

Research Article

Public Awareness about Corona Virus for KAMC Visitors in Riyadh

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Abstract

Background

Coronavirus (MERS-CoV) was first reported to the WHO in September 2012 in Saudi Arabia. As of December 18, 2015, the Ministry of Health in Saudi Arabia has confirmed 1280 cases of MERS-CoV infection, which include at least 551 deaths. There is no current vaccination for MERS-CoV. The aim of this study was to obtain the public concept about MERS-CoV from people coming to KAMC-Riyadh.

Methods

This is a cross-sectional study based on distribution of self-administered questionnaire to adults in the outpatient clinics of KAMC to obtain their opinion about symptoms, mode of transmission, prevention, and management of coronavirus.

Results

286 people participated in the study. The most common symptom associated with the coronavirus was fever (85%), followed by shortness of breath (78%), and nausea/vomiting (65%). The two common modes of transmission identified were sharing of personal tools (75%) and the nasal route (74%). The majority of the respondents identified prevention methods including washing hands (85%), using alcohol hand gel (84%), and wearing a mask (81%); there were some who mentioned avoiding fast food (21%) and camel meat (6%) as a method of prevention. Antiviral agents (72%) were the main management agent identified, but almost half (47%) also mentioned antibiotics as being useful. There was no significant difference ($p > 0.05$) in awareness with regards to the education or income level of the respondents; a greater proportion of the females (81%) were of the opinion that avoiding public places is an effective method of prevention versus 66% of males ($p = 0.02$).

Conclusions

The level of awareness was good among the study group with regard to the symptoms and mode of transmission. However,

there were some misconceptions, which need clarification to prevent and manage coronavirus.

Keywords: Coronavirus; Corona-virus; MERS-CoV; Middle East Respiratory Tract Infection

Introduction

Coronavirus (MERS-CoV) was first reported to the WHO in September 2012 in Saudi Arabia [1]. As of December 18, 2015, the Ministry of Health in Saudi Arabia has confirmed 1280 cases of MERS-CoV infection, which include at least 551 deaths [2]. Worldwide, as of 12 November 2015, coronavirus has affected about 1637 individuals across the world including 633 (39%) deaths [3,4]. The WHO continues to receive reports of MERS cases, mostly from Saudi Arabia [5].

MERS-CoV is a positive-sense, enveloped, single-stranded RNA virus belonging to the genus of Beta coronavirus within the subfamily Coronavirinae [6]. Originally defined as a novel coronavirus (nCoV), London1_novel CoV 2012, MERS-CoV has become the first lineage of Beta coronavirus known to infect humans [7-8]. The median incubation period for human-to-human transmission is approximately 5 days (range 2–15 days) [8]. Available data suggest that healthcare exposure is the most important risk factor for MERS-CoV infection [9-11]. Mathematical modeling suggests that nosocomial transmission is over four times higher than community transmission [12]. Other risk factors like low humidity and high temperature are also important, [13] and limited studies suggested a seasonal pattern with spikes in March–April [14].

Currently, there is no known vaccine to protect against human Coronaviruses. However, there are habits that people can adopt to help reduce the risk of infection. This includes washing one's hands thoroughly and regularly with water and soap or any hand washing disinfectant [15]. If a person does not have a handkerchief or tissue, they are advised to sneeze or cough on their upper arm and avoid their palms. People should avoid touching their eyes, mouth or nose with their hand [16]. People should also pay attention to basic health habits like balanced diets, working out, and having enough sleep because it increases the body's immunity. Providing this information to the general population will increase public awareness and help decrease the spread of the virus [17]. Most human coronaviruses are not fatal, and the emergence of MERS has increased health alarm worldwide. Little is known about the virus in terms of the enormity of its possible threat. This fact makes virus dangerous and public awareness must be increased [18]. The international, national and local policy makers as well as service providers and health influencers must be armed with information regarding the virus that they can present to the public to help them know more about the virus. They should develop public awareness programs that pro-

vide sufficient information to the public about the preventive measures that could help them. This will minimize unfounded panic fear and frenzy, which is counterproductive [19]. Finally, our study assessed the effectiveness of education by the Ministry of Health in Riyadh, Saudi Arabia.

Methods

The study was cross-sectional and survey-based. We enrolled study participants who met the inclusion criteria. The questionnaire was distributed to KAMC visitors in Riyadh. Variables included age, gender, education, marital status, employment and income status. Sampling used a convenience non-random method.

The inclusion criteria were adults of any gender in the waiting area of outpatient clinics over age 18 who could write and read. We excluded healthcare providers. A biostatistician estimated our sample size to be 286 based on 95% confidence level assuming a 50% response for the awareness level with a $\pm 5\%$ margin of error.

The research was carried out at King Abdulaziz Medical City in Riyadh. The study participants who met the inclusion criteria were interviewed with a questionnaire.

All study variables were entered into Microsoft Excel spreadsheets for data management and analysis. Inferential statistics were performed by IBM SPSS 20 in consultation with a biostatistician using mean and standard deviation values estimated for quantitative variables. The Chi-squared test was used for categorical data such as demographic gender, education level, occupation, coronavirus symptoms, transmission, prevention and management. ANOVA was used for numerical variables such as monthly income, age, and incubation period of the coronavirus. A P-value < 0.05 was considered significant.

Results and Discussion

We enrolled 286 people in this study including 140 men and 103 women; 43 participants missed this question. Thirty-eight percent are high school qualified, 49% hold bachelor degrees, and 13% are MS/PhD. Thirty percent have an income below 5,000 Riyal, 27% are 5,001-10,000 Riyal, 24% are 10,001-15,000 Riyal and 19% 15,001 are Riyal and more. (Table 1)

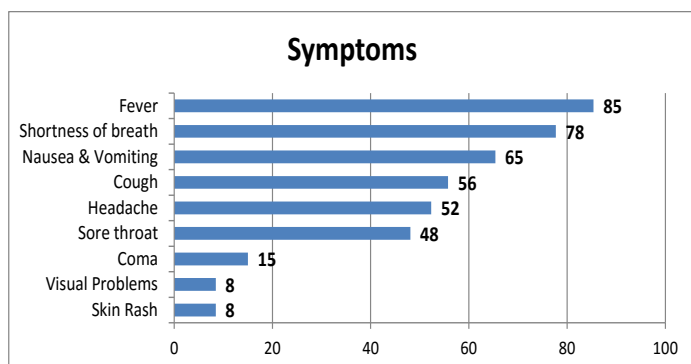
Most participants (85%) considered fever to be a symptom of coronavirus infection, which is correct. 78% considered shortness of breath as a symptom of coronavirus infection, which is correct. (65%) considered nausea and vomiting symptoms of coronavirus infection, which are incorrect. (56%) considered cough a symptom of coronavirus infection, which is correct. (52%) considered headache, a symptom of coronavirus infection, which is incorrect. (48%) consider sore throat, a symptom of coronavirus infection, which is correct. (15%) considered

coma as a symptom, a symptom of coronavirus infection, which is incorrect. (8%) considered visual problem as a symptom and another (8%) consider skin rash as a symptom of coronavirus infection, which are incorrect. (Graph 1)

Domain	Percentage
Gender	
Male	58%
Female	42%
Education level	
High school	38%
Bachelors	49%
Masters degree / PhD	13%
Income level	
Less than 5,000 Riyal	30%
5,001-10,000 Riyal	27%
10,001-15,000 Riyal	24%
15,001 Riyal and more	19%

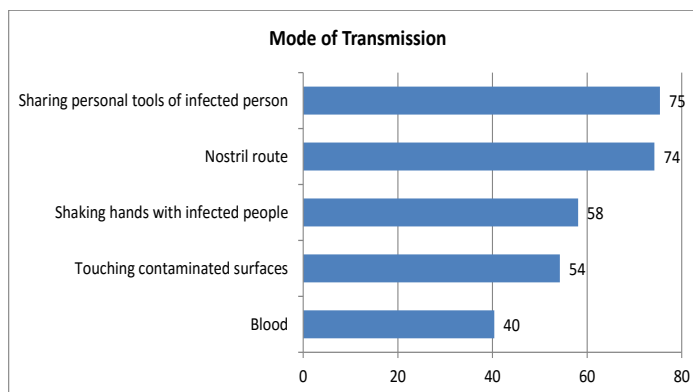
Table 1. Demographic variables.

Graph 1



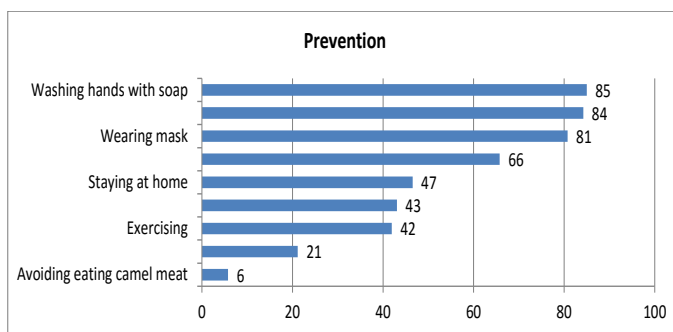
Most of the participants (75%) considered sharing personal tools of infected person a cause of coronavirus transmission, which is correct. (74%) considered nostril route a mood of transmission, which is correct. (58%) considered shaking hands with infected people a mood of transmission, which is incorrect. (54%) considered touching contaminated surfaces a mood of transmission, which is incorrect. Finally, (40%) considered blood as a mood of transmission, which is incorrect. (Graph 2)

Graph 2



Most of the participants (85%) considered washing hands with soap and water an effective way to prevent coronavirus infection, which is correct. (84%) considered alcohol hand gel to be preventive method, which is correct. (81%) considered wearing mask to be preventive method, which is correct. (66%) considered wearing gloves to be a preventive method, which is correct. (47%) considered staying at home to be a preventive method, which is correct. (43%) considered avoiding public places to be a preventive method, which is correct. (42%) consider exercising to be preventive method, which is incorrect. (21%) considered avoiding fast food to be a preventive method, which is incorrect. (6%) considered avoiding eating camel meat to be a preventive method, which is incorrect. (Graph 3)

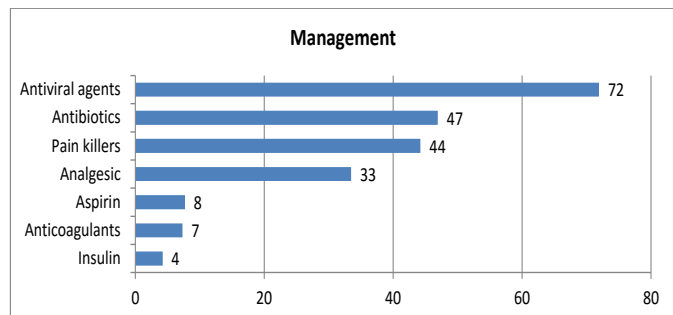
Graph 3



Most participants (72%) stated that antivirals are important medications for treating coronavirus infection. No medication has been approved yet, but antivirals have a role in treating coronavirus. (47%) considered antibiotics to be a part of the treatment, but no medication has yet been approved. (44%) stated that pain-killers have a role in treatment, but no medication has yet been approved. Pain-killers do have a role in relieving symptoms. (33%) stated that analgesics have a role in treatment. No medication has been approved yet, but analgesics have a role in symptom relief. (8%), (7%), and (4%) consider aspirin, anticoagulants, and insulin to have a role in treatment. However, no medication has yet been approved and

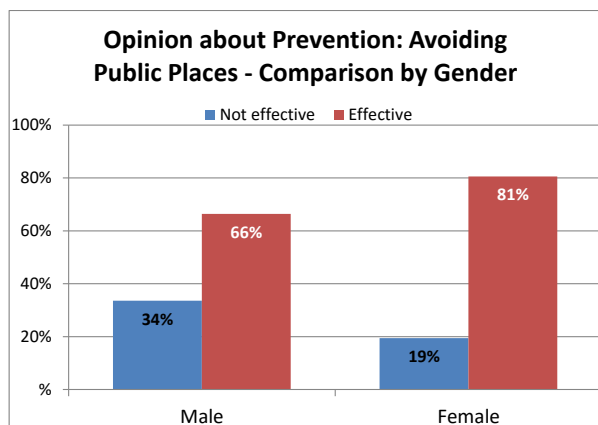
these have no role in treatment (Graph4).

Graph 4



More females considered avoiding public places to be a preventive method more than males (81%) to (66%), respectively. This is statically significant (Graph 5).

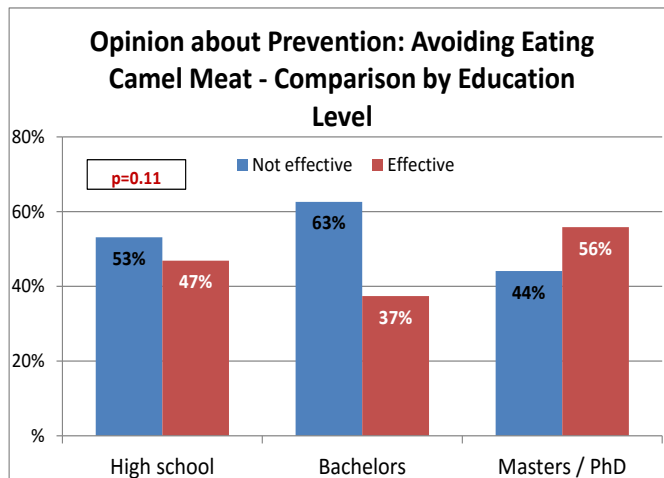
Graph 5



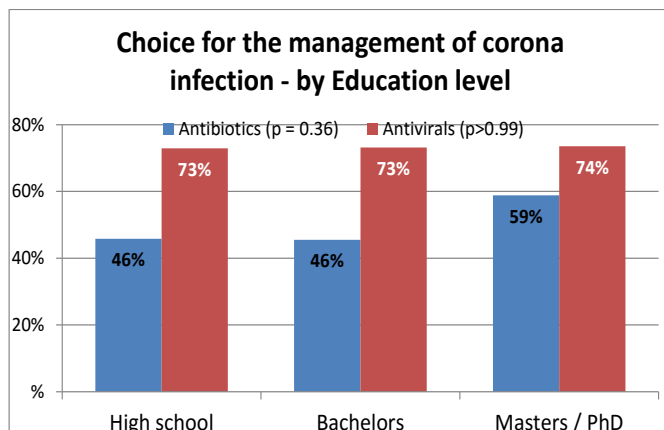
There is little variation in those who considered avoiding eating camel meat to be a preventive method among different educational levels: (56%)MS/PhD, (37%) bachelor, (47%) high school. There is no statistical significance. (Graph 6)

5,001-10,000 Riyal, 84% for 10,001-15,000 Riyal, and 74% for incomes over15,001 Riyal.(Graph 9)

Graph 6

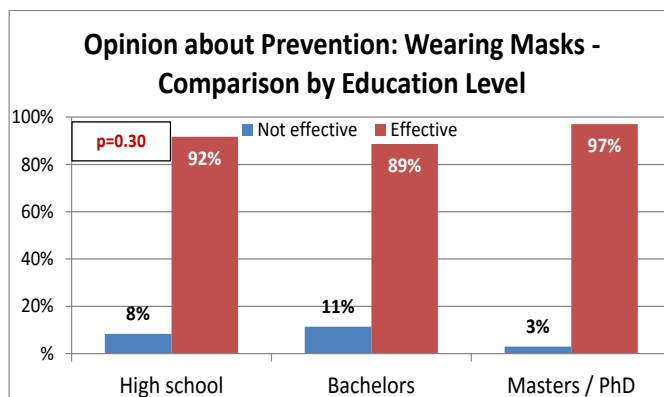


Graph 7



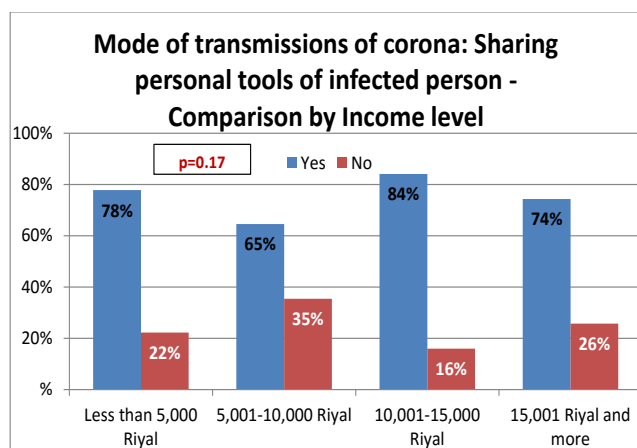
All educational groups agreed that antivirals could treat coronavirus (74%), (73%) and (73%) for graduate, BS, and high school, respectively. Moreover (59%) of master/PhD holders thought that antibiotics play a role in treatment, while (46%) of bachelor and high school educated persons thought so(-Graph 7).All groups agreed that wearing masks prevents infection (all >90%)(Graph 8).

Graph 8



By income, 78% of participants whose income is below 5,000 Riyal though that sharing personal tools from an infected person could transmit coronavirus. This was (65%)for incomes of

Graph 9



Conclusion

The level of awareness was good among the study group with regard to the symptoms and mode of transmission. However, there were some misconceptions, which need clarification to prevent and manage coronavirus.

Disclosure of Interest

This project funded by King Abdullah International Medical Research Center (KAIMRC).

Acknowledgement

Authors contributions

Dr. Mohammed Al Shaalan: contributed to the planning of the project, reviewing the proposal and supervision.

Dr. Muayad Alsharyoufi: contributed to the planning of the project, writing the proposal, data collection and data entry.

Dr. Jamal Bin Abdullah: contributed to the planning of the project, writing the proposal, data collection, data entry and manuscript writing.

Dr. Sultan Yousef Al-Howti: contributed to the planning of the project, writing the proposal, data collection, data entry, manuscript writing, review and final approval.

Dr. Aamir Omair: contributed to the planning of the project, data analysis and interpretation, manuscript writing, review and final approval.

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