HEALTH CARE WORKERS IN THE HAIL AREA OF THE KINGDOM OF SAUDI ARABIA TALK ABOUT AND KNOW ABOUT MERS-COV

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 Abstract

People who work in health care will be asked about what they know and think about MERS-CoV so that they can better deal with the health threat. As well as looking for a link between the participants' age, gender, marital status, and level of schooling, the study also wants to find a link between their anxiety, self-efficacy, and efficacy, as well as their reason for taking the tests.How it works: This study used a method called correlational. People who work in hospitals in the Kingdom of Saudi Arabia's Hail Region took part. A total of 264 health workers answered the poll, which means that 83% of those who were asked to did so. The weighted mean, the standard deviation, and the Chi-square test of independence were all used to look at the dataset.The results are: Dr. Smith knows a lot about MERS-CoV. They know that it makes the lungs swell (2.64 ± 0.48), always shows symptoms (2.67 ± 0.52), and can be avoided by staying clean (2.62 　0.64). Some people (4.24±0.56) think that MERS-CoV is a very dangerous virus. It's also less likely to get MERS-CoV and people worry less when they don't take any steps (3.30±1.18) and don't get vaccinated (2.7±0.90). People who work in health care are very sure (4.40 ± 0.69) that they will take the steps, but they're not sure if they will or not (3.38 ± 0.72). Age (P=0.001), the number of children in the family (P=0.026), and level of education (P=0.001) were all significantly linked to

the desire to take the steps. There is a link between amount of schooling and both efficacy and self-efficacy (P=0.031).Health workers have a positive view of MERS-CoV and know a lot about it. This may help them guess when the disease will spread.

Keywords: knowledgeMERS-CoVperceptionhealth practitioners

1. Introduction

Moths and camels, among other animals, play a big role in the spread of the Middle East Respiratory Syndrome-Corona Virus (MERS-CoV).1A lot of people get lung diseases and die from this type of virus.2. It was known that MERS-CoV could cause very bad viral pneumonia. It's not clear if there are other hosts in the middle or how the move works.The MERS-CoV virus is thought to be spread by animals. People most likely get the disease from camels, but most cases now come from people to people.3

MERS-CoV can make a lot of different illnesses happen, from mild upper respiratory symptoms to serious pneumonia and the failure of many systems.4, 5, 6MERS-CoV can be passed from one person to another in many places, like families, groups, and most often, places where people get social insurance [4, 7, 8]. Because of this, there have been bigger hospital outbreaks because of late warning, too many people, and not enough precautions against infection. 6, 9, and 10. Anyway, MERS-CoV is thought to be pretty hard to pass from person to person. Infections with MERS-CoV were confirmed in 1,401 labs as of August 12, 2015, according to the World Health Organization11. These infections were linked to 500 deaths. Not long after the first proof, MERS-CoV was linked to an animal source, just like many other viruses that spread quickly.12 People can better understand the illness with the help of marketing tools that teach and inform. To learn more about how to stop the spread of MERS-CoV and find it, this helps health workers. In light of this, this study looks into what health workers know and think about MERS-CoV to get them to do something about the rising health risk. The people on this team who work directly with the patient are the health workers. They are most likely to get MERS-CoV because they are on the front lines of care. The study's goal is to find out how much health workers know and think about how dangerous MERS-CoV is, as well as how anxious, effective, and self-confident they are, and if they plan to do what needs to be done. The next step of this study is to find a link between the age, gender, marital status, and level of education of health professionals and the special needs they have to deal with the health threat.

2. Methods

2.1. Design

This research utilized a descriptive, correlational approach in probing the perception of health professionals about MERS-CoV in the tertiary hospitals of Hail Region, Kingdom of Saudi Arabia. The study involved the participation of the health practitioners comprised of nurses, physiotherapists, medical technologists, and radiologists. A total of 264- health practitioners completed the survey having a response rate of 83% as a result of a convenience sampling. The

researcher included all tertiary hospitals in Hail Region, Kingdom of Saudi Arabia. The data collection started in January 2017 and ended in June of 2017.

The inclusion criteria were set to those health practitioners who are working at the participating hospitals and have voluntarily agreed to participate. Excluded in the study were the students, trainees, and interns serving the hospitals.

2.2. Instrument

The researcher used the Effective Communication in Outbreak(ECOM) [13] instrument which is a standard questionnaire on risk perception of an infectious disease outbreak. The use of the instrument has been granted by the original developer. The questionnaire has been slightly modified and validated to suit its relevance in the local context. The reliability of the questionnaire was measured by pretesting the questionnaire among the 36 health practitioners (10 physiotherapists, 10 medical technologists, and 10 nurses, 6 radiologists). These health professionals were no longer part of the actual respondents. The Cronbach's alpha was computed at 0.94.

2.3. Ethical Consideration

This study has been approved by the authorities of participating hospitals. Consent from the participants has been sought.

2.4. Data analysis

Statistically, the gathered data were analyzed using Statistical Package for Social Sciences version 21 (SPSS v. 21). Frequency count and percentage were computed to establish the profile of the respondents. Weighted mean and standard deviation were computed for each of the given items used as indicators in determining the perception on the level of knowledge of the health practitioners, as well as the level of perceptions in terms of the seriousness of MERS-CoV; susceptibility, extent of anxiety, efficacy and self-efficacy, and the intention to carry out the measures. Chi-square test of independence was used to examine the relationship of demographic profiles of the health practitioners with the aforementioned indicators. All statistical analyses were performed at 0.05 level of significance.

3. Results

Most of the health practitioners(101) belonged to 30 to 34 years old (38.26%; n=101) followed by the younger group which is 25-29(24.62%) years old. There are 40 (15.15%) who are between 35-39 years. Majority of them are dominated by females with 181(68.56%), and only 83(31.44%) are males. Most of them are married (65.53%, n=173). There are 91 (34.47%) of the health practitioners who are single. Of the 264 health practitioners participating in this study, 230 (87.12%) have bachelor's degree while 34(12.88) have a master's degree (Table 1).

- **Table 1. Demographic Profile of the Health Practitioners (n=264)**

Profiles	Frequency n = 264	Percentage %
Age		
25 – 29	65	24.62
30 – 34	101	38.26
35 – 39	40	15.15
40 – 44	30	11.36
45 – 49	15	5.68
50 – 54	4	1.52
55 – 60	9	3.41
Gender		
Male	83	31.44
Female	181	68.56
Civil Status		
Single	91	34.47
Married	173	65.53
Educational Attainment		
Bachelor's degree	230	87.12
Master's degree	34	12.88

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- **Table 2. Knowledge Items**

Statements	Mean	SD	Interpretation
MERS-CoV is an inflammation of the lungs	2.64	0.48	High
MERS-CoV always gives symptoms.	2.67	0.52	High
MERS-CoV can only be contracted once in a lifetime.	2.08	0.52	Low
There is a vaccine against MERS-CoV.	1.92	0.55	Low
MERS-CoV can be prevented by good hygiene.	2.62	0.64	High
Mean	2.40	0.31	High

Rating Score	Descriptive Rating	Parameter Limits	Interpretation
3	Correct	2.34 – 3.00	High
2	Incorrect	1.68 – 2.33	Low
1	Unknown	1.00 – 1.67	No Knowledge

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- **Table 3. Level of Perceptions**

Perceptions on the Seriousness of the Disease	Mean	SD	Interpretation
1. How serious do you think MERS-CoV is?	4.72	0.53	Very serious
2. How would you feel if you were to contract the following diseases in the coming year?			
Flu	3.36	1.08	Neutral
Bladder infection	4.38	0.77	Very serious
Diabetes	3.34	0.96	Neutral
Mers Cov	3.89	1.01	Serious
Mean	3.77	0.75	Serious
Grand Mean	4.24	0.56	Very serious
Perception of Susceptibility to the Disease and Extent of Anxiety			
1. Do you think that you can contract MERS-CoV in the coming year if you do not take any preventive measures?	3.30	1.18	Neutral
2. Suppose you have not been vaccinated MERS-CoV. What do you think your chance of contracting MERS-CoV in the coming year is?	2.70	0.90	Neutral
3. How large do you think the chance is that you will contract the following diseases in the coming year?			
Flu	2.89	1.00	Neutral
Heart Attack	2.34	1.12	Less sure
Bladder Infection	2.42	1.00	Less sure
Diabetes	2.55	1.09	Less sure
MERS-CoV	2.77	1.14	Neutral
Mean	2.60	0.87	Less sure
4. How concerned are you about contracting MERS-CoV?	4.29	0.64	Very certain
Grand Mean	3.22	0.46	Neutral
Perception on Efficacy and Self-Efficacy among the Health practitioners			
Do you think that information dissemination helps to prevent MERS-CoV?	4.52	0.76	Very certain
Do you think that you will manage to carry out information dissemination if this is advised?	4.28	0.73	Very certain
Mean	4.40	0.69	Very certain
Intention to Carry Out the Measure(s)			
Would you carry out information dissemination if this was advised?	3.39	0.72	Neutral

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As shown in Table 2, the health practitioners have a high level of knowledge on MERS-CoV as an inflammation of the lungs (2.64 ± 0.48), always gives symptoms (2.67± 0.52), and can be prevented by practicing good hygiene (2.62 ±0.64). However, they claimed that they have a low level of knowledge on MERS-CoV to be contracted once in a lifetime (2.08 ±0.52) and the availability of a vaccine against MERS-CoV with a mean of 1.92 (SD=0.55).

On the health practitioners' perception of the seriousness of the MERS-CoV disease, they perceived it to be a very serious disease (4.24). Moreover, the susceptibility of MERS-CoV, and extent of anxiety have been perceived as to be contracted in the absence of preventive measures (3.30) and with no vaccination (2.7). On efficacy and self-efficacy on education and prevention of MERS-CoV, the health practitioners are very certain(4.40±0.69) about the need to disseminate the

information to prevent MERS-CoV and they believe they have the skill to carry out if the information campaign is needed. On the other hand, the health practitioners' are fair with their intention to carry out the measures with 3.38(SD=0.72). See Table 3.

3.1. Relationship of Demographic Profiles of the Health Practitioners with their Level of Perception

As revealed in Table 4, the age of the health practitioners yield no significant relationship to the seriousness (P=0.936), susceptibility, (P=0.756), efficacy and self-efficacy (P=0.277), however, it yielded significant relationship (0.001) to the intention to carry-out the measures. As to gender, it proves no significant relationship to the seriousness of the disease (P=0.782), susceptibility and extent of anxiety(P=0.816), efficacy and self-efficacy (P=0.374), and the intention to carry out the measures (P= 0.857). On the other hand, the civil status proves no significant relationship to the seriousness of the MERS-CoV (P=0.580), susceptibility and extent of anxiety (P=0.752), efficacy and self-efficacy, (P=0.247), but significant to intention to carry out the measures (P=0.026). Lastly, the educational attainment of the respondents proves significant to efficacy and self-efficacy (P=0.031) and the intention to carry out the measures (P=0.001).

- **Table 4. Relationship of Demographic Profiles to Seriousness, Susceptibility, Efficacy and Self-efficacy, and the Intention to Carry out the Measures**

Indicators	Age		Gender		Civil Status		Educational Attainment	
	Chi²	p-val	Chi²	p-val	Chi²	p-val	Chi²	p-val
Seriousness	70.538	0.936	10.574	0.782	13.285	0.580	35.583	0.223
Susceptibility	183.863	0.756	25.642	0.816	27.183	0.752	66.729	0.452
Efficacy and self-efficacy	34.095	0.277	5.360	0.374	6.658	0.247	16.728	0.031*
Intention to carry-out the measures	45.508	0.001**	0.793	0.857	9.303	0.026*	54.905	0.001**

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4. Discussion

4.1. Knowledge and Perception of Allied Health Practitioners towards MERS-CoV

This present study suggests that health practitioners have a high level of knowledge about MERS-CoV. This finding is corroborated by the investigation of Althobaity et al. [14] where the health practitioners demonstrated a good level of the overall knowledge about the nature of MERS-CoV including the causative agent, the signs of the disease, its similarity to flu, and the severity of the

disease. In relation, the study of Bawazir et al. [15] show that roughly 66% of the study participants had overall good knowledge regarding MERS-CoV. Although this current study reveals a high knowledge and awareness regarding the MERS-CoV but more effort should be paid to enhance the public misconceptions regarding the disease, how it can be contracted once in a lifetime and the availability of a vaccine. Conversely, the health practitioners' perception of MERS-CoV disease is "very serious" with heart problems and diabetes as the most likely to happen to a patient if contracted with the disease. This finding concurs with the investigation of Badawi and Ryoo [16] which showed that cardiovascular infections, hypertension, and cardio-artillery illnesses might have been consolidated in the event of MERS-CoV.

Past researchers have also noted that diabetes can be a comorbidity of MERS-CoV. [16, 17, 18] This finding gives epidemiologic confirmation of diabetes and coronary illness as a risk factor for MERS-CoV disease. The preventive measures are being practiced at home and in the hospital whereby the respondents are confident that they may not contract MERS-CoV disease. The findings of this study coincide with the study of Alnajjar et al. [19] which stipulated that anxiety level was significantly associated with increased perception of susceptibility to infection and that clinical prevention was modest. Similar to the findings of Aldrees et. al [20], they demonstrated that the medical professionals believed their job put them at considerable risk of exposure and were afraid of contracting MERS-CoV; however, they also believed that it was part of their professional duty to care for MERS-CoV patients and accepted this risk of infection. Participants were also not willing to change their jobs due to the risk of exposure to MERS-CoV, and they were confident that the hospitals would look after them if they were infected. The finding of this study is substantiated by an abundance of researches that tackles susceptibility and anxiety about MERS-CoV disease. [20]

The health practitioners in this study have the efficacy on education and prevention. However, there is still room for improvement in certain areas like the possible sources of virus transmission and the management of MERS-CoV. Extensive health education campaigns should be provided to health practitioners to bridge the gap between the current and the required knowledge by focusing on less knowledgeable areas. The finding of this study is in line with the study of Ghobain et al. [21] wherein they indicated that respondents were knowledgeable about MERS, but they were ignorant about environmental and health-related matters. Likewise, the study of Aldrees et al. [20] showed that health practitioners reported receiving adequate training in the use of personal protective equipment. When asked about the intention to carry out information dissemination for MERS-CoV prevention, the respondents customarily believed that their work put them at risk of infection. The research of Altamimi et al. [22] corroborate this finding in which they concluded that having a good attitude towards health promotion is not enough because the lack of confidence levels or the presence of other barriers can restrict any healthcare provider from promoting healthy behavior, even those with a good attitude. They recognized this as critical restrictions in executing an effective health promotion practice even in the best hospitals. [22]

4.2. Relationship of Demographic Profiles to Seriousness, Susceptibility, the Extent of Anxiety, Efficacy and Self-efficacy, and the Intention to Carry out the Measures

This study shows that there is no significant link between the age of the health professionals and how likely they are to get or have MERS-CoV disease and their sense of efficacy or self-efficacy. This means that health professionals have the same view on the above signs no matter what age the person is. The results of this study back up what Al-Hazmi et al.23 and Alqahtani and Aldawsari24 said, which is that there is no link between younger and older students when it comes to MERS-CoV information, prevention, and treatment. The works by Bawazir et al. (15) and Khan et al. (25), on the other hand, show that the age of the medical professionals is related to the indicators, which goes against what this study found. Age ≥30 years, 15 years, and 40 years were the most important factors in predicting who would get MERS-CoV and how they would be treated.25To make people more aware of the MERS-CoV disease and help them learn more about it, more attention should be paid to young health professionals.

Also, there was no significant link between gender and how serious the MERS-CoV disease was, how likely someone was to get it, their sense of efficacy or self-efficacy, or their desire to get the disease checked out. In any case, this means that the health professionals agree with the above signs. They did this because they knew a lot about the disease and were sure that the information needed to be shared to stop MERS-CoV. The results of this study are different from those of Khan et al.25, which found that when male doctors used protective gear when working with MERS-CoV patients, they had a better attitude. In Saudi Arabia, traditional norms and traditions say that men should interact and socialise more than women. This could explain the effect of gender and attitude. In contrast, Alqahtani and Aldawsari's24 study found that the women who responded knew more about how to avoid and treat MERS-CoV.

There was a strong link between the health professionals' civil standing and their plans to take action to control MERS-CoV. 65.53% of those who answered said they planned to take part in the effort to stop this from happening. Most of them were married couples. For the rest of the indicators, there was no link to their civil standing. It's possible that this is because married health professionals want to and are ready to help with the preventative measures because they have families to protect besides themselves and their clients. The results of this study agree with those of Honarbakhsh et al. 26 who found that being married is linked to taking steps to protect against respiratory risks at work. This research result, on the other hand, goes against what other studies (15, 27) have found, which is that there is no significant link between being married and wanting to take preventative measures. On the other hand, this study's results show a strong link between how college graduates felt about their own efficacy and how likely they were to take the preventative steps. This means that the health professionals' better education gave them confidence in their ability to take preventative steps and give good care to patients. This result fits with what Al-Mohrej and Agha found (28), which was that people with more education scored much higher than those with less education when it came to MERS-CoV awareness. It has been reported that a good explanation for a low level of efficacy/self-efficacy and desire to carry out the preventive

measures regarding MERS-CoV infection is that the participants were health practitioners with no previous experience or exposure to such cases. 29

5. Limitation

This study only uses self-reported, perception-based data from healthcare workers who are currently working and took the survey. There was no triangulation of results.

6. Conclusion

Since the health workers in Hail Region are careful and know a lot about MERS-CoV, it looks like they can help stop and contain the spread of the virus. To figure out how to stop the spread of MERS-CoV, health professionals need to know about the person's age, gender, marital status, and level of schooling.

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