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Performance Status in Elderly Cancer Patients Attending at Tertiary Cancer Center, Nepal

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ABSTRACT

Background: Globally, the elderly population is increasing rapidly. Along with age, cancer and other co-existing medical conditions affect the performance status of the elderly. It plays a key role in treatment decisions and is an independent prognostic indicator. The objective of the study was to assess the performance status of elderly cancer patients attending the Tertiary Cancer Centre in Nepal.

Method: A descriptive cross-sectional study was conducted among 100 elderly cancer patients admitted for treatment. Purposive sampling was used, and data were collected via face-to-face interviews. Data were entered and analysed by using SPSS version 20. Descriptive and inferential statistics were calculated.

Result: The respondents' ages ranged from 60 to 82 years, with a mean and standard deviation of 66±5.32. The majority of respondents were in the 60-69 age group. Twenty-five respondents were in stage IV. The majority of respondents have surgery for treatment (71.0%). Pain was the most common (57.0%) side effect experienced by respondents, and performance status was affected by side effects among 66.0%. Co-morbidities were present among 64.0% and among them, 71.0% had hypertension. More than half of the respondents had a good ECOG performance status (51.0%) and were independent in functional status (55.0%). There is a significant association between level of ECOG performance status with age (p-value =0.011), staging (p-value=0.029), and co morbidities (p-value=0.042).

Conclusion: The study showed that over half of the respondents had good ECOG scores and were functionally independent, highlighting the need for stronger primary and secondary prevention efforts to support early diagnosis and better performance status.

Key words: cancer; ECOG; elderly; performance status.

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INTRODUCTION

Globally, the population of the elderly is increasing rapidly.[1] In 2022, there were 771 million people worldwide above the age of 65 years, representing 10% of the global population.[2] As the population ages, many diseases that predominantly affect elderly individuals. Age-related health problems may affect tumor prognosis.[3] Longer life spans increase vulnerability to diseases like cancer, a leading global cause of death.[4] As people age, their physical and cognitive abilities deteriorate, which also influences their performance status.[5] Performance status plays a key role in treatment decisions and is an independent prognostic indicator for patients with advanced malignancy.[6,7,8] The ECOG Scale is widely used to quantify the functional status. Patients who have a worse performance status and limited functional capacity tend to have more difficulty tolerating rigorous cancer treatments.[9,10] Among 67 elderly patients, performance status was good in 55 patients and poor in 12.[11] A cohort study showed that, ECOG performance status 0-1 was in 60.8% and disease

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control rate 88.4%. Likewise, in ECOG performance status, 2 was in 39.2% and the disease control rate was 53.6%.[12] Though various studies have been conducted in developed countries, the performance status of cancer and ageing is not scientifically reported in developing countries [11]

METHODS

A descriptive cross-sectional study was conducted in B.P. Koirala Memorial Cancer Hospital, Bharatpur-7, Chitwan. It is a tertiary-level cancer hospital. The population of the study were patients aged 60 and older attending in different department of BPKMCH for treatment. Non-probability purposive sampling technique was used. Data were collected via face to face interview method among 100 samples. The ECOG performance status scale was used. It contains 5 items, ranges from 0-4. The 0 being fully functional and asymptomatic, and 4 being bedridden. The performance level was categorized into two categories. Good performance means 0-1 and poor performance ≥2. A structured interview schedule was used. Ethical approval was obtained from the IRC, BPKMCH, Ref. No. 25/081/082. Ethical norms were maintained throughout the study period. Anonymity and confidentiality were maintained. All the collected data were checked and organized daily for completeness and consistency. All the collected data were entered and analysed in the Statistical Package for the Social Sciences (SPSS) version 20. Descriptive and inferential statistics were calculated.

Table 1. Socio-demographic characteristics of the respondents. (n=100)

Variables	Frequency (%)
Age (years)	
60-69	76(76)
70-79	22(22)
80-89	2(2)
Mean ± SD = 66 ± 5.32	
Min(Max) = 60(82)	
Sex	
Male	56(56)
Female	44(44)
Marital Status	
Married	90(90)
Widow/widower	8(8)
Never get married	2(2)
BMI	
Under weight (BMI < 18.5)	12(12)
Normal weight (BMI 18.5-24.9)	65(65)
Overweight (BMI >25-29.9)	23(23)
Living arrangement	
Alone	4(4)
With spouse	20(20)
With spouse and child	57(57)
With child	19(19)

RESULTS

Table 1 shows that, majority of the respondents (76.0%) belong to age 60-69 years. Mean±SD was 66±5.32. Likewise, 90.0% were married and 56.0% were male. Twelve percent of the respondents were under weight. Majority of the respondents (57.0%) living arrangement was with their spouse and child and the least (4.0%) lived alone (Table 1).

Table 2 reveals that the majority of the respondents (31.0%) site of cancer was respiratory system, followed by the reproductive system (24.0%) and the GI system (13.0%). More than half of the respondents (55.0%) duration of having a diagnosis was equals and less than 6 months, and most of the respondents (25.0%) were stage IV and poorly differentiated (26.0%). Sixty four percent of the respondents has co-morbidities among them majority of respondents (70.31%) had hypertension followed by (53.13%) diabetes (Table 2).

The results showed that majority of the respondents had done surgery (71.0%) and 63.0% had received chemotherapy. Most common side effect was pain (57.0%) followed by fatigue (48.0%). Likewise, 66.0% patient's daily activities were affected by side effect (Table 3).

Table 4 illustrated that 39.0% respondent were restricted in physically strenuous activity but ambulatory and able to carry out work of light, followed by 33.0% were ambulatory and capable all self-care but unable to carry out any work more than 50.0% of waking hour. Only 2.0% were fully active,

Table 2. Disease related information of the respondents. (n=100)	
Variables	**Frequency (%)**
Diagnosis	
Respiratory system	31(31)
GI system	13(13)
Reproductive system	24(24)
Urinary system	13(13)
Head and neck tumour	12(12)
Others	7(7)
Duration of Having a Diagnosis	
> 6 months	45(45)
≤ 6 months	55(55)
Staging	
Stgae I	9(9)
stage II	19(19)
Stage III	24(24)
StageIV	25(25)
Not mention	23(23)
Grading	
Well differentiated	11(11)
Moderately differentiated	25(25)
Poorly differentiated	26(26)
Undifferentiated	20(20)
Not mention	18(18)
Co- Morbidities	
Present	64(64)
Not present	36(36)
Presence of Co-morbidities (n=64) *	
Hypertension	45 (70.31)
Diabetes	34(53.13)
COPD	6(9.37)
Heart Disease	3(4.6)
Renal Disease (CKD)	1(1.56)

**Multiple responses*

able to carry out on all pre disease performance without restriction (Table 4).

Table 5 reveals that 51.0% respondents had good ECOG performance status score and 49.0% had poor ECOG performance score (Table 5).

Table 6 shows that there is a significant association between level of ECOG performance status with age (p-value=0.011), staging (p-value =0.029), and co morbidities (p-value =0.042).

Table 3. Treatment related information of the respondents. (n=100)	
Variable	**Frequency (%)**
Treatment received*	
Surgery	71(71)
Chemotherapy	63(63)
Radiation	23(23)
Hormonal	10(10)
Immunotherapy	10(10)
Side Effect*	
Nausea/vomiting	35(35)
Diarrhoea	13(13)
Fatigue	48(48)
Pain	57(57)
Changes in sleep	26(26)
Thrombocytopenia	2(2)
Skin irritation	32(32)
Dyspnea	3(3)
Side effects that affect in daily activities	
Yes	66(66)
No	34(34)

**Multiple responses*

Table 4. ECOG performance status of the respondents. (n=100)		
Statements	**Grade**	**Frequency (%)**
Fully active, able to carry out on all pre disease performance without restriction.	0	2(2.0)
Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g. light house work, office work.	1	39(39.0)
Ambulatory and capable all self -care but unable to carry out any work more than 50% of waking hour.	2	33(33.0)
Capable of only limited self-care confined to bed or chair more than 50% of waking hours.	3	20(20.0)
Completely disabled, cannot carry on any selfcare.	4	6(6.0)

Table 5. Level of performance status of the respondents. (n=100)	
Performance Status	**Frequency (%)**
ECOG	
Good	51(51.0)
Poor	49(49.0)

Table 6. Association between ECOG level of performance and selected variables. (n=100)

Variables	Performance Score		χ^2	p-value
	Good n(%)	Poor n(%)		
Age (years)				
60-69	27(39.7)	41(60.3)	9.034	0.011
70-79	20(66.7)	10(33.3)		
≥80	0(0.0)	2(100)		
Staging				
Stage I	7(77.8)	2(22.2)	12.496	0.029
Stage II	11(57.9)	8(48.1)		
Stage III	9(37.5)	15(62.5)		
Stage IV	8(32.0)	17(68.0)		
Not mention	16(69.6)	8(30.4)		
Co-morbidities				
Yes	23(63.9)	13(36.1)	0.063	0.042
No	28(43.8)	36(563)		

DISCUSSION

Findings of the present study showed that, majority (76.0%) of the respondents were in the age group 60-69, with mean±SD was 66±5.32. This finding is inconsistent with the other study, which shows that mean±SD was 57.3±11.6.[13] The finding of this study presents that the highest frequency (25.0%) of respondents were diagnosed with stage IV cancer. This finding is inconsistent with the study, which was conducted in the geriatric oncology clinic, India, which showed that more than half (51.0%) of the respondents were in stage IV.[14] The findings of this study showed that, live with spouse and child were 57.0% while the study conducted in Rome showed, 61.1% live with family.[15] The finding of the study presents that the highest frequency (31.0%) of the respondents were diagnosed with respiratory system-related cancer. This finding was nearly similar with the study which was conducted in Mumbai, India shows 41.0% respondents were diagnosis with lung cancer.[14] The finding of this study showed that, fully active were 2.0% of respondents. This finding was inconsistent on another study, which showed that 36.7%. Likewise, this study showed, restricted in physically strenuous activity but ambulatory were 39% while nearly consistent findings (44.7%) was found on the study conducted in Japan.[16]

The finding of the study presents that majority (51.0%) of the respondents had good ECOG PS score 0-1. This finding was nearly consistent on study which was conducted in the geriatric oncology clinic of the Tata Memorial Hospital, Mumbai, India. This shows that 59% of the respondents had good PS score.[14] Likewise, this findings was similar on study which was conducted in, Japan, which showed that 49.5.0% of the respondents had good ECOG PS score.[17] The finding of the study presents that highest frequency (45.0%) of the respondents had hypertension as comorbidities. This findings was nearly consistent on study conducted in India. Which showed that Hypertension was the leading comorbidity (40%).[18] This study shows that, there is a significant association between level of ECOG performance status with age (p-value=0.011), staging (p-value=0.029), and co morbidities (p-value=0.042). While another study which was conducted in Japan showed that, there is no association between ECOG performance status and age (p-value=0.865).[17]

Limitations

This study was conducted in only one setting, BP Koirala Memorial Cancer Hospital, Chitwan, Nepal.

CONCLUSIONS

Based on the findings of the study, it is concluded that assessment of the performance status is important for treatment decisions. More than half of the respondents had good performance status. The highest percentage of the respondents were in stage IV. To preserve performance status in elderly cancer patients, early diagnosis of the cancer is most important.

Conflict of Interest: None

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