

Evaluation of Patients' Knowledge about Bladder Cancer

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1.ABSTRACT

Background: Bladder cancer is one of the most common Genito-urinary cancer worldwide, it's burden is high at all phases of treatment and surveillance owing to the frequent tumor recurrence and progression. to date, little research has examined cancer-associated needs of bladder cancer patients. **Aim:** Evaluate patient's knowledge about bladder cancer. **Methods:** Descriptive study design was utilized. **Setting:** The study was conducted at Mansoura Urology and Nephrology Centre, Egypt. **Subject:** Convenience sampling of 60 adult patients with non- muscle invasive bladder cancer were admitted to Urology and Nephrology Centre within the period of data collection **Tools:** Two assessment tools were used; Tool I interview questionnaire and Tool II self-administrated structured questionnaire **Results:** Sixty patients completed the study with 90% of them aged from (50 - < 60) and (41.7%) of the patients were classified as read and write, (97%) of patients had poor knowledge level related to bladder cancer. **Conclusion:** Most of the study sample had poor levels in all knowledge domains related to bladder cancer, activities of daily living, guidelines of intravesical injection & it's local side effects, and measures' control side effects **Recommendations:** Establishing educational program for bladder cancer patients in order to address the needs of these patients.

Keywords: Bladder Cancer, Evaluation, Patient's Knowledge.

2.Introduction:

Bladder cancer (BC) is one of the top ten most frequent cancers worldwide, with an estimated 550,000 new cases yearly, it's incidence is rising in developed countries due to due to high industrial chemical exposure in these regions (Aben, Kiemene, & Richters, 2020). Mortality rate of (BC) is greatest in North, East Africa and the Middle-East, where Schistosoma infection is prevalent contrary to the leading etiology of smoking and occupational exposures in Western countries, the highest mortality rate is in Egypt at 6.6/100,000 according to data obtained from GLOBOCAN 2018 (Saginala et al, 2020).

Bladder cancer is predominantly a disease of older adults, with 90% of diagnoses made in those over 55, with a median age at diagnosis of 73 years (Guancial et al, 2015). In addition to this smoking is the most common risk factors, it represents 50% of cases followed by occupational exposure to chemicals from the aromatic amine family accounting for about 10% of cases, other risk factors including chronic inflammatory changes in the bladder due to (persistent bladder stones, recurrent urinary tract infection, chronic indwelling catheter, schistosomiasis) (Babjuk et al, 2019; Kassouf et al, 2015).

Bladder cancer is usually first suspected due to hematuria and diagnosis is confirmed with a cystoscopy (DeGeorge, Holt, & Hodges, 2017). There are two broad categories of bladder cancer which include muscle invasive bladder cancer (MIBC) and non-muscle invasive bladder cancer (NMIBC). It is about 70% -80% of patients are diagnosed with NMIBC and are treated by transurethral resection of bladder tumor that is considered as diagnostic and therapeutic measure followed by instillation of chemotherapy or immunotherapy according to stage of tumor (McConkey et al, 2021).

The diagnosis and treatment of BC are stressful events associated with numerous supportive care needs; hence the nurse plays a vital role throughout cancer journey by educating patient about treatment options, the benefits and side effects of treatment and effect of treatment on life style and quality of life. Patients who are not well-informed and engaged in the treatment process are more likely to make decisions that are incompatible with their values and preferences and have a negative impact on their functioning and bladder cancer outcomes (Dunn, Goffney, Goltz, Latini, & Major, 2021).

2.1 Aim of the study

Evaluate patient’s knowledge about bladder cancer.

3. Method

After ethical approval was obtained from the Research Scientific Ethical Committee of the Faculty of Nursing, Mansoura University and the responsible authority of Mansoura Urology and Nephrology Centre. Convenient sampling of 60 adult patients with bladder cancer (NMIBC) were admitted to Urology and Nephrology Centre within the period of data collection were enrolled in descriptive study design. Study included patients aged between 20-60 years, both genders, receive intravesical chemotherapy and immunotherapy for the first time, able to communicate, willing to participate in the study.

Assessment tool included interview questionnaire and self-administrated structured Questionnaire which was developed by the researcher after reviewing related literature (Australia and New Zealand urologic Nurses Society., 2017; Vahr et al., 2015). Tool I; Interview Assessment Questionnaire Sheet consisted of demographic characteristics and health relevant data of the study sample. Tool II; Self Administrated Structured Questionnaire was developed to identify patient's learning needs. This tool consisted of 22 questions; 15 questions shared for both chemotherapy and immunotherapy plus three specific questions for chemotherapy and four specific questions for immunotherapy.

Scoring Style

The scoring system of tool II was done as follow; totally correct answer was given two grades; partially correct answer was given one grade while incorrect answer or unknown was given zero. The scores obtained for each question was summed up to get total score of patient’s knowledge, total grades were computed out of (38) total points, higher score indicated better knowledge. All scores were transformed into score % as follows; score %= (the observed score /the maximum score) x100, then the total scores were transferred into the following categories (Abdul Rahman, H Abdul-Mumin, Haji Abdul Razak, & Haji Zaini, 2022).

Rating scale	Percentage %	Score
Poor	< 50 %	<19
Fair	50 < 75 %	19 < 28,5
Good	≥ 75 %	≥28,5

3.1 Validity of the tool; content validity of developed tool was tested by a jury of 7experts

from both field of medicine (2 physician) and academic staff of medical surgical nursing department (5 experts) and required modifications were done. Face validity of the developed tools was tested by conducting pilot study, was carried out on 10% of patients (6 patients) before starting the data collection and they were excluded from the total studied sample to test the tool for it’s relevance, feasibility, applicability, reliability, clarity. Tools were modified according to results of pilot study.

3.2 Reliability of the tool; tools (II) were tested for reliability using alpha Cronbach's

coefficient test, the alpha reliability for tool (II) was (0.91).

The researcher had initiated data collection which started and continued for a period of 12 months from the beginning of August 2020 to the end of July2021 on Thursday of every week it is the day of Intravesical injection in Mansoura Urology and Nephrology Centre. Before distributing the questionnaire, the researcher introduced herself and a brief explanation about the objective of the study was given to the patients and oral consent was obtained. Questionnaires were distributed to the selected patients who agree to participate in the study. Patients who were able to read and write filled questionnaire by themselves in the presence of the researcher to answer any inquiries they needed and then make sure that questionnaire was completed, while patients who could not read and write, the researcher filled out the questionnaire by asking them and filling the questionnaire that took about 10-15 minutes.

3.3 Statistical Design: All statistical tests were conducted using SPSS for windows version 25.0 (SPSS, Chicago, IL). The data are expressed in frequency and percentage (quantitative variable)

4. Results

As shown in Table 1, most of the study sample ranged between 50 to 60 years old (90%) and (88.3%) of them were male. More than three quarters of the study sample were married (85%) and (41.7%) were classified as read and write. The highest percentage of the study sample were handcraft worker (76.6%) and driver & farmer were the most frequent handcraft (25%,18.3%) respectively.

Table 2 reveals health relevant data of the study sample, Immunotherapy was considered the most frequent therapy 37 patients (61.6%) received it. (58.3%) of the study sample were diagnosed with bladder cancer since (1-3) months and most of them weren’t reported positive family history of bladder cancer (96.6%). Bilharziasis was less

prevalent in the study sample (21.7%) and most of patients were diagnosed and treated from bilharziasis since more than 30 years (84.6%). (46.7%) of study sample were smoker. Hematuria is the most common chief complaint among (96.7%) of the study sample. Diabetes mellitus was the highest associated disease among 21 patients (35%).

Table 3 and figure 1 show that most of the study sample had poor level in all knowledge domains (Bladder cancer knowledge, activities of daily living knowledge, Guidelines of Intravesical injection& it's local side effects knowledge, Measures control side effects knowledge) and total knowledge score was poor (97%).

5. Discussion

Bladder cancer is one of the most common Genito-urinary cancer worldwide, most patients with bladder cancer were diagnosed as (NMIBC), it's burden is high at all phases of treatment and surveillance owing to the frequent tumor recurrence and progression, which requires long-term clinical monitoring with periodic cystoscopy and intravesical therapy (Smith et al, 2018). As result, Uro-oncology nurses have a critical role in identifying patient's needs during treatment plan; bladder control, pain, urinary frequency, sexual function, diet, and exercise, this is achieved through patient education, psychosocial support, specialized care in all phases of bladder cancer treatment to enhance health-related quality of life of these patients (Goltz et al, 2021). Therefore; this study was conducted to assess patient's knowledge about bladder cancer. the result of the present study found that the highest percentage of the study sample were males and old adults in the age group between 50- 60 years, married, read and write, their work varied between farming and manual work (builder, carpenter, hunter, driver, mechanics).

These characteristics were related to each other as it is considered predisposing factors to bladder cancer. This point of view is supported by (American cancer society, 2022) which confirmed that factors that increased the risk of bladder cancer include gender, old age, and environmental and occupational exposure.

Most of study sample were male, this in the same line with (Dobruch et al, 2016) who reported that bladder cancer diagnosis is an about 3-fold higher incidence in men compared to women, these differences in incidence rates between genders have been attributed in part to differences in smoking habit and sex steroid hormone regulation. The

researcher attributed the reasons for gender disparities in the incidence rate of bladder cancer to the fact that women in Egyptian culture generally, do not smoke cigarettes with the same frequency as men. Also, Egyptian males are responsible for earning their life and are more involved than females in manual work that predispose them to environmental and occupational carcinogenic exposure as well as tobacco smoking.

the present study found that the highest percentage of the study sample were in the age group between 50- 60 years old while (Garg et al, 2021) who conducted a study entitled "Association between metabolic syndrome and recurrence of non-muscle-invasive bladder cancer in older adults" reported that Two-thirds of new bladder cancer patients are diagnosed over the age of 65 years old with the highest median age at diagnosis (73 years).

The results of the present study found that less than half of the study sample were read and write which is not congruent with (Chung et al, 2019) who found that more than two- third of their study sample had at least post-secondary education. The researcher clarifies an increased prevalence among males who read and write or work as farmers returned to most patients came from rural areas, where there are to some extent poor socioeconomic status which forced them to search for manual work to improve their economic status at the expense of education which increases susceptibility for environmental and occupational carcinogenic exposure.

Concerning health-relevant data, more than half of the study sample received intravesical immunotherapy (BCG) and this is supported by (Babjuk et al, 2019) who stated that BCG is a standard treatment for intermediate and high-risk patients. When reviewing the family history of bladder cancer patients, the current results found that major of the study sample had no family history of bladder cancer which is not congruent with (Koutros et al, 2021) who reported that more than one-third of their study sample had first degree relatives with bladder cancer which support positive familial predisposition to bladder cancer.

As regards bilharziasis infection, the present study showed that less than one-quarter of study sample are previously exposed to Schistosoma infection, this finding is in agreement with (Eissa, Essawy, Shawky, & Matboli, 2015) who reported an increased incidence of bladder cancer in areas endemic for schistosomiasis like Egypt. and this explains the high burden of bladder cancer in Egypt which

agrees with (Richters et al, 2020) who reported in their study titled “The global burden of urinary bladder cancer: an update” the highest rates of bladder cancer observed in Europe and North America, but also in Syria, Israeli, Egypt, and Turkey.

Cigarette smoking is the most prevalent risk factor for the evolution of BC. (Turati et al, 2017) reported that smoking tobacco is responsible for approximately half of all cases in Europe and less than half of their study sample were current smokers, which agrees with the current study results, less than half of study sample are current smokers, and less than one-quarter of them are previous smokers.

With reference to disease discovery, the present study emphasized that all patients in the studied groups discovered the disease through symptoms like hematuria, irritative voiding symptoms, and low back pain. This result agrees with (Chang et al, 2016) who reported that bladder cancer symptoms take the form of painless hematuria and irritative voiding symptoms.

In relation to chronic diseases, this study showed that more than one-third of patients in the study sample suffer from Diabetes Mellitus, this result is somehow in line agreed with the result of (Asanad, Blaibel, Chamie, Donin, & Lenis, 2018) who reported in their study titled " Association between metabolic syndrome and recurrence of non-muscle invasive bladder cancer following bacillus calmette-guérin treatment" that DM as a component of metabolic syndrome is associated with increased risk and poor prognosis of bladder cancer.

Regarding patients' knowledge, the findings of the present study reported poor knowledge levels in the study sample. Also, the patients have misconceptions about the treatment of bladder cancer, some patients believe that their hair will fall, while others think that their contaminated clothes with chemotherapy are contagious. This is some line agreed with (Nabi, Paterson, Jensen, & Jensen, 2018) who stated that bladder cancer is a life-altering event associated with numerous supportive care needs, despite the complexities of treatment and its chronic nature, there is a little research on the informational needs, supportive care needs, and psychological adjustment of bladder cancer patients which necessitates more comprehensive studies including the development of an appropriate patient education program.

6. Conclusion:

Bladder cancer patients have poor knowledge level about their disease

7. Recommendation:

Based on finding of present study, health educational program should be conducted to bladder cancer patients to meet their needs during cancer journey

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Table 1: Distribution of Study Sample According to Their Demographic Characteristics (N=60)

Items	No	%
Age		
30-<40	3	5
40- < 50	3	5
50 - < 60	54	90
Gender		
Male	53	88.3
Female	7	11.7
Marital status		
Single	1	1.7
Married	51	85
Widow	8	13.3
Educational level		
Illiterate	12	20
Read & write	25	41.7
Technical education	15	25
Higher education	8	13.3
Occupation		
Hand craft	46	76.6
Employee	7	11.7
Housewife	7	11.7
Hand craft kind		
Hunter	1	1.7
Mechanic	6	10
Driver	15	25
Bread oven	2	3.3
Farmer	11	18.3
Trader	6	10
Metallic	1	1.7
Builder	2	3.3
Carpenter	2	3.3

Table (2): Distribution of Study Group According to Their Health Relevant Data (N=60)

Items	No	%
Treatment type		
Chemotherapy	23	38.3
Immunotherapy	37	61.6
Diagnosis date of bladder cancer		
Less one month	3	5
1-3 months	35	58.3
More than 3 months	22	36.7
Positive family history of bladder cancer		
Yes	2	3.4
No	58	96.6
Bilharziasis		
Yes	13	21.7
The time of diagnosis of bilharziasis (N=13)		
10-< 20 years	1	7.7
20-<30 years	1	7.7
More than 30 years	11	84.6
The time of treatment of bilharziasis(N=13)		
10-< 20 years	1	7.7

20-<30 years	1	7.7
More than 30 years	11	84.6
Smoking habit		
Smoker	28	46.7
Ex-smoker	11	18.3
Non smoker	21	35
Chief complaint		
Dysuria	24	40
Hematuria	58	96.7
Frequency of urination	11	18.3
Nocturia	4	6.7
Urgency	7	11.7
Low back pain	5	8.3
Associated diseases		
Urinary tract infection	3	5
Urinary stones	15	25
Diabetes mellitus	21	35
Hypertension	16	26.7

Table 3: patients' knowledge about bladder cancer

Items	Incorrect		Partially correct		Totally correct	
	No	%	No	%	No	%
Bladder cancer knowledge						
1-bladder cancer definition	48	80	0	0	12	20
2-Types of bladder cancer	53	88.3	4	6.7	3	5
3-Causes of bladder cancer	45	75	15	25	0	0
4-Signs and symptoms of bladder cancer	36	60	24	40	0	0
5-Treatment type	24	40	35	58.3	1	1.7
Activities of daily living						
1-Indicated diet	44	73.3	16	26.7	0	0
2-Contraindicated diet	38	63.3	12	20	10	16.7
3-Precautions during Exercise	56	93.3	4	6.7	0	0
4-Infection control	3	5	54	90	3	5
5-Sun exposure precaution	26	43.3	29	48.3	5	8.3
Guidelines of intravesical injection						
1-Precautions before bladder injection	57	95	3	5	0	0
2-Precautions after bladder injection	57	95	3	5	0	0
Side effects and measures to control them						
1-Chemotherapy local side effects(N=23)	23	100	0	0	0	0
2-Immunotherapy local side effects (N=37)	37	100	0	0	0	0
3-Measures to control dysuria	60	100	0	0	0	0
4-Measures to control Frequency	60	100	0	0	0	0
5-Measures to decrease pain	60	100	0	0	0	0
6-Chemotherapy systemic side effect (N=23)	23	100	0	0	0	0
7-Rash management	23	100	0	0	0	0
8-Immunotherapy systemic side effect (N=37)	37	100	0	0	0	0
9-Measures to decrease hyperthermia (N=37)	33	89.2	4	6.7	0	0
10-Measures to decrease fatigue (N=37)	37	100	0	0	0	0

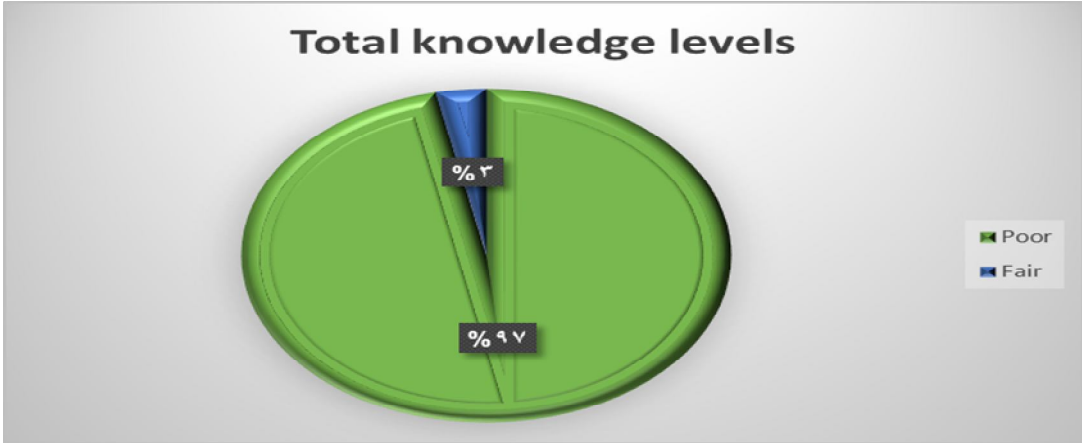


Figure (1) patients' total knowledge levels about bladder cancer (N=60)