MERS-CoV: Risk Perception and Preventive Measures

ZAWAHA HJ IDRIS
Institute for Health Behavioral Research
Ministry of Health Malaysia
• Middle East Respiratory Syndrome Corona Virus (MERS-CoV):
  • An acute respiratory syndrome.
  • First detected in 2012 from Jordan & subsequently spread to other parts of the Middle East countries.
  • Case fatality rate - High (40-60%).
• WHO [April - 9 May 2014]:
  • 536 confirmed cases with 145 deaths in Saudi Arabia from the cities of Jeddah, Mecca, Riyadh, Tabuk, Madinah & Najran.

Introduction
• Annually 200,000 - 250,000 Malaysian perform the Umrah.

• 30 local Umrah operators were given visas by Saudi Arabia for 2014.

• The only confirmed case of MERS-CoV in Malaysia:
  • 54 years old, male from Batu Pahat Johore
  • Returned from umrah - 29 March 2014
  • Developed fever, cough and short breath [8-9 April 2014]
  • Died on 13 April 2014 of severe pneumonia.
  • No cases of MERS-CoV among close contacts

Rationale of study
• Two separate studies were then conducted among intending pilgrims and returning pilgrims to assess the awareness and effectiveness of MOH Campaign.
<table>
<thead>
<tr>
<th>Objective</th>
<th>Intending Pilgrims</th>
<th>Returning Pilgrims</th>
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<tbody>
<tr>
<td>General Objective</td>
<td>Awareness and perception on MERS-CoV</td>
<td>Practices and perception of MERS-CoV</td>
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<tr>
<td>Specific Objectives</td>
<td>• Assess the awareness of MERS-CoV.</td>
<td>• Assess action taken on prevention and control measures.</td>
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<td></td>
<td>• Assess perception on the risk to MERS-CoV</td>
<td>• Assess perception on the risk to MERS-CoV</td>
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<td>• Assess effectiveness of Risk Communication Campaign on MERS-CoV.</td>
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<tr>
<td>Study Features</td>
<td>Intending Pilgrims</td>
<td>Returning Pilgrims</td>
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<tr>
<td>Date</td>
<td>12 - 13 April 2014</td>
<td>6 - 9 Mei 2014</td>
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<tr>
<td>Study Design</td>
<td>Cross-sectional survey</td>
<td>Cross-sectional survey</td>
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<tr>
<td>Study sample</td>
<td>Intending pilgrims attending pilgrim briefing prior to departure.</td>
<td>Returning pilgrims</td>
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<td>Study Site</td>
<td>An Umrah Operator Seminar Room Kuala Lumpur</td>
<td>Kuala Lumpur International Airport.</td>
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<tr>
<td>Sampling Technique</td>
<td>Convenience sampling</td>
<td>Convenience sampling</td>
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<tr>
<td>Study Instrument</td>
<td>Questionnaires</td>
<td>Questionnaires</td>
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<tr>
<td>Data Collection</td>
<td>Interviewer administered</td>
<td>Interviewer administered</td>
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<td></td>
<td>Intending Pilgrims</td>
<td>Returning Pilgrims</td>
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<tr>
<td><strong>Sample size</strong></td>
<td>N=156</td>
<td>N=323</td>
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<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>62 (39.7%)</td>
<td>147 (45.5%)</td>
</tr>
<tr>
<td>Female</td>
<td>94 (60.3%)</td>
<td>176 (54.5%)</td>
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<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 20</td>
<td>11 (7.1%)</td>
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<tr>
<td>21-30</td>
<td>21 (13.5%)</td>
<td>21 (6.5%)</td>
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<tr>
<td>31-40</td>
<td>21 (13.5%)</td>
<td>43 (13.3%)</td>
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<tr>
<td>41-50</td>
<td>35 (22.4%)</td>
<td>44 (13.6%)</td>
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<tr>
<td>51-60</td>
<td><strong>45 (28.8%)</strong></td>
<td><strong>103 (31.9%)</strong></td>
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<tr>
<td>&gt; 60</td>
<td>22 (14.1%)</td>
<td>47 (14.6%)</td>
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<tr>
<td></td>
<td></td>
<td>65 (20.1%)</td>
</tr>
<tr>
<td>State of Origin</td>
<td>Intending Pilgrims</td>
<td>Returning Pilgrims</td>
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<tr>
<td>Selangor</td>
<td>75 (48.1%)</td>
<td>82 (25.4%)</td>
</tr>
<tr>
<td>Federal Territory</td>
<td>62 (39.7%)</td>
<td>46 (14.2%)</td>
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<tr>
<td>Other States</td>
<td>19 (12.2%)</td>
<td>195 (60.4%)</td>
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</tbody>
</table>

Respondents Profile
<table>
<thead>
<tr>
<th>States</th>
<th>Intending Pilgrims</th>
<th>Returning Pilgrims</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; Time</td>
<td>114 (73.1%)</td>
<td>182 (56.3%)</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Time</td>
<td>22 (14.1%)</td>
<td>59 (18.3%)</td>
</tr>
<tr>
<td>&gt; 2 Times</td>
<td>20 (12.8%)</td>
<td>82 (25.4%)</td>
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</tbody>
</table>

**Frequency of Umrah**
Level of Awareness

Intending Pilgrims

- Aware: 25 (16.0%)
- Unaware: 131 (84.0%)

Returning Pilgrims

- Aware: 47 (14.6%)
- Unaware: 276 (85.4%)
Perception on Risk

Intending Pilgrims
[n=24]

- Worried: 6 (25.0%)
- Not Worried: 18 (75.0%)

Returning Pilgrims
[n=276]

- Worried: 142 (51.4%)
- Not Worried: 134 (48.6%)
## Sources of Information

<table>
<thead>
<tr>
<th>Information Sources</th>
<th>Intending Pilgrims (n=25)</th>
<th>Returning Pilgrims (n=276)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>10 (40.0%)</td>
<td>185 (67.0%)</td>
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<tr>
<td>Newspapers</td>
<td>8 (32.0%)</td>
<td>90 (32.6%)</td>
</tr>
<tr>
<td>Umrah Operators</td>
<td>-</td>
<td>48 (17.4%)</td>
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<tr>
<td>Others</td>
<td>7 (28.0%)</td>
<td>34 (12.3%)</td>
</tr>
</tbody>
</table>
Preventive Measures Taken among Awared Intending Pilgrims (n=25)

- Taking Nutritious Food: 16.0%
- Wearing Face Mask: 16.0%
- Taking Multi Vitamins: 12.0%
- Avoiding Crowds: 8.0%
- Vaccination: 56.0%
Preventive Measures Taken among Returning Pilgrims (n=323)

- Face Mask: 69.3%
- Personal Hygiene: 36.2%
- Handwashing: 36.2%
- Proper Food: 22.0%
- Nasal Filter: 15.8%
- Avoid public Places: 56.0%
- Consume Plenty of Water: 16.0%
- Avoid Camel Farm: 16.0%
- Taking General Medication: 12.0%
- Drinking Zam-Zam Water: 8.0%

Drinking Zam-Zam Water
Types of illness before Pilgrimage (n=116)

- Hypertension: 60.3%
- Diabetes: 41.5%
- High Cholesterol: 15.5%
- Ischemic Heart Disease: 9.5%
- Bronchial Asthma: 8.6%
- Flu: 1.7%
- Cough: 1.7%
- Others: 13.0%
Health Status During Pilgrimage (N=323)

- 181 (56.0%) Well
- 142 (44.0%) Having illness
Types of Illness in Mecca

- Cough: 62.4%
- Fever: 29.8%
- Common Cold: 20.4%
- Asthma: 3.3%
- Sore Throat: 2.8%
- Diarrhea: 1.7%
- Abdominal Pain: 1.1%
- Vomiting: 0.6%
- Common Cold: 20.4%
- Fever: 29.8%
- Asthma: 3.3%
- Sore Throat: 2.8%
- Diarrhea: 1.7%
- Abdominal Pain: 1.1%
- Vomiting: 0.6%
Health Status of Pilgrims on Arrival (N=323)

- 206 (63.8%) Well
- 117 (36.2%) Having illness
Distribution of Health Problems of the illness (n=117)

- Cough: 66.7%
- Common Cold: 34.2%
- Fever: 20.5%
- Abdominal Pain: 0.9%
- Athma: 0.9%
- Others: 1.8%
Awareness of MOH Information on MERS-CoV

57.6% Aware
42.4% Unaware
Adequacy of Information from MOH

- Adequate: 67.9%
- Inadequate: 32.1%
• Awareness on MERS-CoV among the pilgrims has increased.
• However, worriedness on the risk of MERS-CoV is reduced after the pilgrimage.
• Misconception that vaccination can prevent MERS-CoV.
• Preventive measures taken in Mecca should be stepped up especially handling pilgrims with co-morbid illnesses.
• High prevalence of minor illness among pilgrims in Mecca.
• Awareness and adequacy of information from MOH need to be further improved.
We thank the Deputy Director General (Research & Technical Support), Director of the Institute for Health Behavioral Research as well as the data collectors who had contributed towards the completion of this study.
Kenyataan Akhbar Menteri Kesihatan Malaysia Mengenai Kes Kematian Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Warga Tempatan

WHO: Middle East respiratory syndrome coronavirus (MERS-CoV) summary and literature update—as of 9 May 2014.

WHO: Middle East respiratory syndrome coronavirus (MERS-CoV) Summary and literature update – as of 27 March 2014.


References