

AWARENESS, PERCEIVED RISK AND PREVENTIVE PRACTICE ON CORONAVIRUS DISEASE (COVID-19) AMONG CANCER PATIENT IN BIR HOSPITAL, KATHMANDU

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ABSTRACT

People with cancer are at high risk for coronavirus infection because of immunosuppressive nature of disease itself and adverse effect of treatment. Knowledge and adoption of preventive practice is critical to control the outbreak of infectious disease in vulnerable populations. Hence, this study aimed to identify the awareness, perceived risk and preventive practices regarding coronavirus disease among people with cancer. Methods: A descriptive cross-sectional study was conducted among 83 cancer patients in Bir Hospital. Total enumeration sampling technique was used to collect data for two weeks and interview schedule was used. Data was analyzed in SPSS version 16, descriptive and inferential statistics was calculated. Out of 83 participants, mean score of knowledge was 37.33 ± 7.5 and 76% of study participants had adequate awareness (>75% of total score) and the mean practice score was 24.6 ± 2.88 . None of the study participants were practicing preventive measures as per guidelines of government. The study found that level of awareness was significantly associated with the age of the participants ($p=0.04$). However, other socio-demographic factors were not associated with awareness. The study concluded that people with cancer had adequate awareness but had inadequate practices on preventive measures as per the guidelines of the Ministry of Health and Population and WHO, which should be mandatory to contain disease outbreak. Therefore, there is an urgent need to focus on the adoption of preventive behaviors for cancer patients.

KEYWORDS

Awareness, Cancer Patient, Coronavirus Disease, Perceived Risk, Preventive Practices

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INTRODUCTION

After the World Health Organization (WHO) declaration of the COVID-19 outbreak as a global public health emergency, it is mandatory to take immediate action in detecting and preventing infection.¹ The WHO and Government of Nepal (GoN) has initiated several measures for containment of disease with emphasis on the protection of high risk population.^{2,3} The current pandemic raises various issues relating to cancer patients; first, adverse effects of cancer treatment can predispose them for risk for severe complications of COVID 19. Secondly, patients must have had to leave home to obtain scheduled treatment in the hospital which increased the possibility of infection due to frequent exposure.⁴ People's adoption of preventive strategies are based on the assumption that the individuals' preventive behaviour and action is affected by their knowledge, belief in being at risk and perceived severity of disease.⁵ During the outbreak of COVID-19, awareness and the execution of preventive measures in public has been essential for disease containment.⁶ This study aimed to assess awareness, perceived risk and preventive practices among persons with cancer regarding COVID-19.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted among cancer patients who had attended the oncology department of Bir Hospital, Kathmandu. Total of 83 patients were included in the study as sample size was calculated for the infinite population by using the specified absolute precision formula ($n = z^2 pq / e^2$). Total enumerative sampling technique was used to collect data within two weeks (July 5th to 23rd July 2020). Data was collected by using a structured interview schedule. Patients diagnosed with cancer, age above 18 years, conscious and willing to participate in the study were included. Instrument was prepared based on guidelines of the GoN and WHO training materials. COVID-19 related information such as high risk population, clinical features, incubation period, mode of transmission, treatment, and preventive measures were included to assess knowledge and one score was provided for each correct response with total 46 scores and it was categorized as score more than 75.0% (34.5 and more) was having good awareness.⁷ For risk perception, risk related to seriousness of disease, easily getting infected than others, severity of complication and risk of dying were included. Individual's practice was assessed in 15 preventive measures by using four-point Likert scale as 1= never, 2 = rarely, 3 =

sometimes, 4 = always, so the possible total scores for practice on preventive measures were 60 that was the adequate practice score and must adopt all the preventive measures "Always" to prevent this highly contagious viral disease.

Ethical approval was taken from the Institutional Review Board of the National Academy of Medical Sciences (NAMS), Kathmandu. Written informed consent was obtained from each participant, data was analyzed by using Statistical Package for the Social Sciences (SPSS) version 16 and descriptive statistics such as percentage, mean, median and inferential statistics like chi-square was calculated.

RESULTS

Among 83 participants (table 1), the mean age and standard deviation was 56.5 ± 13.1 years and ranged from 28 to 88 years. More than half were females (56.6%). Similarly, more than half (55.4%) resided within Kathmandu valley and 85.5% followed Hindu religion. Regarding ethnicity, 48.2% were *Brahmin/Chhetries* and 44.6% were Indigenous people (*Janajatis*). Nearly one fourth (24.0%) had a tumor related to the gastro-intestinal tract, followed by lung (20.5%) and more than half (56.6%) were on chemotherapy regimen. Regarding sources of information on COVID-19, almost all (99.0%) of the respondents obtained health information from family and friends followed by television (78.3%).

Regarding awareness (Table 2), all participants have heard about the COVID-19. Most of the respondents (94.0%) described people with serious chronic heart disease followed by cancer (76.0%) are a high risk group for serious complications. For the awareness of clinical features, 96.4% participants mentioned fever and difficulty in breathing as the signs and symptoms of COVID-19 followed by dry cough (95.2%) and sore throat (92.8%). For disease transmission, more than two third (77.0%) participants stated person to person transmission followed by indirect transmission (89.0%), one third (33.7%) mentioned the correct incubation period of disease. Though, there is no definite treatment for COVID-19 till date, more than two third of participants have mentioned that supportive care i.e. Adequate rest (71.0%), self-isolation (84.0%) and plenty of liquids 67 (80.7%) were major treatments. While calculating overall score on awareness level, 76.0% participants had adequate awareness (>75.0% of total score).

Participants were asked about their perceptions regarding COVID-19 infection (Table 3), more

Table 1: Socio-demographic and disease related characteristics of participants (n = 83)

Characteristics	n	%
Age in Years		
< 30	3	3.6
31-40	8	9.6
41-50	14	16.9
51-60	24	28.9
>60	34	41.0
Mean age \pmSD	56.54 \pm 13.13	
Gender		
Male	36	43.4
Female	47	56.6
Education status		
Illiterate	17	20.5
Primary level	38	45.8
Secondary	20	24.1
Intermediate	7	8.4
Bachelor and above	1	1.2
Religion		
Hindu	71	85.5
Muslim	1	1.2
Buddhist	6	7.2
Christian	5	6.0
Ethnicity		
<i>Brahmin/Chhetri</i>	40	48.2
Indigenous people (<i>Janajatis</i>)	37	44.6
<i>Madhesi</i>	2	2.4
<i>Dalit</i>	4	4.8
Current Place of Residence		
Within Kathmandu Valley	46	55.4
Outside of Kathmandu Valley	37	44.6
Type of Cancer		
Gastrointestinal	20	24.0
Lung	17	20.5
Breast		
Gynecological (Including Cervix)		
Head and Neck		
Genito-urinary		
Hematological		
Others		
Present treatment		
Chemotherapy		
Chemotherapy and radiation		
Palliative		
Follow-up		

Table 2: Participant's awareness on risk group, clinical features, mode of transmission and treatment of COVID-19 (n = 83)

Variables	n	%
Awareness on high risk groups*		
Serious chronic heart disease	78	94.0
Serious lung disease and asthma	77	92.8
Diabetic group	74	89.2
People in crowded places	74	89.2
Elderly (\geq 60 years)	71	85.5
Infants	70	83.3
Children under 5 years	69	83.1
Immunocompromised group	69	83.1
Organ transplant e.g. kidney, liver	66	80.5
Pregnant women	65	78.3
Diagnosed with cancer and receiving treatments	63	75.9
Clinical Features*		
Fever	80	96.4
Difficulty in Breathing	80	96.4
Dry Cough	79	95.2
Sore throat	77	92.8
Runny or stuffy nose	69	83.1
Fatigue (tiredness)	64	77.1
Muscle or body aches	62	74.7
Severe headaches	61	73.5
Loss of sense of smell and taste	51	65.4
Vomiting	47	60.3
Diarrhea	41	52.6
Abdominal Discomfort	38	45.8
Communicable disease	64	77.1
Mode of transmission*		
Droplets through Cough, sneeze or Talking	78	94.0
Exchange of used materials	74	89.2
Handshake and hugs	72	86.7
Incubation period is about 2-14 Days	28	33.7
Treatment of COVID-19		
Self-Isolation	70	84.3
Intake of Liquid	67	80.7
Adequate rest	59	71.1

*Multiple Responses

Table 3: Participants perceived risk on COVID-19 (n=83)

Variables	n	%
COVID-19 is a serious illness		
Yes	52	62.7
No	20	24.1
Don't know	11	13.3
I can get infected more easily than others		
Yes	40	48.2
No	36	43.4
Don't know	7	8.4
I am at risk for severe complications		
Yes	50	60.2
No	29	34.9
Don't know	4	4.8
My risk of dying is high		
Yes	35	49.4
No	41	42.2
Don't know	7	8.4

than half (62.7%) of them perceived as a serious illness, they as a cancer patient can get infected easily (48.2%) and also at risk for severe complications of disease (60.0%) but only 42.0% perceived that their risk of dying is high.

Regarding practices of preventive measures (Table 4), 89.0% of the participants were always avoiding physical contact (hugging and handshakes), 82.0% of the participants always washed hands but only 44.6% used hand sanitizer to clean hands. More than 70.0% of them were avoiding traveling except for hospital visits (83.1%), used face masks while facing the mass of people (81.3%). While measuring the overall practice, none of the participants were following all the preventive measures as “always” prescribed by WHO and Government.

The study found that the level of awareness was significantly associated with age of the participants (p=0.042). However, other socio demographic factors were not found to be associated with awareness (Table 5).

Table 4: Participants' preventive practices on COVID-19 (n = 83)

Preventive Measures	No. of participants (%)			
	Never (1)	Rarely (2)	Sometimes (3)	Always (4)
I wash hands for at least 20 second with soap and water	4 (4.8)	5 (6.0)	6 (7.2)	68 (81.9)
I use disinfectant (hand sanitizer) to clean hands when soap and water is not available	16 (19.3)	19 (22.9)	11 (13.3)	37 (44.6)
I use disinfectant to clean surface e.g. dining table, uncover surface of bed and chair, railing of staircase	18 (21.7)	15 (18.1)	10 (12.0)	40 (48.2)
I avoid touching my nose, eye and mouth with unwashed hands	3 (3.6)	16 (19.3)	17 (20.5)	47 (56.6)
I avoid unnecessary traveling except for hospital visit	1(1.2)	2 (2.4)	11 (13.3)	69 (83.1)
I avoid handshake and hugging	-	1 (1.2)	8 (9.6)	74 (89.2)
I maintain social distance at least of 2 meters	2 (2.4)	13 (15.7)	21 (25.3)	47 (56.6)
I try to avoid crowd of people	2 (2.4)	7 (8.4)	14 (16.9)	60 (72.3)
I use facemask while facing mass of people	1 (1.2)	2 (2.4)	11 (13.3)	69 (83.1)
I avoid close contact with family/ friends who are sick or when they have cough and cold	3 (3.6)	7 (8.4)	21 (25.3)	52 (62.7)
My family care providers cover their nose and mouth while coughing and sneezing	2 (2.4)	6 (7.2)	16 (19.3)	59 (71.1)
I do exercise and meditation regularly	51 (64.1)	19 (22.9)	8 (9.6)	5 (6.0)
I take nutritious meal and snacks	4 (4.8)	8 (9.6)	22 (26.5)	49 (59.0)
I drink herbal/ ginger tea	22 (26.5)	15 (18.1)	13 (15.7)	33 (39.8)
I drink hot water frequently	5 (6)	7 (8.4)	9 (10.8)	62 (74.7)

Table 5: Association between awareness level of participants and selected variables (n = 83)

Variables	Level of Awareness				p-value*
	Adequate (score >76)		Inadequate (score <76)		
	n	(%)	n	(%)	
Gender					
Male	29	80.6	7	19.4	0.27
Female	34	72.3	13	27.7	
Age					
Less than 59 years	38	84.4	7	15.6	0.04*
60 years and above	25	65.8	13	34.2	
Educational Status					
Illiterate	10	58.8	7	14.2	0.16
Up to secondary level	46	79.3	12	20.7	
Intermediate and above	7	87.5	1	12.5	
Place of Residence					
Within Kathmandu valley	36	78.3	10	21.7	0.38
Outside Kathmandu valley	27	72.3	10	27.0	
Current Treatment					
Chemotherapy and concurrent Radiation therapy	41	83.7	8	16.3	0.43
Palliative and Regular follow-up	22	64.7	12	35.3	

*p -value significant at ≤ 0.05 level (chi-square)

DISCUSSION

Among 83 participants, all have heard about the COVID-19 and 76.0% participants had adequate awareness. The study participants were aware that the people with serious chronic heart disease (94.0%), elderly people >60 years (85.5%), people with low immunity (83.1%) and people with cancer (75.9%) are at risk for severe complications of disease. This finding was consistent with the study conducted in Jordan which revealed that all participants knew people with chronic illness (95.2%), older people (95.0%), cancer patients (83.1%), and pregnant women (49.7%) are at risk for severe complications.⁹ However, present study finding is higher than a study conducted in Myanmar which showed that elderly (35.9%), people with chronic disease (24.4%) such as hypertension, cancer are at high risk of contracting infection.¹⁰

Regarding awareness on the mode of transmission, almost all (94.0%) mentioned droplets through coughing, sneezing or talking and 89.2% mentioned the fomites as means of transmitting and contacting the virus and only 33.0% knew about the incubation period as 2-14 days. These findings were also similar to the

study conducted by Olapegba *et al.* in Nigeria which reported that almost all mentioned the contact with droplets from an infected person/organism via breathing, sneezing, or coughing as mode of transmission. Similarly, study conducted by Alami and Mya, mentioned that more than half of the respondents (62.7% and 66.6%), were aware of droplet transmission.⁹⁻¹¹

Our study shows that nearly all of the participants (99.0%) reported use of masks as the main preventive measure. However, 72.3% wore masks "always" for the containment of disease. Awareness on preventive measures findings were also consistent with the study conducted in Southwest Ethiopia which showed that properly washing hands with soap and water (95.5%), and avoiding crowded places (90.3%), and in Saudi Arabia where majority of the respondents mentioned that isolation of infected people (99.2%) avoiding crowded place (98.9%) avoid touching nose, eye and mouth with unwashed hands (99%) washing hands with soap and water (91.3%) and increase immunity (88.0%) were commonly known methods of preventing COVID-19 transmission.^{8,12}

Risk Perception: Outbreak of disease depends on the behaviors of individuals and the behaviour is often related to individuals' risk perception.¹³ Risk perceptions have been viewed as one of the key drivers of health behaviours. Individual's precautionary behaviour and adoption of precautionary measure depends on the perception of threat and risk for the disease and its consequences.⁸ In the study nearly two third (62.7%) participants perceived that COVID-19 is a serious illness and nearly half of them perceived that they can get infected easily than other people. Similarly, 60.2% perceived that they are at risk for severe complications of the disease. However, a study conducted among cancer patients in Jordan showed that 83% believed that they are more prone to get infected and 76.1% believed that they have a higher risk to develop complications, this may be due to the higher education status of respondents.⁹ In a study conducted in Peru also showed that 74.2% perceived serious consequences of disease.¹⁴ This perception of low risk of infection might be due to poor understanding of high infectiousness of COVID-19. In a previous study conducted in Nepal among adults showed that 10.9 % perceived COVID-19 as a fatal disease.¹⁵

Preventive Measures: Individuals who are exposed to health information are expected to have knowledge about the preventive measures, which helps for behavior changes. The media played a very significant role in making people aware about the situation.^{16,17} In this study 78.3% respondents got information about COVID-19 through television (78.3%). Regarding preventive behavior, 90% avoided physical contact (handshake and hugging), 83.1% wore facemask, 81.9% washed hands always, whereas in a study conducted in health worker in rural health facilities showed hand washing compliance was low (24.2%).¹⁸ Higher percentage of hand washing practices in the present study may be the result of widespread dissemination on facts of COVID-19. Our study findings were similar to the previous study done in Nepal by Singh *et al* which also showed that 96.4% were avoided shaking hands followed by avoided touching face with unclean hands (97.9%), and 82.3% were covering mouth/nose while coughing and sneezing and maintained social distances.¹⁵ In another study conducted by Paudel *et al* among Nepalese residents, indicated that 93.0% participants avoided crowd, 92.0% wore mask and 85.7% washed their hands for the prevention of infection.¹⁹ In comparison with the study done in Mya *et al.* in which 44.9% washed hands frequently, 34.0% avoided travel,

58.0% avoided crowded area, 47.0% covered mouth and nose while coughing,¹⁰ which is not likely to match the findings of present study as individuals diagnosed chronic disease from their studied population are more likely adopt preventive behaviours.²⁰

Preventive measures play a crucial role in reducing infection rate and controlling outbreak of the disease.¹² However in the present study, none of the participants were adopting all preventive measures "always" issued by the Government. The study conducted in Ethiopia showed the similar findings.²¹ These preventive measures should be mandatory to be adopted by all citizens to prevent highly contagious disease.

The present study is single center study and may lack generalization in all settings and preventive practice was assessed based on the verbal response of the participants not through observation. It is recommended for further study to observe the practice of the patient for evaluation practices on preventive aspects of disease.

The study concluded that people with cancer had adequate awareness and average risk perception and inadequate practices on preventive measures as per the guidelines of the government of Nepal and WHO for COVID-19, which should be mandatory to contain disease outbreak. Therefore, there is an urgent need to develop educational programs to change the behavior of people for containment of disease outbreak and reduce mortality particularly for the people with cancer.

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