Knowledge Regarding Ebola Virus Disease among Nursing Students

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ABSTRACT

Background: Ebola virus disease (EVD) is an acute, viral and fatal illness among humans and other primates. It can be transmitted from wild animals to human and could spread from human to human**.** The objective of the study was to assess the knowledge regarding Ebola Virus Disease among the nursing students.

Methods: A cross sectional analytical study design was conducted among the nursing students to assess the knowledge regarding Ebola Virus Disease among the nursing students of Bharatpur, Chitwan. A total of 138 nursing students were selected by using the enumerative sampling method. Data were collected by using semi structured self-administered questionnaire. Data was entered and analyzed by using SPSS-20.

Results: In the study, out of 138 respondents, majority of respondents were in age group of 21-25 years (51.4%) and while least 0.7% were in age group of 26-30years. Regarding ethnicity, highest percentage of the respondents were Brahmin/Chhetri covering 67.4%. Regarding the level of knowledge on Ebola virus disease, 77.5% had poor knowledge and 22.5% had good knowledge. There was statistically significant relationship between the level of knowledge regarding Ebola virus disease and types of family (p<0.031).

Conclusion: Based on the finding of the study, it is concluded that majority of the respondents had poor level of knowledge regarding Ebola Virus disease. So, the study recommends the need of effective awareness programme for the nursing students that could bring more awareness as a whole in good level.

Keywords: Knowledge; Ebola Virus Disease; Nursing Students.

INTRODUCTION

Ebola virus disease (EVD) is an acute, viral and fatal illness among humans and other primates. It can be transmitted from wild animals to human and could spread from human to human (World Health Organization.[1] The Ebola virus belongs to RNA virus family of filoviridae and is the most pathogenic strain.[2] The Ebola virus is transmitted through direct contact with the blood, secretions, organs or other bodily fluids of infected people, and with surfaces and materials contaminated with these fluids.[3] The routes of the infections are oral, the conjunctivae, mucous membrane exposure, sexual intercourse and a break in the skin.[4] Many common illnesses can have the same symptoms as EVD, including influenza (flu), malaria, or typhoid fever. EVD is a rare but severe and often deadly disease.[5] Recovery from EVD depends on good supportive clinical care and the patient's immune response.[6] A study conducted on Predictors of knowledge regarding Ebola virus disease among medical and nursing students in a Nigerian teaching hospital involving 423 under-graduate medical and nursing students from University of Maiduguri Teaching Hospital revealed that among them 31 (18%) nursing students have good knowledge whereas 141 (82.0%) have poor knowledge regarding EVD.[7]

METHODS

An analytical cross sectional study was conducted among 99 nursing students studying in Shree Medical and Technical College (SMTC) and Nepal Polytechnic Institute (NPI) Bharatpur, Chitwan. Ethical approval was taken from SMTCIRC. Formal permission was taken from the concerned authorities of Shree Medical and Technical College as well as Nepal Polytechnic Institute (NPI). Informed and written consent was taken from all the students before data collection. Data was collected by using Semi-structured questionnaire using non probability sampling technique. Reliability of the instrument was examined for internal consistency after pretesting in 10% (14) sample in Devadaha Medical College, devdaha-9, Bhaluhi, Rupendehi and necessary modification was done. And then collected data was checked for completeness, accuracy and then entered and analyzed using SPSS 20. Data was analyzed using descriptive and inferential statistics. In the descriptive statistics for categorical variables frequency and percentage was calculated. While for continuous variable

mean and standard deviation was calculated. In the inferential statistics to find the association between categorical variable chi-square test was used. P-value <0.05 was be considered as statistically significant.

RESULTS

Out of 138 respondents, majority of respondents were in age group of 21-25 years (51.4%) and while least 0.7% were in age group of 26-30years. The mean±SD of the age was 20.80 ±1.57 years. Regarding ethnicity, highest percentage of the respondents were Brahmin/Chhetri covering 67.4% and the lowest were Dalit, madeshi and Thakuri. Out of all respondents 92.8% were unmarried while 7.2% were married. With respect to the student's academic year of the study, maximum 42.8% studies on Bsc nursing 4th year and least 28.3% studies on Bsc nursing 3rd year (Table 1).

Table 1. Respondents' sociodemographic (Age, Ethnicity, marital status of students).

Variables	Frequency (%)
Age(yrs.)	
15-20	66(47.8)
21-25	71(51.5)
26-30	1(0.7)
Mean±SD=20.8±1.579, Min=18, Max=30	
Ethnicity	
Dalit	1(0.7)
Janjati	42(30.5)
Madeshi	1(0.7)
Brahmin/Chhetri	93(67.4)
Thakuri	1(0.7)
Marital status of students	
Married	10(7.2)
Unmarried	128(92.8)
Divorce	1(0.07)
Living with spouse	9(7.03)
Academic year	
Bsc nursing second year	40(29)
Bsc nursing 3rd year	39(28.3)
Bsc nursing 4rth year	59(42.8)

Regarding mother educational status 97.1% were literate and least of them 2.9% were illiterate. Regarding father educational status, 100% were literate. In regard to mother's occupation, out of 138, most of them 71.7% were housewife while least of them 2.2% were involved in agriculture. Similarly, regarding father's occupation, maximum of them 43.5% involved in business whereas minimum of them 10.9% were involved in agriculture. High-

lighting the monthly family income of respondents, highest 64.5% earned between rs.10000-50000 whereas lowest 1.4% earned between 150001-200000. Regarding types of family, majority of them 83.3% lived in nuclear family and minority of them 1.4% lived in extended family (Table 2).

Table 2. Respondents' sociodemographic information.

Variables	Frequency (%)
Mother's educational status	
Literate	134(97.1)
Illiterate	4(2.9)
Father's education status	
Literate	138(100)
Mother's occupation	
Service holder	8(5.8)
Business	22(15.9)
Housewife	99(71.7)
Agriculture	3(2.2)
Abroad	6(4.4)
Father's occupation	
Service holder	35(25.4)
Business	60(43.5)
Agriculture	15(10.9)
Abroad	28(20.3)
Family income per month(Nrs.)	
10000-50000	89(64.5)
50001-100000	44(31.9)
100001-150000	3(2.2)
150001-200000	2(1.4)
Type of family	
Nuclear	115(83.3)
Joint	21(15.2)
Extended	2(1.4)

Out of 138 respondents, 91.3% knew the type of disease. However only 32% of the respondents had the knowledge about how the Ebola virus disease was named. Regarding the concept of Ebola virus family, more than half 50.7% of the respondents knew on which family Ebola virus belongs to. Similarly, least number of respondents 29% knew the first country reporting Ebola virus. Remembering date of Ebola virus disease discovered, one third 34.1% of the respondents knew the date of Ebola virus disease discovered. One fourth 23.2% of the respondents answered the natural host of Ebola virus correctly. In regards to incubation period of Ebola, 39.1% knew the incubation period of disease. In addition to the level of risk associated with Ebola contaminating rivers and drinking water resources, only 13.8% of respondents had the idea. Regarding definitive diagnostic studies of Ebola,

Table 3. Respondents' knowledge regarding Ebola virus disease.

Knowledge Items	Correct Answer	Frequency
Disease types	Communicable disease	126(91.3)
Ebola virus disease was named after	Named after a river in Congo	32(23.2)
Ebola virus family	Filoviridae	70(50.7)
Country first reported Ebola	Congo	40(29)
Date of Ebola virus disease discovered	1976	47(34.1)
Natural host of Ebola virus	Fruit bat	32(23.2)
Incubation period of Ebola virus	2-21 days	54(39.1)
Ebola virus in rivers and drinking water	Low	19(13.8)
Diagnostic studies of Ebola virus disease	RT-PCR	86(62.3)

62.3% knew about the confirmative diagnostic study of Ebola virus disease (Table 3).

Out of 138, 107(77.5%) had poor knowledge and 31(22.5%) had good knowledge (Table 4).

Table 4. Level of knowledge regarding Ebola virus disease.

Level of knowledge	Frequency (%)
Good	31(22.5)
Poor	107(77.5)

Above table shows the association between the level of knowledge and socio demographic variables. There was statistically significant relationship between types of family with the level of knowledge regarding Ebola virus disease (p-value<0.05).

DISCUSSION

This study was designed to assess the knowledge regarding Ebola Virus Disease among nursing students of Bharatpur, Chitwan. Out of 138 respondents, majority of respondents were in age group of 21-25 years which was 51.4% while least 0.7% were in age group of 26-30years. The mean value of the age was 20.80 and standard deviation was 1.579. Regarding ethnicity, highest percentage of the respondents were Brahmin/Chhetri covering 67.4% and the lowest were Dalit, Madeshi and Thakuri, each one including 0.7% in the tally. Describing the marital status of respondents, maximum of them 92.8% were unmarried while 7.2% were married. Among married, 10% were divorced and 90% are living with spouse. With respect to the student's academic year of the study, maximum 42.8% studies on Bsc nursing 4rth year and least 28.3% studies on Bsc nursing 3rd year. Likewise in mother educational status, majority of them 97.1% were literate and least of them 2.9% were illiterate. Among literate, 68.65% had secondary level of education, and 4.3% were general literate. Regarding father educational status, 100% were literate. Among literate, most of them 55.8% had secondary level of education whereas 9.4% had basic education. In this study, the distribution of respondents regarding mother's occupation, out of 138, most of them 71.7% were housewife while least of them 2.2% were involved in agriculture. Similarly, regarding father's occupation, maximum of them 43.5% involved in business whereas minimum of them 10.9% were involved in agriculture. Highlighting the monthly family income of respondents, highest 64.5% earned between rs.10000-50000 whereas lowest 1.4% earned between 150001-200000. Regarding types of family, majority of them 83.3% lived in nuclear family and minority of them 1.4% lived in extended family. With respect to sources of information, most of the respondents 63.4% had got information through internet and least of them 4.9% had got information from peer group. In this study knowledge regarding Ebola virus disease was assessed among nursing students and found mostly poor. Out of 138, 107(77.5%) had poor knowledge and 31(22.5%) had good knowledge. This finding is supported by the findings of the cross sectional study conducted by Balami, Ismail, and Saliluddin & Garba Nigeria among 172 nursing students where 82% poor knowledge and 18% had good knowledge.[7] The present study shows that least number of the respondents 32% stated the correct answer about how the Ebola virus disease was named. This finding is supported by the study conducted by Etokidem et.al where 66% respondents were able to give the correct answered democratic republic of Congo. This might be due to most of the respondents of this study were educated and had received information through Health personnel.[8] Result of the study shows that maximum 58.7% of the respondents answered direct contact with bodily fluid of infected living person regarding mode of disease transmission while this finding goes along with a study conducted in Africa by Etokidem et.al reported that 71.8% indicated correct answer. The association between the level of knowledge and socio demographic variables. There was statistically significantly relationship between types of family with the level of knowledge regarding Ebola virus disease. There were no association

Table 5. Association between level of knowledge & Selected Socio-demographic Variables.

Variable	Level of knowledge		Chi-square test	P value
	Good	Poor		
Age				
15-20	18(58.1%)	48(44.9%)		
21-25	12(38.7%)	59(55.1%)	5.17	0.75*
26-30	1(3.2%)	0(0.00%)		
Ethnicity				
Dalit	0(0.00%)	1(0.9%)		
Janjati	5(16.1%)	37(34.6%)		
Madeshi	0(0.00%)	1(0.9%)	6.154	0.188
Brahmin/chettri	26(83.9%)	67(62.6%)		
Others	0(0.00%)	1(0.9%)		
Marital status				
Married	2(6.51%)	8(7.5%)		
Unmarried	29(93.5%)	67(62.61%)	0.038	1
Student's year of the study				
Bsc nursing 2nd year	14(45.2)	26(24.3)		
Bsc nursing 3rd year	6(19.4)	33(30.8)	5.226α	0.73
Bsc nursing 4rth year	11(35.5)	48(44.9)		
Mother's educational status				
Illiterate	2(6.5)	2(1.9%)		
Literate	29(93.5)	105(98.1)	1.793	0.218
Father's educational status				
Literate	31(100)	107(100)		
Housewife	20(64.5)	79(73.8)	8.405	0.078
Agriculture	1(3.2)	2(1.9)		
Others	1(3.2)	5(4.7)		
Fathers occupation				
Service holder	4(12.91)	31(29.0)		
Businessman	17(54.8)	43(40.2)	5.252	0.154
Agriculture	5(16.1)			
Others	5(16.1)			
Family income				
10,000-50000	20(64.5)	69(64.5)		
50001-100000	10(32.3)	34(31.8)	2.251	0.522
100001-150000	0(0.00)	3(2.8)		
150001-200000	1(3.2)	1(0.9)		
Types of family				
Nuclear	30(96.81)	85(79.4)		
Joint	1(3.2)	20(18.7)	6.977	0.031
Extended	0(0.0)	2(1.9)		

between level of knowledge regarding age, ethnicity, marital status, year of the study, mother's educational status, father's educational status, mother's and father's occupation, family income and sources of information hence P value is more than 0.05.

CONCLUSION

Based on the findings and discussion of the study, it can be concluded that there is poor level of knowledge on knowledge regarding ebola virus disease among nursing students.

Limitations

This study was conducted in two different nursing college of Chitwan affiliated to Purbanchal University. So, it cannot be generalized to other setting.

Conflict of Interest: None.

REFERENCES

1. Jacob ST, Crozier I, Fischer WA, Hewlett A, Kraft CS, Vega M-AdL, et al. Ebola virus disease. Nature reviews Disease primers. 2020;6(1):13.
2. Goeijenbier M, Van Kampen J, Reusken C, Koopmans M, Van Gorp E. Ebola virus disease: a review on epidemiology, symptoms, treatment and pathogenesis. Neth J Med. 2014;72(9):442-8.
3. Fischer II WA, Weber DJ, Wohl DA. Personal protective equipment: protecting health care providers in an Ebola outbreak. Clinical therapeutics. 2015;37(11):2402-10.
4. Rewar S, Mirdha D. Transmission of Ebola virus disease: an overview. Annals of global health. 2014;80(6):444-51.
5. Boggild AK, Esposito DH, Kozarsky PE, Ansdell V, Beeching NJ, Campion D, et al. Differential diagnosis of illness in travelers arriving from Sierra Leone, Liberia, or Guinea: a cross-sectional study from the GeoSentinel Surveillance Network. Annals of internal medicine. 2015;162(11):757-64.
6. Liu WB, Li ZX, Du Y, Cao GW. Ebola virus disease: from epidemiology to prophylaxis. Military Medical Research. 2015;2(1):1-8.
7. Balami LG, Ismail S, Saliluddin SM, Garba SH. Predictors of knowledge regarding Ebola virus disease among medical and nursing students in a Nigerian teaching hospital. Int J Community Med Public Health. 2016;3:3123-9.
8. Etokidem AJ, Ago BU, Mgbekem M, Etim A, Usoroh E, Isika A. Ebola virus disease: assessment of knowledge, attitude and practice of nursing students of a Nigerian University. African health sciences. 2018;18(1):55-65.