

The Knowledge and Attitude of King Abdul-Aziz University Hospital Out Patient Clinic Visitors toward Coronavirus

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ABSTRACT

Background: The Middle East respiratory syndrome (MERS) is a virus-like respiratory disease generated by a coronavirus (Middle East respiratory syndrome coronavirus, or MERS-CoV). Coronaviruses are capable of causing severe transmittable infection to humans, and was primarily found in 2012 in Saudi Arabia. Consequently, similar cases showed up in Qatar, Saudi Arabia, other Middle Eastern countries, Europe, and the United States. Nevertheless, Saudi Arabia remains the epicenter of this dangerous respiratory infection which is also associated with high mortality rate. Research and investigation regarding this unusual coronavirus started as more death related cases were reported.

Objective: The goal of this research was to understand the knowledge and attitude of people of Saudi Arabia belonging to various age groups regarding Middle East respiratory disorder and MERS-CoV.

Participants and methods: A structured close-ended set of questions about MERS-CoV was distributed manually and electronically to the visitors of King Abdulaziz University Outpatient Clinic which included men and women of different ages. The questionnaire comprised items concerning methods of the transmission of MERS-CoV infection, medical components, outcome of infection, techniques of protection and prevention, and the accessibility of information.

Results: Out of 1000 distributed questionnaires, 876 completed ones were received and were analyzed. The majority of respondents were of 45-65-year age group (36%). With regards to knowledge of coronavirus and disease caused by it, the majority of respondents had sufficient knowledge about the disease (52%) and the majority of respondents were also aware of the mode of its transmission (72%). However, most of them (58%) were not aware that this disease is transmitted by camel and that this infection can be treated by supportive treatment approach alone (55%). However, a large number of respondents had less knowledge with respect to common time of disease transmission (45%), the incubation period (41%), and indication of Corona virus antibodies as medical finding (32%). Between the two genders, the males were more informed than females. Additionally the married and the youth had much more information about the infection as compared to the singles and older adults. The difference of knowledge was statistically significant ($p < 0.05$). The major sources of information among majority of respondents were social media (58%).

Conclusion: At the end of this study, it was found that the amount of knowledge about MERS-Corona Virus amongst the Saudi population was relatively low and needs to improvement. Different kinds of awareness seminars and consulting camps should be conducted at local level. Also, direct communication with the physicians and doctors should be made more accessible and easy in order to increase authentic knowledge between general populations.

Keywords: MERS; MERS-CoV; KAAU; Corona; Coronavirus; KSA.

INTRODUCTION

The “Middle East Respiratory Syndrome Coronavirus” (MERS-CoV) is a profoundly dangerous, viral respiratory infection that was first reported in Saudi Arabia in 2012. It is a causative agent for a dangerous type of respiratory tract contamination which is associated with high fatality in some cases. Subsequently, the virus spread to a few other nations, including Qatar, Oman Jordan, the United Arab Emirates, Kuwait and the United States. Camels were found to be the source for MERS-Corona Virus, and it has been related to direct and indirect transmission to people [1]. The large majority of infected patients with MERS-CoV developed an extreme intense respiratory pathology, with fever, shortness of breath, dyspnea, and cough

which caused mortality in a large number of the cases [3]. A few patients acquired gastrointestinal signs and symptoms, including diarrhea, nausea, and vomiting. Vulnerable patients, such as elderly or those with preexisting respiratory diseases, developed sever pneumonia, kidney failure, and in worse case, respiratory failure. The medical symptoms of MERS range from asymptomatic or mild illness to sever respiratory distress disorder and multi-organ failure leading to death. The incubation time for MERS (time between appearance to MERS-Corona Virus and appearance of symptoms) is between 5 to 14 days [2].

In 2012, Health Deputy Minister of the Saudi Arabian, Ziad Memish, stated the discovery via the

infectious disease surveillance listserv Pro-MED, which was posted on the website of Saudi Health Ministry. As per the New England Journal of Medicine article, the very first case happened in June 2012 when an old man who was over 60- years old was admitted to a hospital in Jeddah. After an 11-day hospitalization, this man developed kidney failure and died. The second case after this one was discovered after a short time [3]. A 49-year-old patient from Qatar in Northern England turned out to be severely ill and was moved to a London healing facility toward the beginning of September. He had visited Riyadh in August. The third instance of this infection which was minimal depicted with the exception of that the man affected was taken in the emergency care unit for severe pneumonia. According to the Saudi Ministry of Health report, the patient recovered from this infection and had no history traveling outside of Riyadh. This individual previously had a history of going to a farm the kind of animals he might have had contacted with was reported [4].

In April 2014, the first American was infected and hospitalized for MERS in Indiana and another case was reported in Florida. Both had just come back from Saudi Arabia. In May 2015, there was an outburst of MERS in Korea which was the largest disorder outside of the Arabian Peninsula. General health authorities worldwide had the incentive to consider this issue as urgent [5].

Firstly, all infected people were previously well people and were later suffering from of pneumonitis. Secondly, the infection cause was a coronavirus – an identical group of the infectious cause of SARS, which caused 750 deaths and infected over 8,000 people during a global outbreak in 2003 [5]. The epidemic that caused SARS originated from a little creature animal called Civet. Since numerous coronaviruses originated from animals, there is a point of reference for animal related infections to cause pandemics among people [6].

Saudi Arabia is the epicenter of MERS-Corona Virus. A huge number of Muslims from around the globe are expected to perform Hajj which takes place once every year. Health experts in Saudi Arabia have asked the pilgrims to wear masks and protection in order to stop the spread of the MERS-coronavirus. Health authorities additionally asked for individuals participating in Hajj to keep up personal hygiene measures, use a napkin while coughing and wheezing, and take the essential vaccinations beforehand. This huge religious ritual may cause a health danger to the Kingdom of Saudi Arabia. Accordingly, it is vital to enhance the general awareness and education of people in

general about this genuine infectious disease and to practice strict health expectations [7].

This cross-sectional investigation was led to evaluate the level of awareness, education, and response of the Saudi population towards MERS-Corona Virus infection, and to find how much their comprehension of the disease may be useful to help the endeavors of the Saudi health specialists to battle this epidemic [8].

METHOD

A. Study Design

In this representative study of the knowledge and awareness of MERS-Corona Virus, a mixture of questions having a ‘yes’ or ‘no’ answer, as well as questions having multiple correct answers were used to obtain information about the specific awareness, knowledge, and understanding of the illness. Things like cause, symptoms, mode of transmission, risk factors, death rates, and its risks were evaluated.

B. Study Subjects

The target population for this study was visitors of King Abdulaziz University out-patient clinic in Jeddah. Various visitors from both gender, aged 15 years and above were considered appropriate for the study. Considerable care was taken to include people with different education levels (i.e. intermediate school, high school, a university graduate, masters, and Ph.D. holders). The subjects of this study also had a background of different occupations.

C. Data Collection

An organized survey poll on MERS-Corona Virus was stated in both English and Arabic. A set of 14 questions was prepared to ask the participants with a mixture of questions having a yes or no answer, as well as questions having multiple correct answers, and those with subjective answers. A scoring system was applied to assess the level of knowledge for each subject such that a point was awarded to each correct answer. Incorrect answers did not carry any points.

The following data was gathered – Demographic data, information regarding the coronavirus and its form of transmission, signs, and symptoms of MERS-CoV, time of disease transmission, incubation period, and source of information about the disease, indication of corona virus Antibodies as medical investigation, as well as need of support service and the prevention of this disease. The questionnaire was made in consultation with an infectious disease epidemiologist. Data collection was done manually by interviewing participants at various times and stages of the OPD premises.

The study was approved by the Ethics Board of King Abdul Aziz University.

D. Statistical analysis

This analysis was presented using SPSS software. The examination included chi-square test and univariate analysis. chi-square test was applied for the comparison of absolute data. Univariate analysis has done to find out the outcome ('aware' or 'not aware').

RESULT

In the study total 1000 questionnaires were distributed, and out of these, 879 completed questionnaires were received with a response rate of 87.95%.

E. Age demographics of the participants

The age of participants, as shown in figure 1, was divided into four groups, with their respective share as below,

- Age 15 to 25: 17%
- Age 25 to 45: 31%
- Age 45 to 65: 36%
- Ages above 65: 14%

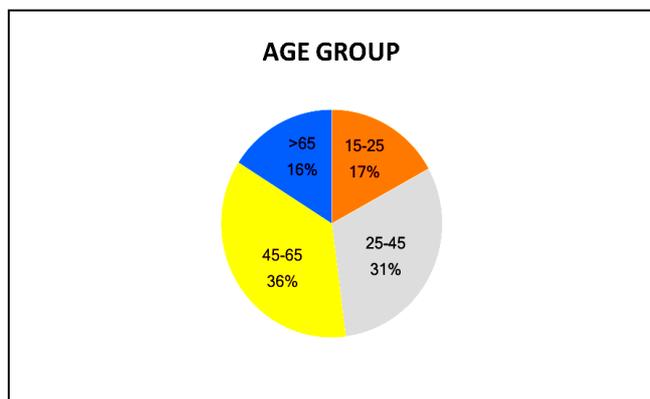


Figure 1: The age distribution of the subjects(in years) Around 64% of respondents had secondary school education while 23% had graduation and above level of education.

F. Response to Questions

Figure 2 shows item wise response to the questionnaire. Responses to questions related to awareness of the virus its mode of transmission showed that majority of respondents i.e. 52% have knowledge about the MERS-corona Virus while 48% did not have knowledge about of this disease. Majority of respondents (72%) knew that it was caused by a virus but the majority of people were unaware that it was transmitted by camels (58%). Also, majority of them (55%) were not aware that this disease might be treated with supportive treatment approach. About 0.2% of respondents had

a history of this disease. Significant numbers of respondents had low knowledge with respect to common time of disease transmission (45%), the incubation period (41%), and indication of corona virus antibodies as medical diagnosis (32%). A good degree of appropriate hygiene practices was seen among respondents. 94% of the people reported washing hands routinely; over 90% mentioned using respiratory behavior measures.

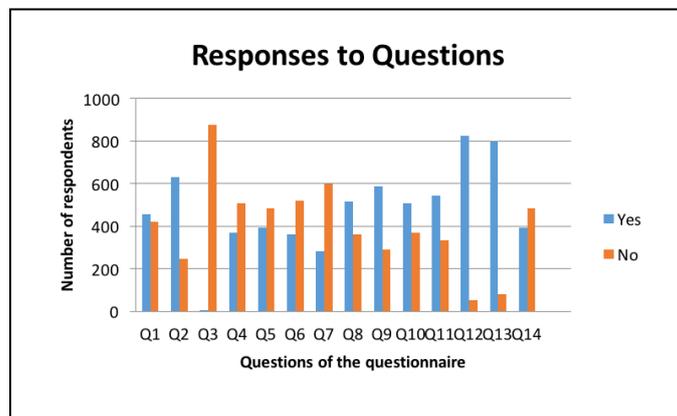


Figure 2: Item wise response to the questionnaire

G. Source of Information

When compared among groups male, married and the young adults had enough information regarding the disease in comparison to female, singles and older adults. The difference of knowledge was statistically significant ($p < 0.05$). As shown in graph 3, the source of information for majority of respondents was online social media (58%) followed by television (23%), newspaper (13%) and health related advertisement (6%).

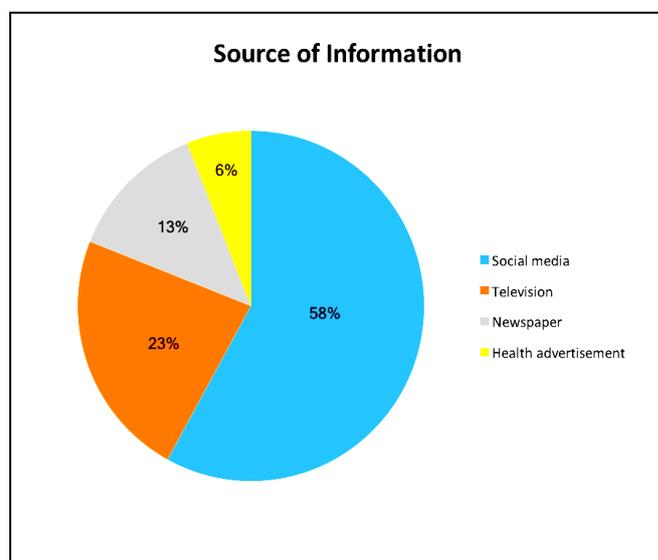


Figure 3: Source of Information about MERS-CoV

DISCUSSION

This research surveyed the general population education and disposition towards MERS-CoV in Saudi Arabia and its dangers on the general health in the country. The present studies also showed that the prevalence of MERS-CoV infection had an enthusiastic effect and furthermore expanded individuals' thoughtfulness regarding preventive measures and their insight about the need for early access to health insurance.

Many researches have analyzed the different levels of information, manners, and practices about overwhelming infectious outbreaks, such as severe acute respiratory syndrome, avian influenza, and the influenza strain H1N1. nevertheless, a literature search has not discovered any open reports on information in regard to corona virus among the population in Saudi Arabia as of recently.

Along these lines, this population-based review could give standard information to the study for preventive measures in the occurrence of future outbreaks. In our study, majority of participants were aware of an ongoing corona virus situation in the country.

MERS-CoV, the novel human infection related with serious respiratory adverse effects and renal compromises has been reported through 998 laboratories confirmed cases and 433 among them are Saudis.

If individuals have essential information about the methods of transmission of the infection, that is, by direct contact with a sick person including patients' family members and healthcare providers, people at high risk of infections during a time of suspected outbreak, the elderly and must take their regular vaccinations to help boost their immunity.

The Saudi Health Ministry has understood the dangers of this epidemic. They are applying tremendous measures to battle this situation. Attention to the general population education regarding the modes of transmission, prevention methods and treatment options are of most extreme significance.

Moreover, a large number of individuals go to Saudi, Kingdom for Umrah and Hajj, therefore it is important to increase awareness about the disease [9].

In this manner, the 1000 people of various age groups who were asked to finish a survey gave significant bits of knowledge to evaluate the data and learning about the MERS-CoV, and the sources of such data. Members demonstrated the good level of information about sources of infection and prevention. Main source of information was social

media, television, broadcasting or news, and health advertisements.

The knowledge level was larger especially amongst more young members which accessed the vast majority of the data from online networking. Interestingly, more old people had accessed the information through the Television and radio and few from publications. This recommends the greater information about this disease may be achieved through different forms media to address different age group among the population.

CONCLUSION

The current study was conducted to find out the level of mindfulness and knowledge about MERS-Corona Virus infection amidst the Saudi population of various ages carried out among the people who visited the King Abdulaziz University outpatient clinic. The results showed that the level of awareness was good.

However significant number of respondents (48%) accepted that they did not have knowledge about this disease.

This cross-sectional study also focused on the necessity to generate far reaching awareness regarding MERS-CoV disease; its mode of transmission through camels, supervision of infected people, especially aging people with comorbidities; careful steps, such as washing hand, the using of masks and covers in crowded area; and not consuming of unprocessed food or food that might be contaminated.

The study also suggested that among the people who don't have access to the internet and online networking sites, the awareness can be spread through television and banners.

The people from Saudi Arabia should be highly educated to avoid close or indirect contact with camel body liquids until the epidemic is resolved.

In this survey, the collected data could be used as baseline data to observe public opinion and response in the case of a future outbreak of infectious diseases in Saudi Arabia.

Also, a strong education campaign organized by the Ministry of Health has performed a crucial role in improving MERS Corona virus contamination awareness.

Also, performing strict infection-control measures in all the hospitals under all cases is very necessary. But long-term sustainable privileges will only be possible when people living in the Kingdom of Saudi Arabia are educated on the control and management of infection at the local level.

REFERENCES

1. **Isaacs D, Flowers D, Clarke JR, Valman HB, MacNaughton MR (1983):** Epidemiology of coronavirus respiratory infections. *Arch Dis Child*, 58: 500-503.
2. **Ren L *et al.* (2011):** Prevalence of human coronaviruses in adults with acute respiratory tract infections in Beijing, China. *J Med Virol.*, 83: 291-297.
3. **de Groot RJ *et al.* (2013):** Middle East respiratory syndrome coronavirus (MERS-CoV): announcement of the Coronavirus Study Group. *J Virol.*, 87: 7790-7792.
4. **Khan AW, Taylor-Robinson AW, Nasim Z, Zahir F, Ali A, Ali S (2017):** New episode of Middle East Respiratory Syndrome Coronavirus outbreak in Saudi Arabia: an emerging public health threat. *Public Health*, 150: 149-151.
5. **Omrani AS, Al-Tawfiq JA, Memish ZA (2015):** Middle East respiratory syndrome coronavirus (MERS-CoV): animal to human interaction. *Pathog Glob Health*, 109: 354-362.
6. **Assiri AM *et al.* (2016):** Epidemiology of a Novel Recombinant Middle East Respiratory Syndrome Coronavirus in Humans in Saudi Arabia. *J Infect Dis.*, 214: 712-721.
7. **Koul PA *et al.* (2017):** Influenza not MERS CoV among returning Hajj and Umrah pilgrims with respiratory illness, Kashmir, north India, 2014-15. *Travel Med Infect Dis.*, 15: 45-47.
8. **Soliman T, Cook AR, Coker RJ (2015):** Pilgrims and MERS-CoV: what's the risk? *Emerg Themes Epidemiol.*, 12: 3.
9. **Alhomoud F, Alhomoud F (2017):** "Your Health Essential for Your Hajj": Muslim pilgrims' knowledge, attitudes and practices regarding Middle East respiratory syndrome coronavirus (MERS-CoV) during Hajj season. *J Infect Chemother.*, 23: 286-292.