Knowledge of Educational - Staff in Technical Institute of Karbala towards Ebola Virus Disease

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Abstract:

Background: The **Ebola Virus Disease** (EVD) outbreak had dangerous consequences throughout the world, considering a major threat to public health. The current study assessed the information of educational- staff in the Technical Institute of Karbala towards Ebola Virus Disease.

Subjects & Methods: Across sectional survey study using with an interviewer administered questionnaire. Data collected from a random sample of **200** educational staff in the Technical Institute of Karbala, regarding their knowledge about the Ebola Virus Disease. Statistical analysis done by using Chi-Square (χ^2) test.

Result: - For a total of all participants, who completed the questionnaire, more than half of the respondents (61%) had adequate knowledge. There was no significant difference in age groups with occupation, while there was high association (p-value < 0.05) in certificate, specialty and genders. Television is the first influencer (91%) on the information of participants.

Conclusion: In spite of good knowledge level as in general, but we recommended to increase the understanding about how the disease can be transmission and prevented infection with EVD.

Key words: Knowledge, Ebola Virus Disease, Educational – Staff, Karbala

I. INTRODUCTION: -

Ebola Virus Disease (EVD) is a dreaded, highly contagious disease with a mortality rate of 25%-90% [1], The contagious virus is one of the most pathogenic strains from the Filoviridae family of the RNA viruses. The disease was specified in in Zaire near Ebola river in 1976''s, since then, many outbreaks occurred as different magnitudes [2], it has broken of all other outbreaks. This outbreak had devastating consequences apart from diseases and deaths; with its adverse effects on health systems, livelihoods, economies, and long-held cultural traditions [3,4].

Given the unprecedented spread of Ebola and the worsening impact on communities, WHO in 8 Aug 2014 decleared " EVD" outbreak as a " Public Health Emergency of International Concern". There was no licensed pharmacological agent or vaccine for the treatment and prevention of EVD [1]. Ebola virus disease has a high incidence of death [5]. The disease was formerly known as Ebola haemorrhagic fever (EHF), the virus can be transmission through contact with blood, body secretions and fluids such as milk, semen as well as tissues of infected persons either while they are alive or immediately after their death, with an incubation period of 2 to 21 days [6,7]. The most complaining of the disease was fever with headache attached with muscle aches, vomiting and diarrhea, in the later stages of the disease, troubling signs are characterized by hemorrhagic rash and internal and external bleeding. [5,6,8].

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Only reservoir known of the virus was fruit bats that people use as food in west Africa area [9]. No vaccine or treatment for EVD has been approved. all research focuses on identifying the natural host of the virus, designing vaccines to protect communities at risk and discovering treatments to enhance disease management [10], its well-established public education and community engagement in outbreak responses [11]. Many outbreak responses can be discovered though implementing Knowledge, Attitude & Practices (**KAP**) surveys [11,12]. However, few national-level KAP studies have been conducted in Ebola-affected countries during periods of active transmission [13,14]. This survey was aimed to assess the knowledge of educational staff in the Technical Institute of Karbala towards Ebola Virus.

II.   **METHODS: -**

Across sectional survey, using to assess the knowledge of educational staff about Ebola Virus with an interviewer-administered questionnaire. Data collected from a random sample of educational - staff in the Technical Institute of Karbala, upon receiving oral informed consent to the study from the recruited at different settings in theirs works, regarding their knowledge about Ebola virus disease. The interview was based on a well-structured questionnaire form, that pre-tested on a pilot study with subsequently updated by the literature review to ensure provide reliable information, comparability with these surveys and the accuracy of the method are important factors in determining the behavior of this infectious disease, questionnaire form consisting of two parts: first part contain some demographics characteristic and the second part consist of the knowledge towards Ebola virus disease.

Scaling and rating score determined based on the number of questions answered by the skill score graded as insufficient or adequate, each correct answer assigned (**1**) point, while wrong or uncertain responses assigned (**0**) points then, the sum of the responses for each patient was calculated [15].

Data were presented in frequency and percentage; this data was analyzed by using **"SPSS-18"** by using Chi-Sq. (χ2) test after being coded. The comprised of significant P-value " Probability of chance" in any test were (S) Significant difference (P<0.05) and (NS) Non-Significant difference (P>0.05).

Results: - This study consists of **200** participate were surveyed, demographic details were summarizing in table 1, present study revealed that the overall number of participants were, Instructor 104 (52%) and managers 96 (48%) according to their occupation. Out of which 76 (38%) were between 40 and 50 years old which is the highest number of participate and over three -quarter of the respondents 171 (85.5%) were married, with 117 (58.5%) male and the rest was female 83 (41.5%)with male-female's ratio (1:0.99). On the other hand, the diversity of participants according to those specialties to (14.5%, 32.5% and 53%) for medical, technology and managers respectively.

Table (1): Study population characteristics.

Variable	Total. N=200
Occupation	
Instructor	**104 (52%)**
Managerial	**96 (48%)**
Age group	
20-30	**10 (5%)**
30-40	**47 (23.5%)**
40-50	**76 (38%)**

50-60	**67 (33.5%)**
Marital status	
Single	**29 (14.5%)**
Married	**171 (85.5%)**
Certificate	
Undergraduate	**129 (64.5%)**
Postgraduate	**71 (35.5%)**
" Gender "	
Male.	**117 (58.5%)**
Female.	**83 (41.5%)**
Specialty	
Medical	**29 (14.5%)**
Technology	**65 (32.5%)**
Managerial	**106 (53%)**

Table (2) shows that results of forth questioner parts, the first part contain the general information about (EVD) this part shows clearly (correct) information especially in (70.5% heard about Ebola already, 71% affects both sexes alike, 68.5% cause of the disease is viral and 65% The disease can be prevented). In the second part was Signs and symptoms of the disease, approximately 68.5% of participants realized that the virus causes fever, and 70% Enlarged lymph nodes. About the mode of transmission in the third part the participants had a good information (more than half of study sample) had correct answers. The last forth part consist of Prevention methods toward (EVD) about three quarter of study sample had had correct answers.

Table (2) : Questionnaire information among study sample.

Total participants N=200 (100%)				
General information.	**Correct**		**Incorrect**	
	No.	**%**	**No.**	**%**
You heard about Ebola already.	**141**	**70.5**	59	**29.5**
The disease affects both sexes alike.	**142**	**71**	58	**29**

Disease transmitted person to person by direct contact.	116	58	84	42
You think the cause of the disease is viral.	137	68.5	63	31.5
You think the cause of the disease is bacterial.	34	17	168	83
You think the disease is deadly.	122	61	78	39
There is a vaccine against the disease.	73	36.5	127	63.5
The disease can be prevented.	130	65	70	35
Signs and symptoms:	**No.**	**%**	**No.**	**%**
High fever.	137	68.5	63	31.5
General pain in the joints and muscles.	122	61	78	39
The appearance of skin rash.	111	55.5	89	44.5
Causes vomiting or diarrhea.	79	39.5	121	60.5
Causes internal and external bleeding.	79	39.5	121	60.5
Enlarged lymph nodes.	140	70	60	30
Swelling and enlarged the liver and spleen.	50	25	150	75
Headache and sore throat.	72	36	128	64
Dysfunction of the liver and kidney.	81	40.5	119	59.5
Mode of transmission:	**No.**	**%**	**No.**	**%**
Unsecured (illegal) sexual contact.	91	45.5	109	54.5
Direct contact with body fluids such as blood or saliva.	131	65.5	69	34.5

Blood transfusion from infected to the healthy person.	135	67.5	65	32.5
Contaminated tools with patient body fluids such as needles.	136	68	64	32
Direct contact with infected animals.	116	58	84	42
Prevention methods:	No.	%	No.	%
Preventing touching the patient's blood and fluids.	161	80.5	39	19.5
personal hygiene.	160	80	40	20
Avoiding the abscess from the skin or the affected organs.	140	70	60	30
Continuous disinfection of infected clothes and items.	153	76.5	47	23.5
Stay away from illegal sex.	135	67.5	65	32.5

Figure (1) illustrate the Educational - Staff Knowledge towards Ebola Virus Disease. As overall assessment, this figure shows that more than half of study sample 61% had adequate knowledge level and the rest was 39% had inadequate.
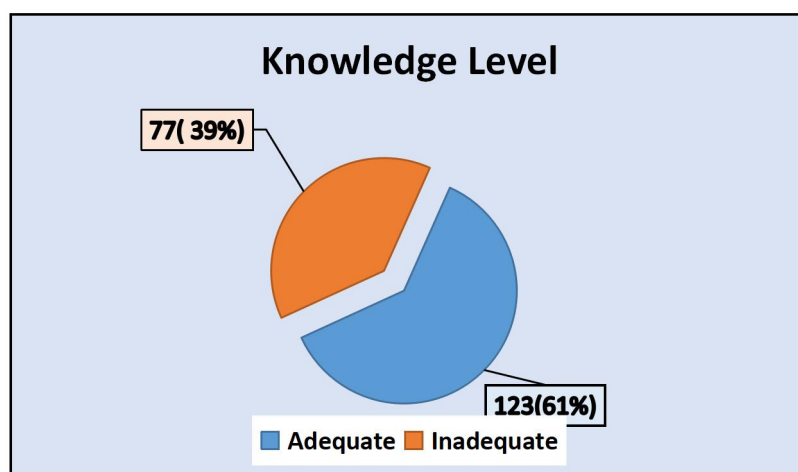

Figure 1. Knowledge Level toward Ebola Virus Disease.

Table (3) shows the relationship between knowledge level with some demographic characteristic of study sample, the study showed no significant difference (p-value >0.05) between age groups & occupation, while there was high association (p-value < 0.05) in certificate and specialty. On the other hands there was a significant difference with genders.

Table (3) : The relationship between Knowledge level with some demographic characteristic.

	Level of Knowledge		
	Adequate	Inadequate	P-value

Gender			
Male	79 (68%)	38 (32%)	0.03
Female	44 (53%)	39 (47%)	
Age group			
20-30	7 (70%)	3 (30 %)	0.9
30-40	29(62%)	18(38 %)	
40-50	47(62%)	29(38%)	
50-60	40(60%)	27(40%)	
Certificate			
Undergraduate	70(54%)	59(46%)	0.005
Postgraduate	53(75%)	18(25%)	
Occupation			
Teaching	67(64%)	37(36%)	0.3
Managerial	56(58%)	40(42%)	
Specialty			
Medical	23(79%)	6(21%)	0.001
Technology	47(72%)	28(43%)	
Managerial	53(50%)	53(50%)	

Table 4 & figure 2 shows the sources of information on Ebola Virus Disease. All information sources point to the key role played by television (TV) and internet as the first and most widespread source of information on Ebola as overall 91% and 80% of respondents reported they first learned about the disease respectively. The next most common sources of information were interpersonal communication (66.5 %) and social media (59 %).

Table (4) : The Sources of information about (EVD).

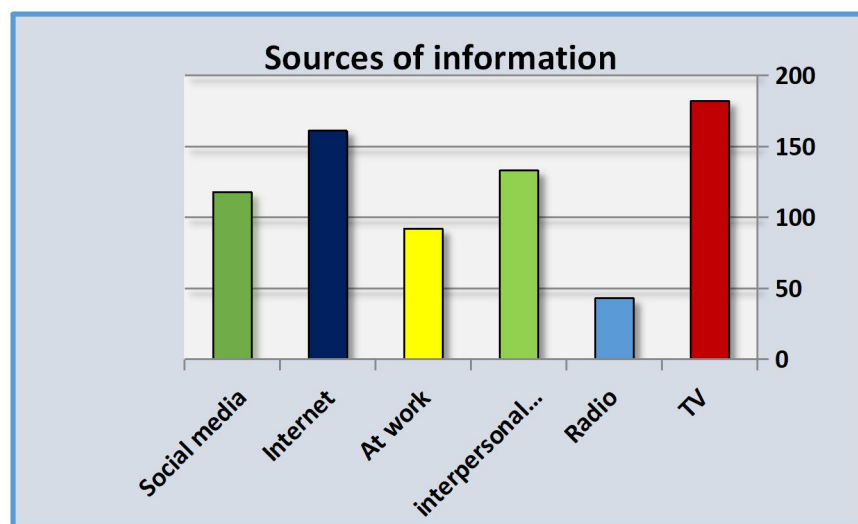| Variable	Total participants N=200 (100%)
Sources of information: Yes	
TV	182 (91 %)
Radio	43 (21.5 %)
interpersonal communication	133 (66.5 %)
At work	92 (46 %)
Internet	161 (80.5 %)
Social media	118 (59 %)

Figure 2. the source of information for Ebola Virus Disease.

III. DISCUSSION:

It is important from all community member to understand the main aspects of Ebola Disease to prevent disease transmission at least. Concerning the demographic characteristics of **200** participate as shown in table (1) the major of subject occupation 104 (52%) was instructor, 76 (38%) were between 40 - 50 years, 171 (85.5%) were married and 117 (58.5%) was male with male-female's ratio (1:0.99) that nearly agreed with Abdullahi, K. O. et.al(2018) in Tehran University of Medical Sciences [1].

Table (2) reviles the knowledge, the part of general information nearly three quarter of study sample 141 (70.5%) heard about Ebola already it's the highest correct answer in this part it agreed with Jalloh, M. F.et al (2014), in Sierra Leone [14], while the lowest correct answer were 43 (17%) those think the cause of the disease was bacterial that good indicator but needed to more decreased. The second part that discussed the symptoms and signs of the disease, approximately 68.5% of participants realized that the virus causes fever, and 70% enlarged lymph nodes, about the mode of transmission in the third part the participants had good information (more than half of the study sample), had correct answers' especially through the disease can be transmitted by blood transfusion from infected to the healthy person135 (67.5%). On the other hand, last forth part in this table that consist of prevention methods toward (EVD) about three-quarter of the study sample had correct answers', this correct response much more compatible with, Etokidem, A. J. et al (2018) in Nigerian University [6], Nettey, O. E. A et al (2016) in Kintampo Districts of Ghana [8], Jalloh, M. F.et al (2014) in Sierra Leone [14] and Nyakarahuka, L et al (2017) in Uganda [17].

As overall assessment in figure (1) that illustrate to study samples knowledge level, more than half of participates 61% had adequate "good understanding towards the disease aspect" and the rest was 39% had inadequate knowledge towards EVD, this good results could be due to the participates in this study was educational staff "this segment of society is in constant touch with the latest developments in the world" these result's compatible with Alioune, C.etal in Guinea 2019 and Nyakarahuka, L et al (2017) in Uganda [16,17].

Regarding the relationship between knowledge level with some demographic characteristic as shown in table (3), this table illustrate no significant difference (p-value >0.05) between age groups and occupation, while there was association (p-value < 0.05) in certificate, specialty and genders, its indicated with Ilesanmi, O., & Alele, F. O. (2016) in Nigeria [18] they reported that no correlation between age and gender towards Ebola disease knowledge.

For the sources of information on Ebola Virus Disease, all lines of knowledge point to the key role played by television (TV) and Internet as the first and most common source of information on Ebola for the teaching staff. TV and Internet estimated that 91% and 80% of respondents first heard about Ebola virus disease respectively " Most of the

respondents who knew about EVD expected with the jingles about the disease in social and mass media", the next most common sources of information were interpersonal communication (66.5 %) and social media (59 %) as in table (4) and figure (2).

IV.   CONCLUSION:

In spite of good knowledge and attitude level toward antibiotic use as in general, but there was 49% from participation believed that antibiotics could kill viruses and 76% effective in reducing pain (Analgesic) and self-medication with antibiotics consider a serious problem that is requires considerable attention and patient counselling should be implemented by physicians and pharmacists about antibiotic use should provide to reduce the risk of antibiotic resistance.

Financial disclosure

There is no financial disclosure.

Conflict of interest

None to declare.

Ethical Clearance

All experimental protocols were approved under the AL-Furat Al-Awsat Technical University, Iraq and all experiments were carried out in accordance with approved guidelines.

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