	-.108
	p	.285
Ability to undertake daily physical activity	rho	.036
	p	.725
Overall assessment of readiness for discharge	rho	.124
	p	.221

rho represents the Spearman's correlation coefficient, and p represents the p-value

The size of the place of residence and professional situation were not significantly associated with readiness for discharge ($p>0.05$). The length of hospitalisation had no statistically significant impact on either the overall result or individual dimensions of readiness for discharge ($p>0.05$). However, the self-assessment of preparation for discharge showed significant statistical correlations, directly proportional to most dimensions and the overall result of readiness for discharge (Table 4). This means that the higher the respondents assessed their preparation, the higher the values they obtained in all categories and the overall readiness score for discharge.

The presence of comorbidities did not have a significant impact on overall readiness for discharge or its individual aspects ($p>0.05$). Taking medications regularly was significantly associated with the ability to recognise changes and health symptoms (chi-square(2)=6.32; p=0.042). People, who were not taking medications regularly, had a greater tendency to be moderately or worse prepared in this area compared to people who were taking medications. Overall readiness for discharge and the remaining categories turned out to be statistically insignificant. Previous surgical procedures and education did not show statistically significant relationships for each of the assessment categories or the overall readiness for discharge score ($p>0.05$). Similarly, the lack of a significant statistical relationship was observed in the case of receiving written recommendations on what to do after the procedure at home.

Tab. 4. Relationships between readiness for discharge and self-assessed level of knowledge on self-care and self-observation

		Self-assessment of knowledge about self-care and self-observation
Knowledge about medicines	rho	.390**
	p	<0.001
Knowledge about the reasons for taking medications	rho	.344**
	p	<0.001
Ability to take prescribed medications	rho	.192
	p	.056
The ability to notice symptoms or changes	rho	.341**
	p	.001
Ability to follow recommendations	rho	.225*
	p	.025
Knowledge related to people's daily activities	rho	.231*
	p	.021
Knowledge related to people or institutions in an emergency	rho	.179
	p	.075
Ability to undertake daily physical activity	rho	.092
	p	.364
Overall assessment of readiness for discharge	rho	.352**
	p	<0.001

rho represents the Spearman's correlation coefficient, and p represents the p-value

DISCUSSION

Patients are not often assessed for readiness for discharge and, therefore, capacity for self-care. Therefore, there are reports highlighting the importance of this problem. Therapeutic education and providing the patient with knowledge and skills are key aspects of readiness for discharge [5, 8-11].

The overall readiness to leave the hospital in the study group is good, all its categories are above 4, which is satisfactory, but whether the results obtained will correlate with patients' compliance with recommendations requires further research. The results of the study by Kosbucka et al. provide preliminary evidence of the relationship between the assessment of readiness for discharge and compliance with medical recommendations in the long--term follow-up of patients after a heart attack [12]. The results obtained in our study are more optimistic than those obtained by Andruszkiewicz et al., who examined the readiness for discharge in patients hospitalised due to chronic diseases [8].

Educational level was found to be important for patients' ability to properly take medications as prescribed by their physicians. More educated participants of the study felt better prepared to take prescribed medications. These results differ from studies by Kiłoczko and Grabowska [13] and Grabowska and Derezulko [10].

The level of patients' preparation for discharge did not depend on age, place of residence or education, similarly to the study by Bączyk et al. [14]. The duration of hospitalisation and previous operations did not influence the readiness for self-care and self-care at home, which is consistent with studies of other patients after surgery [10, 9].

In hospitals, written recommendations for home care are commonly used [8,10]. Kiłoczko and Grabowska's study showed that most respondents (90.8%) received brochures about their condition, which were most often issued by doctors and nurses [13]. In our study, most respondents (88%) also confirmed that they had received medical and nursing recommendations in paper form. Importantly, the respondents pointed out that brochures were not the only form of education. Almost all respondents confirmed that they had been educated by doctors and nurses.

The analysis of clinical variables showed that they did not have a significant impact on readiness for discharge, with the exception of the issue of taking medications permanently, where people taking medications rated their ability to notice symptoms and changes in health better. This relationship has not been analysed in other studies [9-12].

The study was conducted in a single hospital, where surveys were distributed to all patients undergoing prostatectomy using the da Vinci robot. Due to the small number of respondents, the interpretation of the obtained results should be approached with caution. Further research is necessary to thoroughly assess the current condition and to effectively plan and evaluate educational activities among this group of patients. The use of a robotic technique, which is less invasive and has a lower risk of complications, could have influenced the respondents' positive self-assessment regarding their knowledge of self--care and readiness for discharge.

According to Kosabucka et al.'s observation, on the day of discharge, patients often receive large amounts of information that may quickly fade from memory, making them less likely to follow it when they return home [11]. Therefore, in order to increase the effectiveness of education, safe return home and achieve satisfaction with treatment, the discharge planning process should be initiated on the day of hospital admission and continued on an ongoing basis during hospitalisation [10-15].

In conclusion, the C-HOBIC questionnaire, adapted to Polish conditions, is a useful tool in diagnosing possible gaps in knowledge regarding self-care and self-care at home. So far, it has found wide application, primarily in patients with chronic diseases. In the case of the study group, the assessment of readiness for discharge is crucial due to the need for appropriate preparation for care, especially in the case of the presence of a catheter or the need to take medications regularly. It is worth noting that skills were slightly lower than knowledge, so medical staff should focus on this area.

Prostatectomy using the da Vinci robot is a planned procedure, which allows patients to be provided with important treatment information in advance. However, patient education and support at every stage of hospitalisation and discharge planning are still important. The duration of hospitalisation does not significantly affect readiness for discharge, which suggests that there is no need to prolong hospital stay. Planned and implemented

educational activities, supported by printed materials and conducted by the entire therapeutic team in accordance with their competencies, may be sufficient to adequately prepare patients for returning home.

CONCLUSIONS

1. Patients after radical prostatectomy using the da Vinci robot show good readiness to leave the hospital. Their knowledge of how to take medications is particularly good, although being able to notice symptoms or changes in health requires a little more attention.
2. Better readiness for discharge was achieved by patients with experience in taking medications and by people with higher education, which was important for the correct intake of medications according to the doctor's recommendations.
3. It is recommended that education be implemented from the first day of hospitalisation. This initiative should be carefully planned, monitored and carried out by the entire therapeutic team, using their specialist knowledge and skills.

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Manuscript received: 06.10.2023
Manuscript accepted: 27.12.2023

Translation: dogadamycie.pl Sp. z o.o.