

Knowledge and Awareness of MERS CoV Transmission and Infection among Individuals Planning for Hajj

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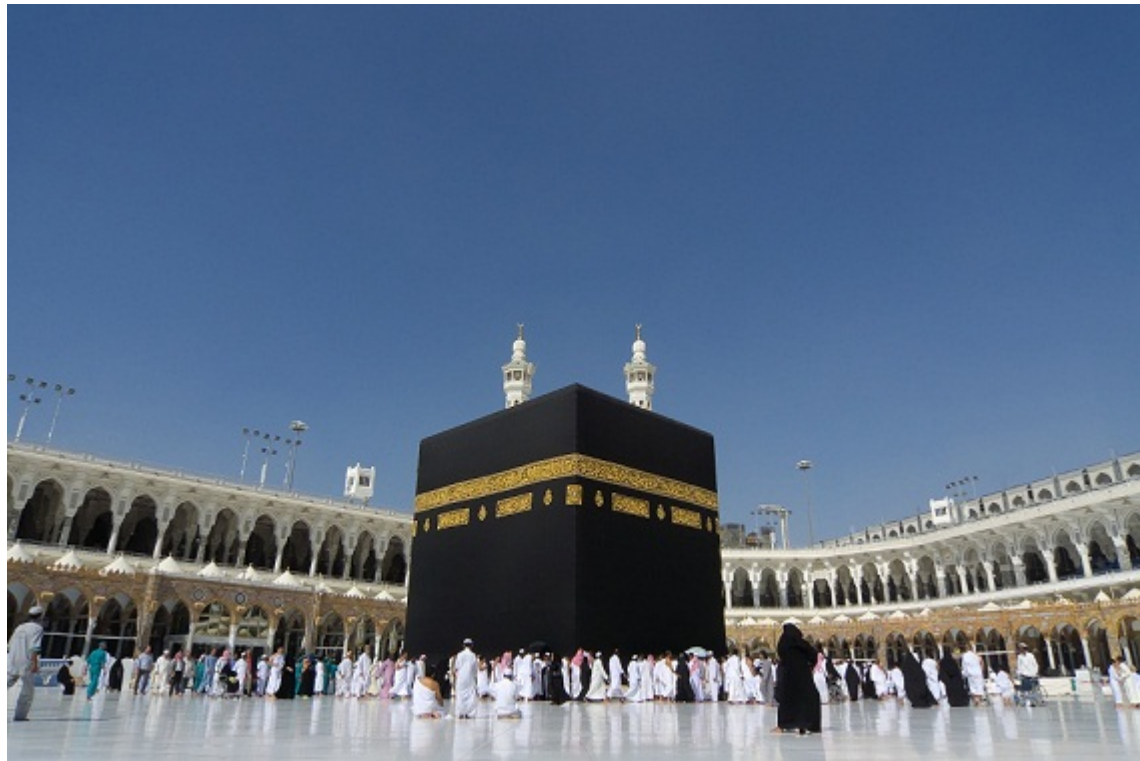
Research Background

- The Middle East Respiratory Syndrome - Coronavirus (MERS-CoV) is caused by a virus, often found in countries in or near the Arabian peninsula within 14 days prior to symptom onset or be in contact with a traveler from this region who developed a febrile respiratory illness.
- The first case of coronavirus infection in Saudi Arabia, specifically Jeddah, were reported on June 13, 2012; after this outbreak, coronavirus continued to spread overseas to many countries including Asia, Africa, Europe, and America (Zaki A et al., 2012; Buchholz U et al., 2012).

Problem Statement

- At the end of March 2018, a total of 2189 laboratory-confirmed cases of MERS, including 782 associated deaths (case–fatality rate: 35.7%) were reported globally; the majority of these cases were reported from Saudi Arabia (case–fatality rate of 39%). (WHO, 2018)
- Malaysians have a high risk of getting infected as the number Malaysian Hajj pilgrims is approximately 27,900 pilgrims since 2013 and is still on the rise.

(WHO : World Health Organization)



Research Questions

- What are individual's going for Umrah/ Hajj knowledge, attitudes and practices toward the Middle Eastern Respiratory Syndrome - Coronavirus (MERS- CoV)?
- What are the factors affecting knowledge, attitude and practices of individuals going for Umrah/ Hajj towards Middle Eastern Respiratory Syndrome - Coronavirus (MERS- CoV)?

Literature Review

Variables	Population	Result
Epidemiological and clinical knowledge regarding the MERS-CoV disease among the Saudi population in Riyadh city	Saudi adults living in Riyadh aged 18 years and older.	There was inadequate epidemiological knowledge received by the public in Riyadh and the reliance mostly on the clinical manifestations to recognizing the MERS-CoV disease. The significant predictors of the participants' overall good knowledge in our study were an age ≥ 30 years, a university educational level, and female gender . (Amen Bawazir et al. 2017)
Knowledge and attitude of healthcare workers about middle east respiratory syndrome	Healthcare workers from two hospitals of Qassim region in Saudi Arabia	The findings of this study showed that healthcare workers in Qassim region of Saudi Arabia have good knowledge and positive attitude towards MERS . Overall, gender and experience were the two demographic variables significantly associated with the mean knowledge and attitude scores. (Khan MU, Shah S, Ahmad A, Fatokun O. 2014)

<p>Knowledge, attitude, and practice toward MERS-CoV among primary health-care workers</p>	<p>Healthcare workers in primary health-care centers of Makkah Al-Mukarramah, Saudi Arabia</p>	<p>Logistic regression analysis of the association between sociodemographic criteria and knowledge scores of the participants showed that age and type of job exhibited the most effect on their knowledge, where 57.6% of participants >40 years old showed satisfactory knowledge compared with 42.4% in of participants <40 years old. (Alkot M, Albouq MA, Shakuri MA, Subahi MS et al.2016)</p>
<p>Awareness, Attitudes, and Practices Related to Coronavirus Pandemic in Saudi Arabia</p>	<p>Male and female Saudis and expatriates older than 18 years in shopping malls in Riyadh</p>	<p>The results indicate that gender was the only significant predictor of concern, whereas knowledge was a significant predictor for both concern and precaution. (Almutairi KM, Al Helih EM, Moussa M, Boshaiqah AE, Saleh Alajilan A, Vinluan JM, et al.2015)</p>

Conceptual Framework

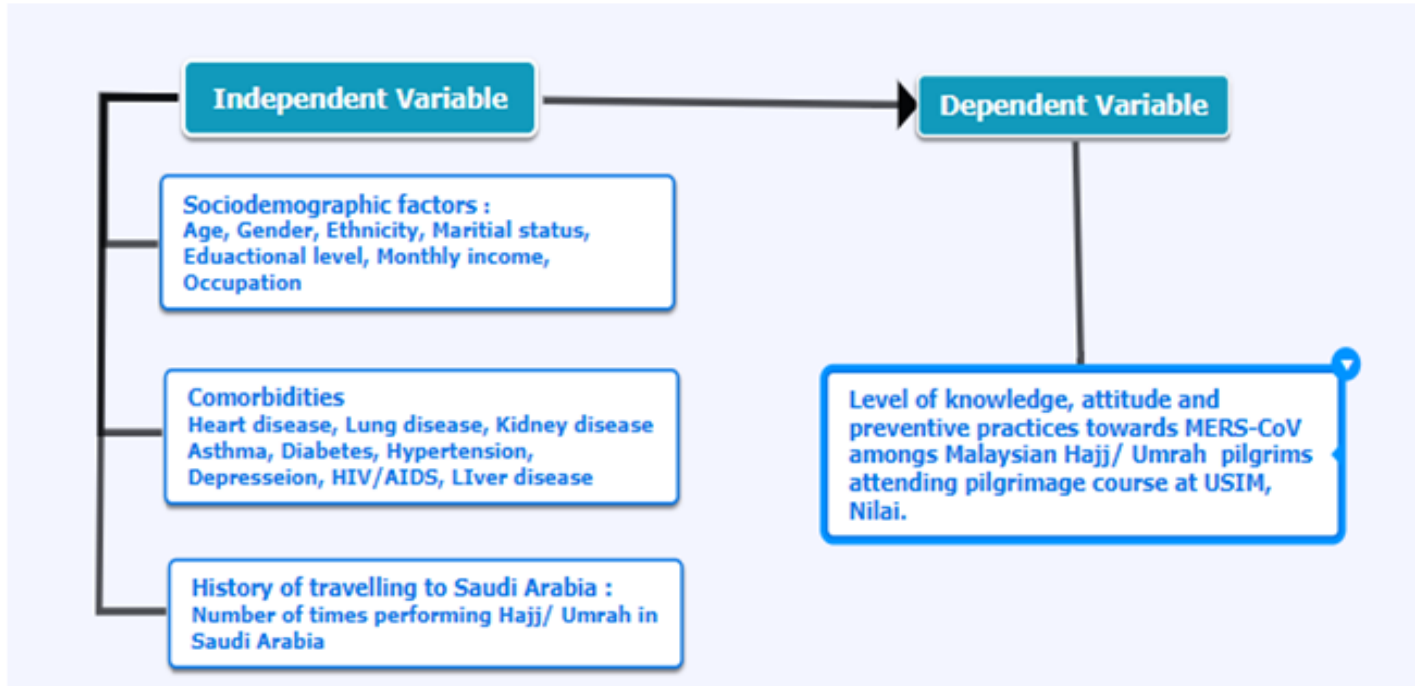


Figure 1 : Factors affecting level of knowledge, attitude and preventive practices towards MERS-CoV among Malaysian Hajj/Umrah pilgrims attending pilgrimage course in Universiti Sains Islam Malaysia.

Methodology

Study design

Cross sectional study

Sampling method

Convenience sampling

Study population

Malaysians aged at least 18 years old and above in Negeri Sembilan that are travelling to Mecca, Saudi Arabia for Hajj/ Umrah and also fulfil the inclusion and exclusion criteria.

Sampling Population

Inclusion criteria

- Attendees of Hajj course in Universiti Sains Islam Malaysia that are travelling to Mecca, Saudi Arabia for Hajj/ Umrah.
- Able to understand Malay or English language.
- Malaysians who were 18 years old and above.

Exclusion criteria

- Malaysians who are unable to understand Malay or English language.
- Malaysians who were below 18 years old.

Instruments and Data Collection

Study Instruments

Self administered questionnaires, subject information sheet and written consent form.

Data Collection

Subject information sheet will be distributed to notify the respondents about the purpose of our study. Consent form was given to get their concern regarding our study. Next, the researchers distribute the questionnaires to the subjects.

RESULTS

General Characteristics

Variables		Studied Sample (n = 116)	
		No.	%
Age (years) mean \pm SD	47.79 \pm 13.105		
Min - Max	19 to 75		
Age	<47 years	49	42.2
	\geq 47 years	67	57.8
Gender	Male	64	55.2
	Female	52	44.8
Race	Malay	112	96.6
	Indian	0	0.0
	Chinese	1	0.9
	Others	3	2.6

Table 1. showing characteristics of the studied sample

Marital Status	Single	12	10.3
	Married	102	87.9
	Widowed	2	1.7
Monthly Income (RM)	Low	62	53.4
	Middle	51	44.0
	High	3	2.6
Occupation Status	Working	74	63.8
	Unemployed	1	0.9
	Others	18	15.5
	Retired	23	19.8
Education Level	None	0	0.0
	Primary school	5	4.3
	Secondary school	30	25.9
	Form 6/ Diploma/	29	25.0
	Certificate		
	Others	52	44.8

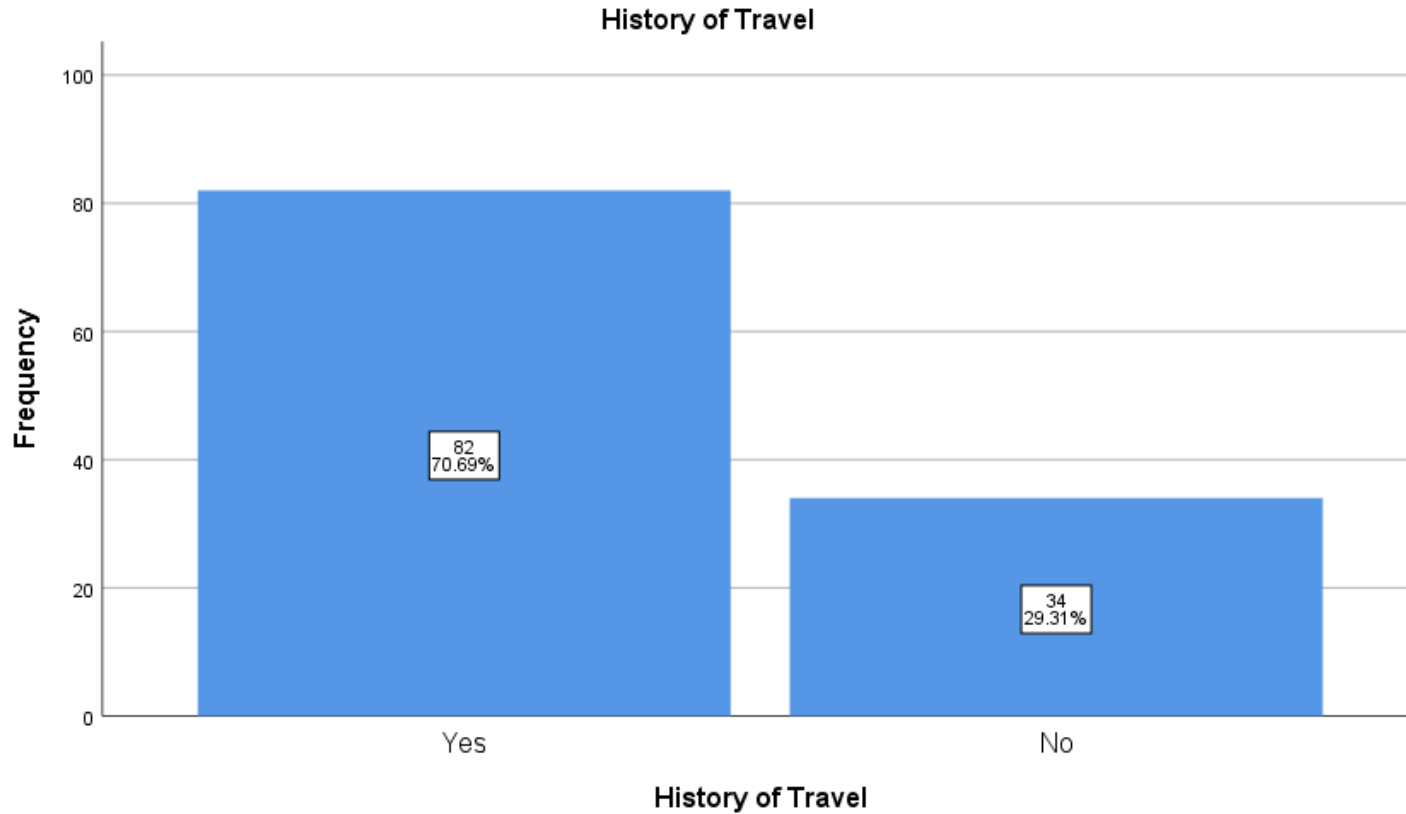


Figure 2. Bar chart based on history of travel to Saudi Arabia

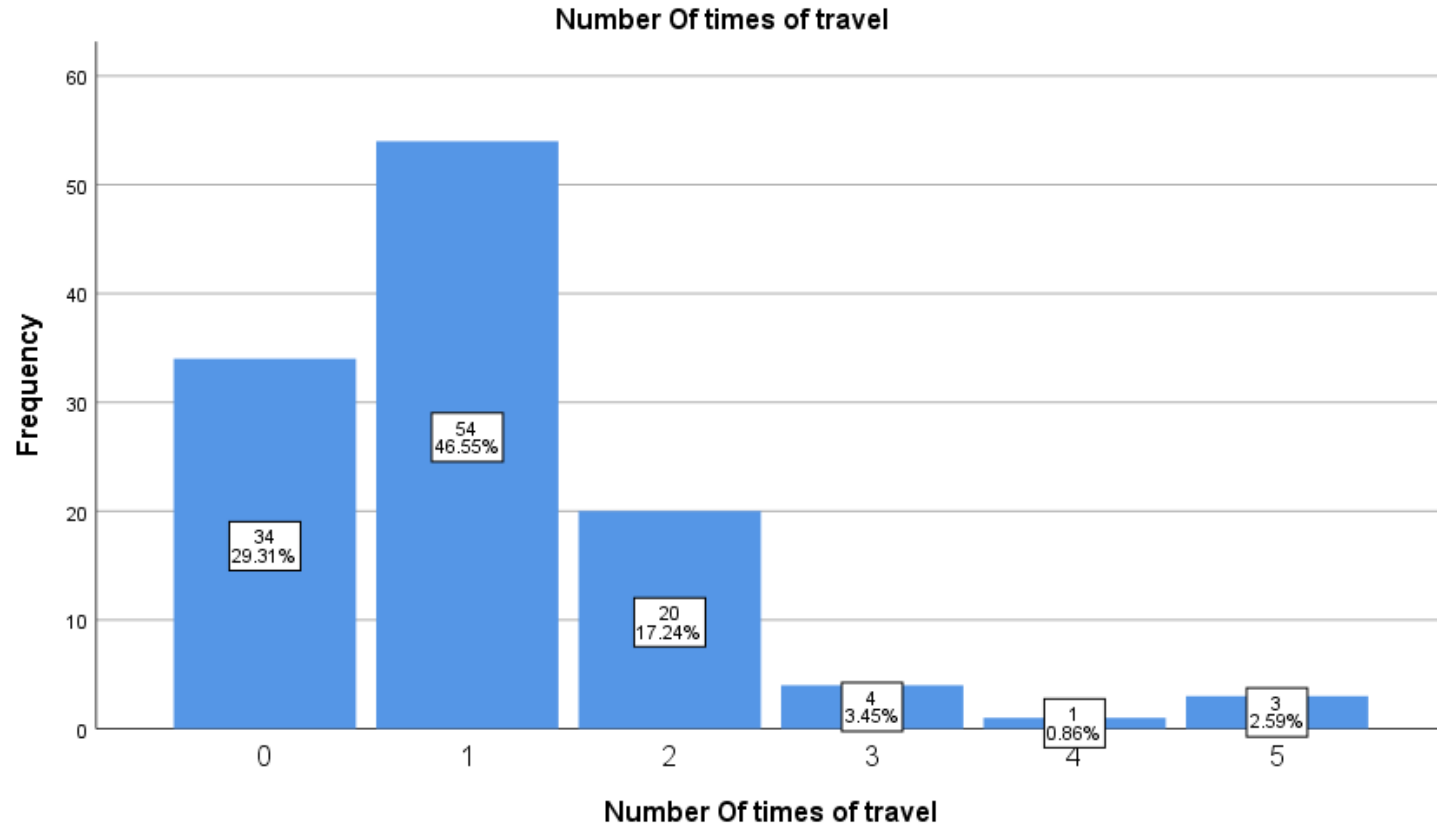


Figure 3. Bar chart based on number of times of travel to Saudi Arabia

Number of people with comorbidities

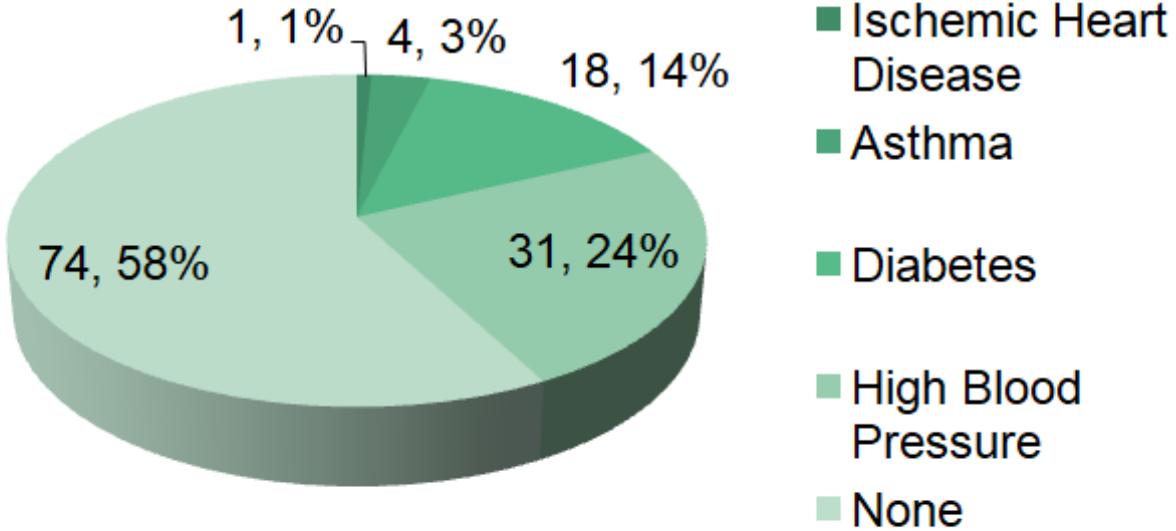


Figure 1: Distribution of comorbidity

Level of Knowledge

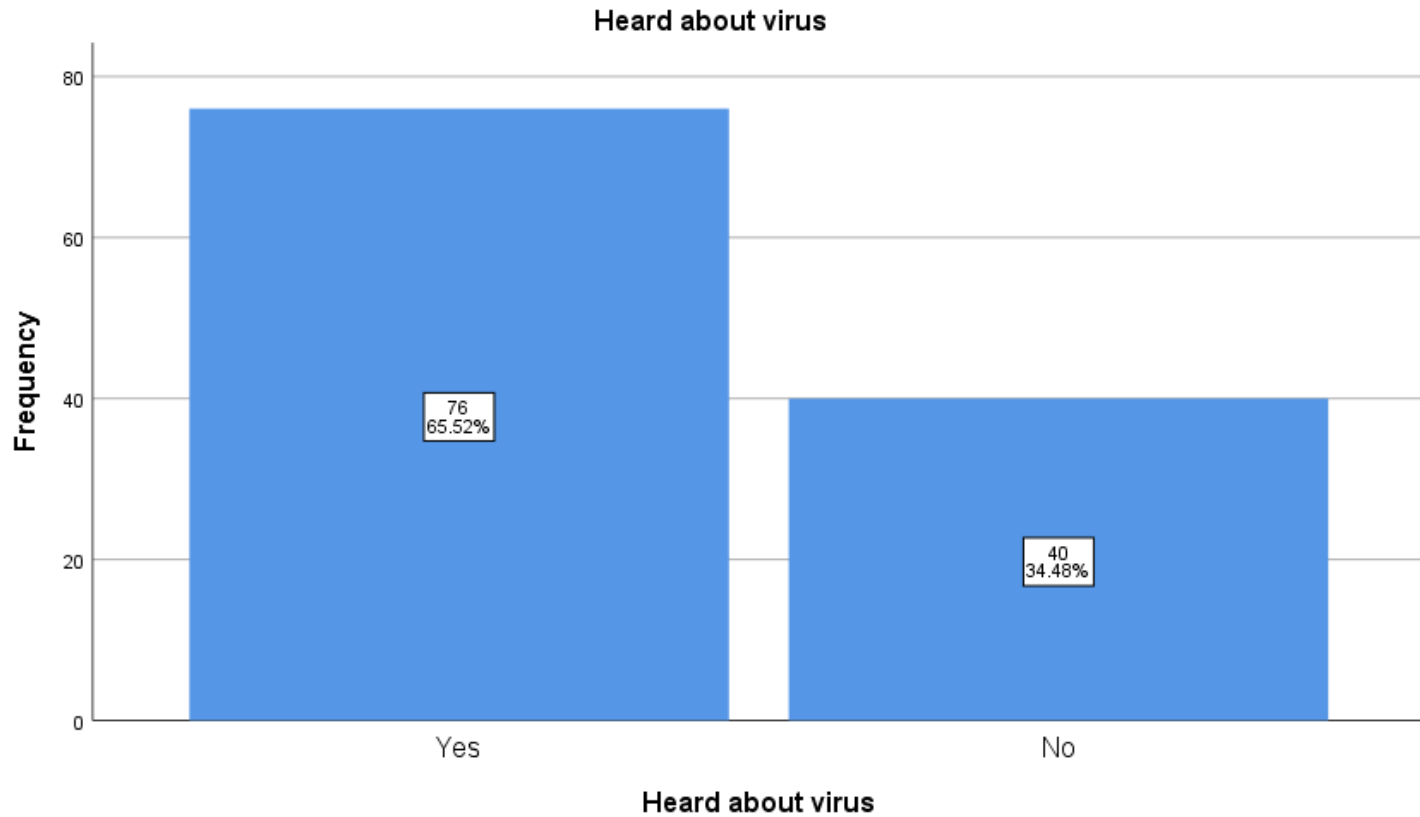


Figure 5. Bar chart based on knowledge about virus

Source of Knowledge

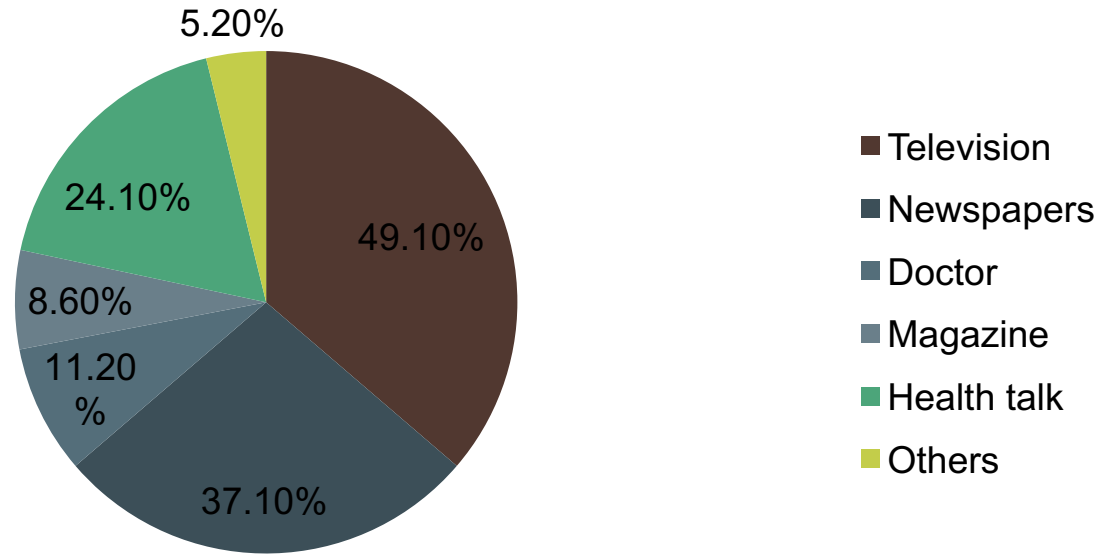


Figure 6. Pie chart showing proportion of source of knowledge about MERS-CoV

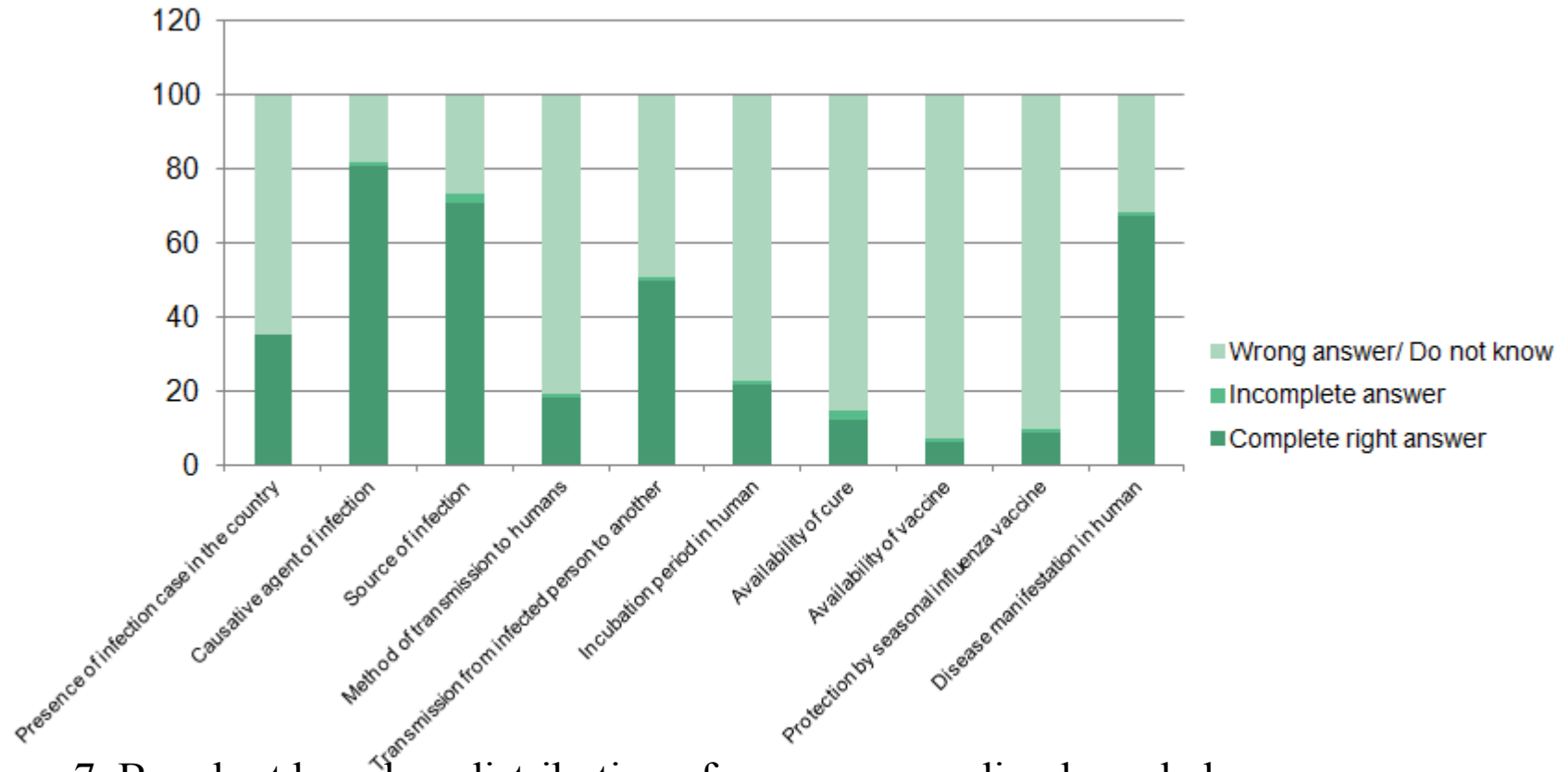


Figure 7. Bar chart based on distribution of answers regarding knowledge about virus

Level of Attitude



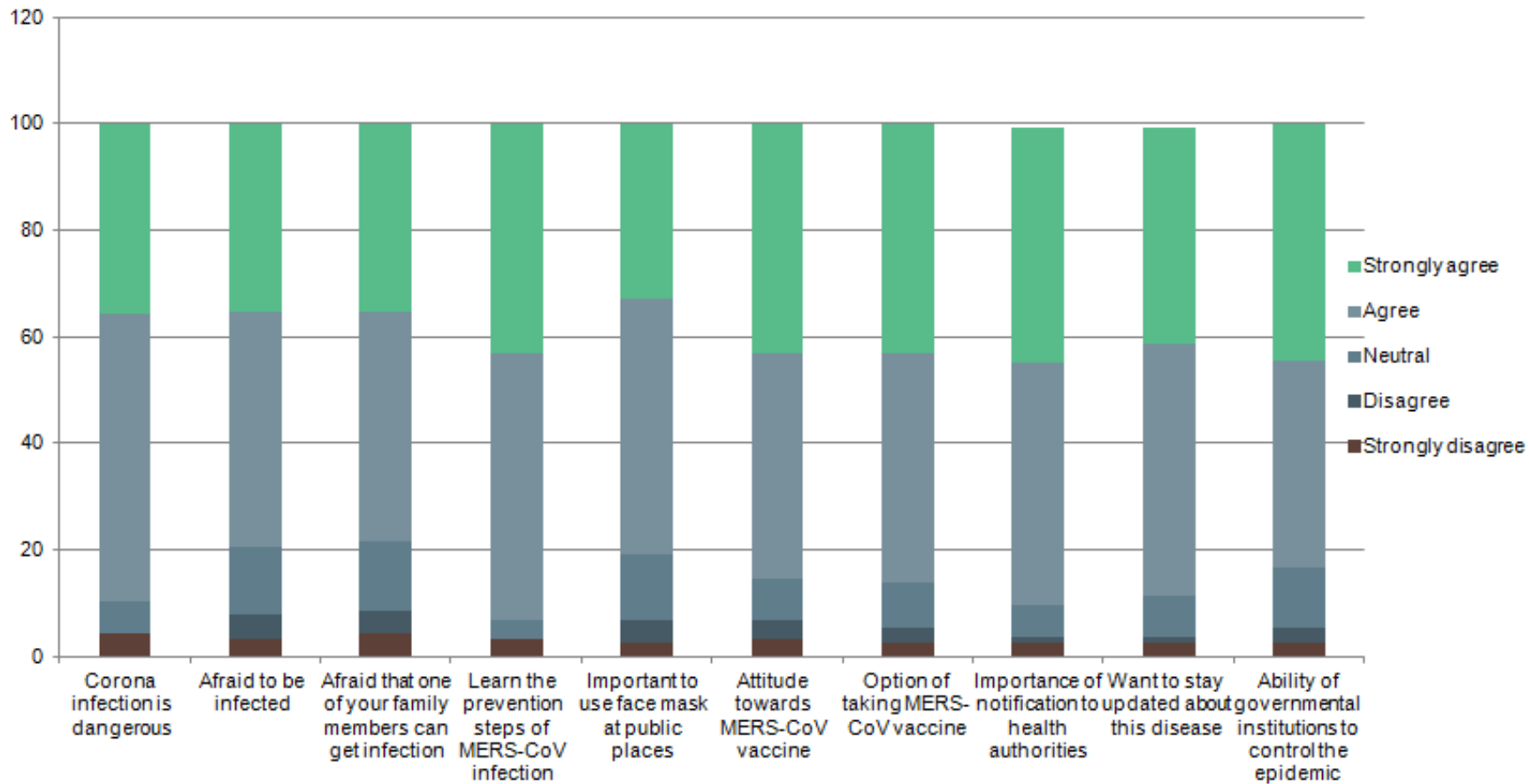
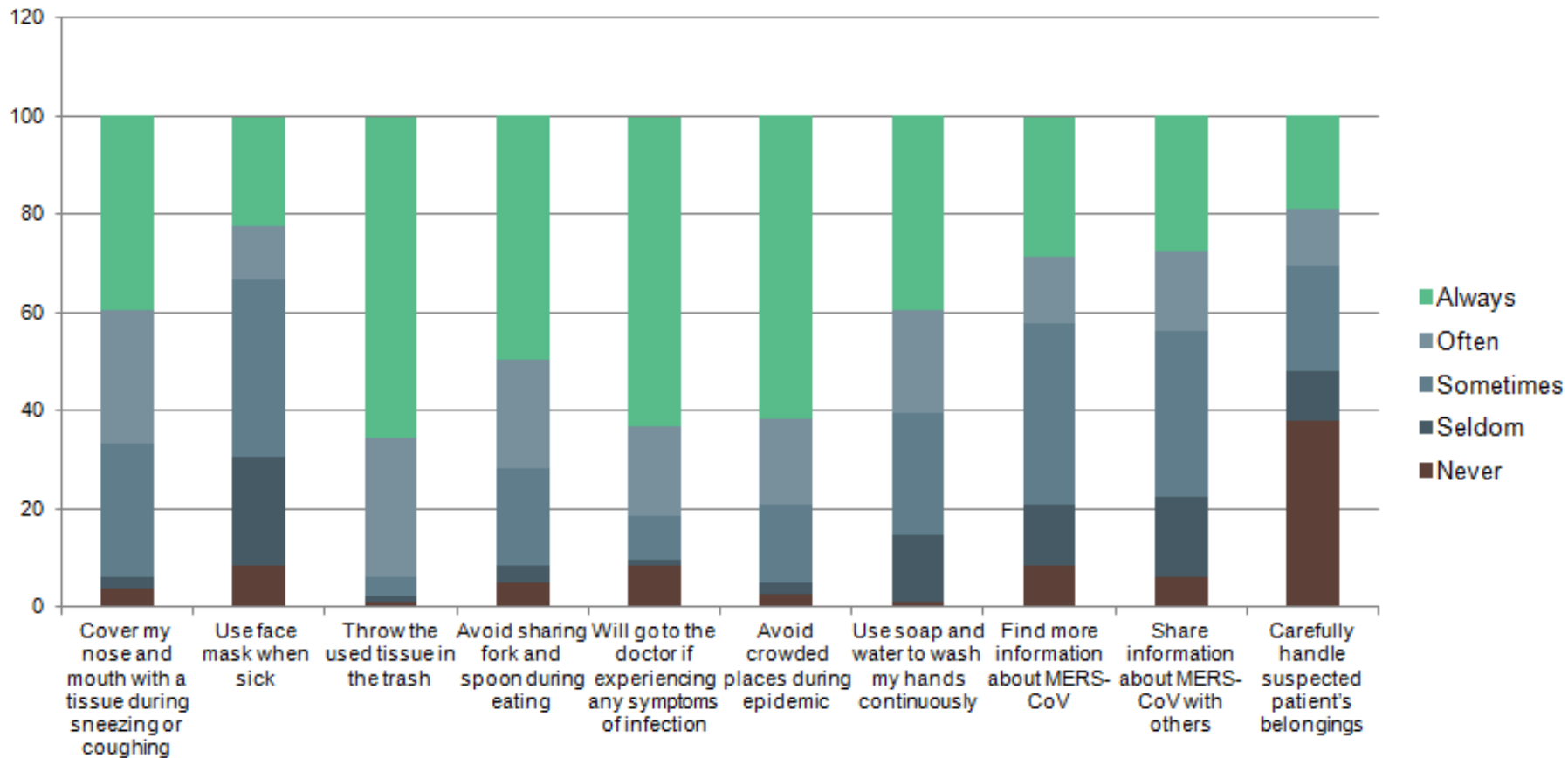


Figure 6. Bar chart based on distribution of answers regarding attitude towards virus

Quality of Practices



related to virus

DISCUSSION

Overall knowledge, attitude and practices scores about MERS-CoV

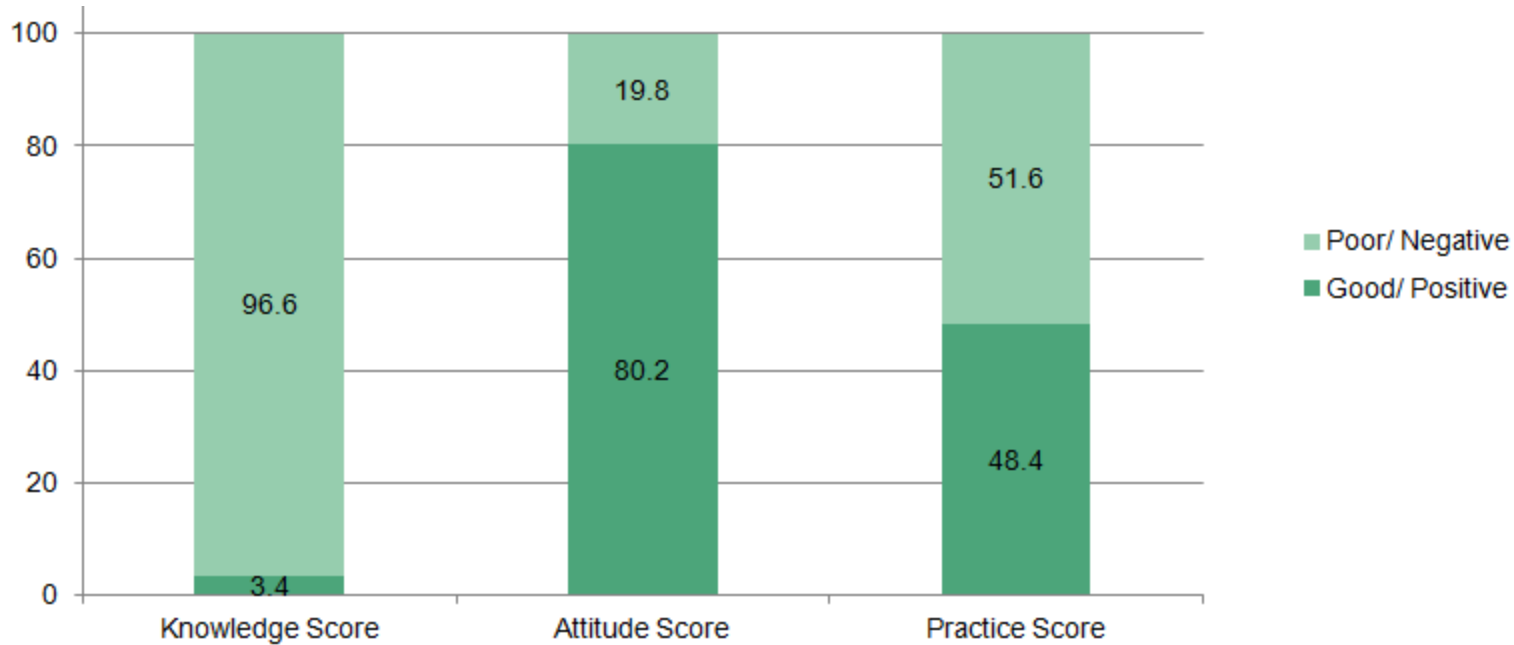


Figure 10. Bar chart showing overall knowledge, attitude and practice scores

In general, our results showed relatively **poor knowledge**, and **poor practices** and **positive attitude** towards MERS-CoV.

Source of knowledge

- **Television** was observed to be the main source of information for our respondents.
- This finding was different from J. Hoda (2016) at Riyadh and another study in Riyadh (Bawazir et al., 2018) that reported to have **internet as the main source of knowledge**.
- This difference might be attributed to the **difference in age** among the studied population in each research since majority participants in our research are of older age.
- As a result, they may be technologically challenged to be able to access the information regarding MERS-CoV.

Knowledge

- In overall, the participants have **poor knowledge** about MERS-CoV.
- The knowledge regarding **availability of MERS-CoV vaccine** is the most lacking of all.
- It is necessary to reveal this aspect of virus epidemiology to the public so that they would be more aware of our vulnerability towards this virus and therefore awaken the need for caution and prevention.

- The overall good responses from our participants were questions concerned with **causative agent, source of infection and disease manifestation in humans**.
- These findings may be the result of information sharing from **health talks** highlighting the risk of visiting dromedaries farm and consuming dromedaries products.

Attitude

- Regarding attitude of Malaysian Hajj/Umrah pilgrims towards infection, it was found to be in the **positive** range.
- The most positive attitude of all was observed when respondents shown their interest in **learning the methods to prevent MERS-CoV infection**.
- This could be due to the fact that most of them have very little knowledge regarding MERS-CoV and they are interested to know how to avoid getting infected.

Practice

- In terms of practice, slightly more than half of our respondents have **poor practices**.
- The steps that are practiced most is the **proper disposal of used tissues**.
- The least practiced of them all is **using face mask when sick**.

General Characteristics and KAP scores

- In our study, **gender** was significantly associated with the **mean knowledge score** with higher mean score among **female participants**.
- A finding that seems interesting: is the significant association between **level of income** and **attitude score** with higher mean score among respondents with low level of income.
- Socioeconomic status has not been a significant factor in the research about MERS-CoV.

Comorbidities and KAP scores

- It is found that only **high blood pressure** is a significant factor in knowledge score.
- The reason for this could be that respondents with comorbidity especially high blood pressure are more aware of health issues as compared to others.

Number of times of travel to Saudi Arabia and KAP scores

- It is found that **number of times of travel** is associated with **attitude** even though knowledge increases as number of times of travel increases..
- As they travel more to Saudi Arabia and increasing knowledge, their attitude seems to fall at the same time.
- This could be due to their increasing familiarity with the Arabian Peninsula and gradually lower their guard against MERS-CoV.

Conclusion

- Our study showed that there are knowledge gap and poor practices among Hajj/Umrah pilgrims towards MERS-CoV infection although they reported positive attitude.
- Knowledge and awareness can be spread through television, newspaper, health talks and dissemination of information by healthcare professionals as these are the most frequently reported sources that have successfully spread knowledge regarding MERS-CoV.

Strength of Study

- Very little research has been done on determining the perception of Malaysians towards Middle East Respiratory Syndrome - Coronavirus (MERS-CoV).
- This study can reflect the readiness of Malaysians to face the potential threat of infection.
- This study can also establish a baseline on the level of knowledge and attitude of Malaysians towards Middle East Respiratory Syndrome - Coronavirus (MERS-CoV).
- This helps us to construct comprehensive modules on infectious diseases particularly on Middle East Respiratory Syndrome for pilgrims.

Limitations and Recommendations

- It is a cross-sectional study, it describes the relationship between the predictor and dependent variables as general association and not to be taken as cause-effect relationship.
- Non- response bias occurred where some of the the participants did not want to participate in our survey.
- The questionnaires were designed on a general concept on how a viral disease is spread. It can be reasoned that the positive attitude observed may not be towards MERS-CoV specifically but rather generally towards all communicable diseases.

- Increasing the sample size as more available data can be collected and analyzed.
- Random sampling should instead be used as the data results would be more reliable if the data was collected from samples which were randomly selected.

Reference

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Questions?