KNOWLEDGE ATTITUDE AND PRACTICES (KAP) ABOUT EBOLA AMONG EGYPTIAN HAJJ PILGRIMS IN 2016

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Abstract
Aim: To determine the level of knowledge regarding Ebola virus disease among Egyptian Hajj pilgrims of Public Health and the attitude of Egyptian Hajj pilgrims of Public Health towards Ebola virus disease. Methods: A quantitative approach was used to identify the objective as it provides a detailed survey. In this quantitative study, data was collected from 435 Egyptian Hajj pilgrims. The population was limit to the age i.e. >18 years however, both male and female were considered. For analysing the collected, data Statistical Package for Social Sciences (SPSS) was used. Results: The study revealed that majority of the hajj pilgrims were not aware of the cause (69.0%), prevention of the diseases (67.8%) and cure of Ebola (51.5%). However, relationship between the knowledge and education is (p = 0.007) significant, relationship between practice and education has (p = 0.005) significance. Whereas, the relationship between attitude and education has no significant value i.e. (p = 0.025). Conclusion: There are negative effects of Ebola on the health of people as well as their socioeconomic life of communities.
Keywords: *Knowledge, Attitude, Practices, Ebola, Egyptian, Hajj Pilgrims*

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INTRODUCTION:

Hajj is an annual Islamic pilgrimage performed by the Muslims, in which they travel to Mecca. It is a mandatory religious duty for Muslims that must be carried out at least once in their lifetime by all adult Muslims, who are physically and financially capable of undertaking the journey. It is one of the five pillars of Islam. The pilgrimage occurs from the 8th to 12th (or in some cases 13th) of Dhu al-Hijjah, which is the last month of the Islamic calendar. The number of pilgrims every year are approximately two millions to three millions. According to the Hajj statistics conducted in 2015 [1], the number of Egyptian pilgrims was approximately 72,622. All pilgrims gathered within a certain place to perform the rituals of Hajj causes overcrowding and result in the transmittance of most infectious disease that is Ebola. However, the Ministry of Health has not recorded any cases of Ebola among pilgrims last year.

Ebola Virus Disease (EVD) also referred to as; Ebola haemorrhagic fever, is a highly lethal haemorrhagic disease [2]. The Ebola virus (EBOV) belongs to RNA virus family of Filoviridae and is the most pathogenic strain[3]. Fruit bats are the only known natural reservoir of Ebola virus, which in some parts of West African region, are used by people as food [3]. Transmission of Ebola virus from human to human is through direct contact with body fluids, secretions, breast milk, tissues, or semen from infected persons that are alive or immediately following death especially during funeral rites [4-8]. The history of the disease begins with an average incubation period of 2–21 days [9-12]. Initial clinical manifestations of EVD can be mistaken with any other viral disease because patients are presented with initial flu-like symptoms, fever, asthenia, diarrhoea, abdominal pain, headache, joint aches, muscle aches, sore throat, and conjunctivitis [10-12].

The 2014-2015 outbreak in West Africa; first reported in Guinea in March 2014, was the largest and most complex Ebola outbreak in history with a combined total of 528 cases. These cases included laboratory-confirmed, probable, and suspected cases and 337 deaths (case-fatality rate = 64%). These cases were reported in three countries Guinea, Liberia and Sierra Leone. The disease is a great source of public health concern and poses an immigration risk to unaffected countries. Factors such as lack of knowledge, limited or lack of infection prevention and control resources, poor public health infrastructure, and highly transmissible nature of the virus have been shown to increase the outbreak of the disease [13-16].

The high level of misconceptions about Ebola has caused widespread epidemics in the view of unprecedented spread of the EVD and its significant negative consequences on the health and socioeconomic life of communities. Therefore, they care less about precautionary measures such as frequent hand washing, avoiding direct contact with susceptible animals, eating uncooked or undercooked bush meat, or travelling to affected areas. WHO had emphasized the need to improve EVD-related health information to dispel misconceptions and myths. The present study aims to determine the level of knowledge regarding EVD among Egyptian Hajj pilgrims of Public Health and the attitude of Egyptian Hajj pilgrims of Public Health towards EVD. The study also determines the practices of Egyptian Hajj pilgrims of Public Health regarding EVD prevention and the level of knowledge regarding EVD among Egyptian Hajj pilgrims of Public Health.

MATERIAL AND METHODS:

This study is a detailed survey study and the purpose of the study is to assess knowledge attitude and practices about Ebola among Egyptian Hajj pilgrims in 2016. A detailed or descriptive survey allows researcher to analyse the problem in regards with the variable's interest and characteristics. For data collection, the data was undertaken utilizing quantitative research design. Ethical approval was obtained from institutional ethical committee of ZMZM volunteering commission ; reference number was HAPO-02-K-012-2017-03- 356.

Study Population

A set criterion was used for the selection of the variables in this study. Hajj pilgrims of 2016 belonged to Egypt were selected for the analysis. A number of total 435 Egyptian Hajj Pilgrims were served as the population of the study. Thus, the population includes Egyptian Hajj pilgrims aged > 18. However, both female and male pilgrims were considered in the population.

Inclusion Criteria

The Hajj pilgrims belonged to Egypt were the main population to be questioned regarding the knowledge attitude and practices about Ebola. The age limit was > 18 years and the study was conducted in Makah from 25th of August to 6th of December, 2016. The population was well informed about the study.

Exclusion Criteria

The population excluded all the Non-Egyptian hall pilgrims. Age limit was the main aspect of the population; therefore, < 18-years pilgrims were excluded.

Data Collection

There were 435 Egyptian Hajj pilgrims recruited in the study. Data was collected using quantitative approach in which the questionnaires were distributed among the population residing in Makah after getting permission from IRB. The questionnaires were based on the aim of the study which was concerned with the certain variables such as disturbance in the socioeconomic life, widespread of EVD age, gender, nationality, residence, chronic illnesses status, knowledge about Ebola among the Hajj pilgrims of Egypt. Therefore, this information can only be analysed by structuring questionnaires. The study was conducted between 25th of August to 6th of December, 2016. The questionnaires were distributed on the same day.

Statistical Analysis

The collected data was gathered in the form of single document and further rechecked by the author to verify the corrections related to any missing aspect and unneeded data. After the data collection, the results were analysed by using SPSS software on the personal computers. The graphical representations were also carried out.

RESULTS:

The study aimed to identify knowledge, attitudes and practices about Ebola among Egyptian Hajj pilgrims in 2016. Table 1 has shown the demographic details of the recruited respondents. Majority of the respondents (34.3% and 34.7%) were between age groups 50-60 years and >60 years, respectively. Majority of the respondents (59.3%) were male. Most of the Egyptian Hajj pilgrims (55.6%) did not get affected by the chronic diseases mentioned in table 1.

Table 1: Demographic Details of the Respondents

	N	%
Age group		
<40	51	11.7
40-50	84	19.3
50-60	149	34.3
>60	151	34.7
Sex of the pilgrim		
Male	258	59.3
Female	177	40.7
Hajj for		
First Time	358	82.3
Second Time	52	12.0
Third Time	12	2.8
More Than Three	13	3.0
Education Level		
Elementary	123	28.3
Intermediate	47	10.8
Secondary	67	15.4
College and Above	198	45.5
Where do you live?		
Big City	270	62.1
Small city	65	14.9
Village	79	18.2
Rural	21	4.8
Chronic diseases?		
None	242	55.6
Diabetes	46	10.6
HT	61	14.0
Chronic Infectious diseases (HIV- Hib ….)	2	.5

Renal failure	2	.5
Cardiovascular diseases	12	2.8
CNS disorder	3	.7
Skin diseases	1	.2
Mobility disorder	5	1.1
GIT diseases	7	1.6
Multiple	54	12.4

Majority of the pilgrims (17.0%) pointed fever and chills as the signs and symptoms of Ebola virus. However, most of the respondents (74.5%) stated that they were unaware of the clear cause of the fever that lasts more than 7 days. When asked about the cause of Ebola majority of the respondents (69%) stated that they did not know about the cause, 67.8% pilgrims were less aware of the prevention, infected pilgrims (66.4%) and cure of Ebola virus (51.5%).

According to the Figure 1, majority of the respondents (88.3%) lack knowledge about an Ebola virus, in contrast with this minority with 11.7% pilgrims had average knowledge about the disease.

Moreover, it clearly shows that majority of the respondents (76.1%) had unsatisfactory practices to treat Ebola virus. Whereas, among minority (23.9%) satisfactory practices were witnessed. Similarly, majority of the respondents (72.0%) had negative attitude towards the awareness of Ebola virus and people in minority (28.0%) had positive attitude toward the disease (Figure 1). Figure 2 has revealed the correlation among knowledge, practice and attitude in which relationship between knowledge and practices is significant (0.001) whereas, the relationship between knowledge and attitude is insignificant (0.356).
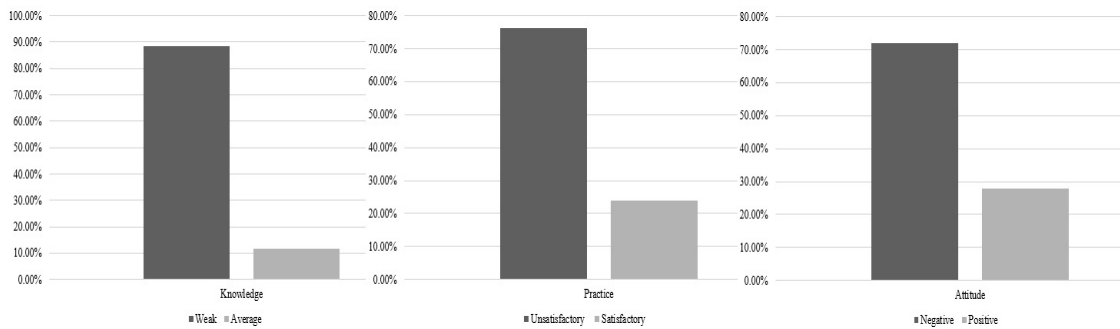

Figure 1: Level of knowledge, practices, and attitude of pilgrims regarding Ebola
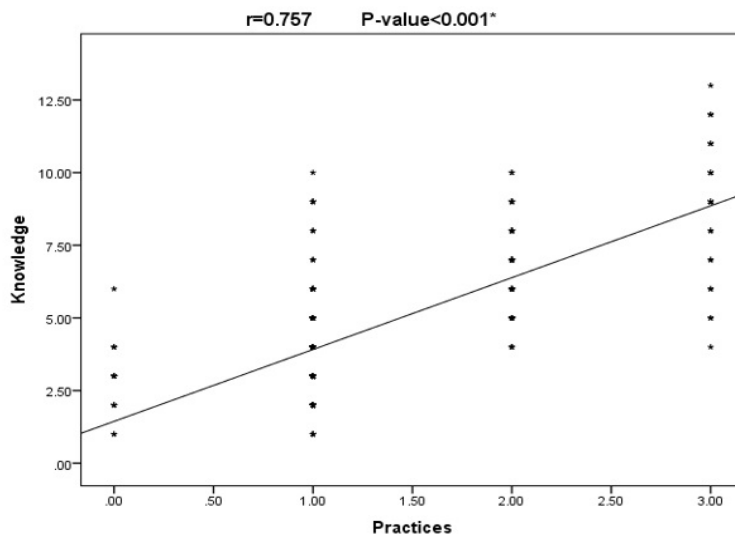

Figure 2: Correlation between knowledge, practice and attitude

According to table 2, the elements that were analysed to identify the association of knowledge were age, gender, number of Hajj performed, residence and education. Among all these elements results has revealed significant association of knowledge with education (p = 0.007). Whereas, in table 3 and 4, practices also revealed a significant association between practices and education (p = 0.005). However, attitude has no significant association with any of the elements (p = 0.025).

Table 2: Association between demographic details of pilgrims and level of knowledge

Demographic data		N	Knowledge			F or T	ANOVA or T-test	
			Mean	±	SD		test value	P-value
Age	<40	51	5.078	±	2.382	F	2.161	0.092
	40-50	84	4.905	±	2.549			
	50-60	149	4.826	±	2.241			
	>60	151	4.311	±	2.344			
Gender	Male	258	4.857	±	2.429	T	1.757	0.080
	Female	177	4.452	±	2.254			
Hajj for	First time	358	4.718	±	2.414	F	0.764	0.515
	Second time	52	4.827	±	2.229			
	Third time	12	4.250	±	2.006			
	More than three	13	3.846	±	1.725			
Education	Elementary	123	4.130	±	2.088	F	4.065	0.007*
	Intermediate	47	4.617	±	2.373			
	Secondary	67	4.672	±	2.555			
	College and Above	198	5.066	±	2.404			
Residence	Big City	270	4.837	±	2.345	F	0.918	0.432
	Small city	65	4.400	±	2.199			
	Village	79	4.506	±	2.606			
	Rural	21	4.429	±	2.158			

Table 3: Association between demographic details of pilgrims and practices

Demographic data		N	Practices			F or T	ANOVA or T-test	
			Mean	±	SD		test value	P-value
Age	<40	51	1.275	±	0.750	F	1.003	0.391
	40-50	84	1.345	±	0.784			
	50-60	149	1.383	±	0.768			
	>60	151	1.245	±	0.632			
Gender	Male	258	1.349	±	0.755	T	1.178	0.239
	Female	177	1.266	±	0.676			
Hajj for	First time	358	1.324	±	0.711	F	0.404	0.751
	Second time	52	1.327	±	0.810			
	Third time	12	1.167	±	0.835			
	More than three	13	1.154	±	0.689			
Education	Elementary	123	1.154	±	0.601	F	4.369	0.005*
	Intermediate	47	1.213	±	0.690			
	Secondary	67	1.313	±	0.743			
	College and Above	198	1.439	±	0.776			
Residence	Big City	270	1.333	±	0.727	F	0.341	0.796
	Small city	65	1.246	±	0.685			
	Village	79	1.329	±	0.763			
	Rural	21	1.238	±	0.700			

Table 4: Association between demographic details of pilgrims and level of knowledge

Demographic data		N	Attitude			F or T	ANOVA or T-test	
			Mean	±	SD		test value	P-value
Age	<40	51	1.941	±	0.810	F	1.088	0.354
	40-50	84	2.190	±	1.012			
	50-60	149	2.134	±	1.011			
	>60	151	2.007	±	1.036			
Gender	Male	258	2.019	±	0.976	T	-1.483	0.139
	Female	177	2.164	±	1.029			
Hajj for	First time	358	2.078	±	0.990	F	1.148	0.329
	Second time	52	2.154	±	1.092			
	Third time	12	2.250	±	0.965			
	More than three	13	1.615	±	0.870			
Education	Elementary	123	2.024	±	1.004	F	0.606	0.612
	Intermediate	47	1.979	±	0.821			
	Secondary	67	2.045	±	1.021			
	College and Above	198	2.146	±	1.029			
Residence	Big City	270	2.137	±	1.016	F	3.136	0.025*
	Small city	65	2.046	±	0.991			
	Village	79	1.810	±	0.893			
	Rural	21	2.429	±	1.028			

DISCUSSION:

Majority of the Egyptian Hajj pilgrims had no knowledge about Ebola virus. Whereas, Egyptian Hajj pilgrims often receive travel advice, which lead to more information about the disease. In Egypt there is lack of information among the Hajj pilgrims about Ebola due to less prevalence of education among them. In contrast, Alqahtani et al [17] stated that Australian Hajj pilgrims received complete knowledge from their travel guide. They were informed about their personal hygiene to their health, which lead to well awareness of Ebola viruses. However, 40% of them were vague enough to identify the disease [17].

In contrast, the rate of pilgrims who tend to receive pre-travel advices from the travel guide was about two third of the population; whereas, one sixth of the population only received formal pre-travel advices. This indicated that pilgrims went to general practitioners for their vaccination. Another significant aspect arose from the study conducted by Alqahtani et al [18] that travel guide plays a significant role to provide appropriate advices about the vaccination and compete hygiene practices among Hajj pilgrims. Ebola is considered to a zoonotic disease, which lead to high mortality rate among the population [19]. However, health concern authorities, media and general practitioners ought to motivate the travellers to acquire pre-travelling health related knowledge and advices to prevent the infection. Moreover, proper communication about the disease should be ensured to prevent the risk factors of Ebola and other prevailing diseases pilgrims often suffer. Additionally, education provided to the health practitioners among public about the travel health need to be promoted to better travel services [20].

Balaban et al [21] measured the value of closed observation of the Hajj pilgrims before and after the mass gathering due to the fact that, 40% of Hajj pilgrims are the victims of respiratory illness. The study conducted by Turkestani [22] revealed that the Health Education Ambassadors programs are effective among the Hajj pilgrims. The objectives drawn by this program included an effective heath education that should be provided to the hajj pilgrims using their mother tongue. In line with current study, the study conducted by Tosh [23] revealed the importance of knowledge about Ebola outbreak in West Africa, which lead to the awareness among the health care providers in United States of America as well. The importance of recognizing Ebola virus by the clinicians and health care practitioners is

significant to prevent the transmission of disease among the community members and segregation of the patients. In this context, all the significant aspects of recognizing Ebola virus and its prevention has resulted in the presentation of a software to provide knowledge to diagnose the disease and its identifying an appropriate treatment for Ebola virus disease (EVD) in the West Africa and other regions effected in the world [24].

However, in Hajj, Saudi Arabia gets public health challenge being a host. Makah city caters all the pilgrims from various countries including their infections and diseases such as Ebola virus and respiratory syndrome. The challenge gets big when infections are taken back to the respective country by the pilgrims. Alqahtani et al [17] suggested some preventive measures by the Saudi Arabian Ministry of Health (MoH). These measures include vaccination and measures related to hygiene among the pilgrims. Currently, there is no upgraded treatment to Ebola virus. The only treatment that support is the implementation of strategic initiatives in the Makah City. Hence, clinicians should play a vital role to prevent Ebola virus among the Hajj pilgrims and draw safety measures [25].

CONCLUSION:

The study aimed to identify knowledge, attitude, and practices of Egyptian Hajj Pilgrims. The study concluded that the level of knowledge regarding the spread of Ebola virus was not satisfactory among the Hajj pilgrims of Egypt. This lack of knowledge contributed to the prevalence of Ebola virus among the pilgrims. Hajj being a mass annual gathering is presented with big challenges related to the health care of pilgrims and prevention of the prevalent risk factors lead to infections and diseases such as Ebola and respiratory syndrome. Based on the findings, the study has suggested to implement preventive measures, which include vaccination and measures related to hygiene among the pilgrims. Future studies need to investigate the prevalence of Ebola virus in different regions of Egypt. Moreover, educational programs should be developed for giving appropriate care to the population and specify the precautions.

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