

**VALIDITY AND RELIABILITY OF KNOWLEDGE,  
ATTITUDE AND PRACTICE QUESTIONNAIRES ON  
THE TRANSMISSION OF INFLUENZA A (H1N1)  
EPIDEMIC**

**DR BASSIR BIN ABD HAMID**

**P-UM0182/09**

**Minor Reserch Project Report  
For Master of Public Health**



**UNIVERSITI SAINS MALAYSIA**

**2010**

## **ACKNOWLEDGEMENT**

## **ACKNOWLEDGEMENTS**

Praise to Allah Subhanahuwataala, The Most Compassionate and The Most Merciful who has give me strength, patience and time to complete this research. I would like to express my great gratitude and acknowledgement to the following individuals who have supported me in preparation and completion of this study.

1. Associate Professor Dr Norsa'adah Binti Bachok, BMBS (flinders) MComMed (USM) PhD(UKM), Lecturer of Epidemiology and Biostatistics, Epidemiology and Research Methodology, Department of Community Medicine, School of Medical Sciences, Health Campus, Universiti Sains Malaysia.
2. All the lecturers in the Department of Community Medicine, School of Medical Sciences, Health Campus, Universiti Sains Malaysia.
3. My supportive classmates in Master of Public Health 2009/2010.
4. My understanding wife, Soraya binti Ariffin and my son who give me strength (Muhammad Afif Muiz), my parents and my siblings.

# **CONTENTS**

## **TABLE OF CONTENTS**

	<b>PAGES</b>
<b>Acknowledgements</b>	ii
<b>Table of Contents</b>	iii
<b>List of Tables</b>	viii
<b>List of figures</b>	ix
<b>ABSTRAK</b>	x
<b>ABSTRACT</b>	xii
<b>CHAPTER ONE</b>	
<b>INTRODUCTION</b>	1
<b>CHAPTER TWO</b>	
<b>LITERATURE REVIEW</b>	
2.1 Influenza A (H1N1)	3
2.1.1 Introduction to influenza A H1N1)	3
2.1.2 Mode of transmission of influenza A (H1N1)	4
2.1.3 Incubation and infectious period of influenza A (H1N1)	4
2.1.4 Clinical presentation of influenza A (H1N1)	5

<b>2.1.5 Prevention of influenza A (H1N1)</b>	<b>6</b>
<b>2.2 Knowledge, Attitude and Practice Of Influenza A (H1N1)</b>	<b>8</b>
<b>2.3 Validity of research tool</b>	
<b>2.3.1 Content validity</b>	<b>9</b>
<b>2.3.2 Face validity</b>	<b>10</b>
<b>2.3.3 Criterion related validity</b>	<b>10</b>
<b>2.3.4 Construct validity</b>	<b>11</b>
<b>2.4 Reliability of research tool</b>	
<b>2.4.1 Rater reliability</b>	<b>12</b>
<b>2.4.2 Test-retest reliability</b>	<b>13</b>
<b>2.4.3 Internal consistency reliability</b>	<b>13</b>
<b>2.5 Conceptual frameworkof KAP and Influenza A (H1N1)</b>	<b>14</b>
<b>2.6 Introduction to the study area</b>	<b>22</b>

## **CHAPTER THREE**

### **OBJECTIVES**

<b>3.1 General objective</b>	<b>18</b>
<b>3.2 Specific objectives</b>	<b>18</b>
<b>3.3 Research questions</b>	<b>19</b>
<b>3.4 Hypotheses</b>	<b>19</b>

## **CHAPTER FOUR**

### **METHODOLOGY**

4.1 Study design	20
4.2 Target population	20
4.3 Source population	20
4.4 Study population	20
4.5 Sample size determination	21
4.6 Sampling method	22
4.7 Tools and material	22
4.8 Statistical analysis	24
4.8.1 Descriptive statistics	24
4.8.2 Validity analysis	24
4.8.3 Reliability analysis	25
4.9 Ethical approval	25
4.10 Data collection method	25
4.11 Flow chart of sequence of study	26

## **CHAPTER FIVE**

### **RESULT**

5.1 Sociodemographic characteristic of respondents	28
5.2 Medical history of the respondents	30
5.2 Item level descriptive analysis	31
5.3. Validity	39

<b>5.3.1. Factor analysis for knowledge domain</b>	<b>39</b>
<b>5.3.2. Factor analysis for attitude domain</b>	<b>43</b>
<b>5.3.3. Factor analysis for practice domain</b>	<b>45</b>
<b>5.4. Reliability</b>	<b>47</b>
<b>    5.4.1. Reliability of knowledge</b>	<b>47</b>
<b>    5.4.2 Reliability of attitude</b>	<b>50</b>
<b>    5.4.3 Reliability of practice</b>	<b>52</b>

## **CHAPTER SIX**

### **DISCUSSION**

<b>6.1 Discussion</b>	<b>54</b>
<b>6.1.1 Rationale of the questionnaire</b>	<b>54</b>
<b>6.1.2 The KAPH1N1Q</b>	<b>55</b>
<b>6.1.3 Item level descriptive analysis</b>	<b>57</b>
<b>6.1.4 Validity</b>	<b>58</b>
<b>6.1.5 Reliability</b>	<b>61</b>
<b>6.2 Limitation</b>	<b>63</b>

## **CHAPTER SEVEN**

### **CONCLUSION AND RECOMMENDATION**

<b>7.1 Conclusion</b>	<b>64</b>
<b>7.2 Recommendation</b>	<b>65</b>

<b>REFERENCES</b>	<b>66</b>
<b>APPENDICES</b>	
1A. Soalan kaji selidik	71
1B. Questionnaire	75

## **LIST OF TABLES**

<b>Tables</b>	<b>Title</b>	<b>Page</b>
Table 4.1	Sample size for factor analysis and reliability	21
Table 5.1	Sociodemographic characteristic of the respondents	29
Table 5.2	Medical history of the respondents	30
Table 5.3	Total score of knowledge, attitude and practice of respondents	32
Table 5.4	Item level descriptive analysis of knowledge domain	33
Table 5.5	Item level descriptive analysis of attitude domain	35
Table 5.6	Item level descriptive analysis of practice domain	37
Table 5.7	Initial factor loading of knowledge domain	40
Table 5.8	Final factor loading for knowledge domain	42
Table 5.9	Final factor loading of attitude domain	44
Table 5.10	Final factor loading for practice domain	46
Table 5.11	Cronbach's alpha and corrected item total correlation for knowledge domain	49
Table 5.12	Cronbach's alpha and corrected item total correlation for attitude domain	51
Table 5.13	Cronbach's alpha and corrected item total correlation for practice domain	53

## **LIST OF FIGURES**

<b>Figures</b>	<b>Title</b>	<b>Page</b>
Figure 2.1	conceptual frameworks of KAP and influenza A (H1N1) infection	15
Figure 4.1	Flow chart of sequence of study	27
Figure 5.1	Scree plot for final factor analysis of knowledge domain	43
Figure 5.2	Scree plot for final factor analysis of attitude domain	45
Figure 5.3	Scree plot for final factor analysis of practice domain	47

# **ABSTRAK**

## **ABSTRAK**

Penyakit influenza A (H1N1) adalah suatu penyakit yang baru yang menjangkiti orang ramai. Penyakit ini telah menular ke banyak negara dan menyebabkan wabak terbesar pada tahun 2009. Jumlah kematian di Malaysia telah mencapai 79 orang. Pihak Kementerian Kesihatan Malaysia telah mengumumkan bahawa kemungkinan virus ini akan menyebabkan gelombang kedua berlaku. Objektif kajian ini adalah untuk mengesahkan bahawa kajian soalan mengenai pengetahuan, sikap dan amalan terhadap penyakit influenza A (H1N1) (KAPH1N1Q) adalah bersesuaian untuk menilai tahap pengetahuan, sikap dan amalan penduduk Malaysia mengenai penyakit influenza A (H1N1).

Kajian secara keratan rentas telah dijalankan di Klinik Kesihatan Bandar Pasir Mas. Soalan piawaian yang dijawab sendiri telah digunakan kepada 171 peserta untuk mengukur tahap pengetahuan, sikap dan amalan mengenai influenza A (H1N1). Kebolehsanaan soalan dinilai melalui alfa Cronbach. Kesahan konstrak dinilai dengan menggunakan analisis faktor. Keputusan kebolehsanaan alfa Cronbach untuk pengetahuan adalah di antara 0.560 dan 0.633, alfa Cronbach untuk sikap adalah di antara 0.716 dan 0.844 dan alfa Cronbach untuk amalan adalah di antara 0.798 dan 0.824. Analisis faktor juga menunjukkan bebanan faktor untuk pengetahuan adalah antara 0.435

dan 0.788, bebanan factor untuk sikap adalah antara 0.634 dan 0.949 dan bebanan factor untuk amalan adalah 0.401 ke 0.901. Lima soalan daripada pengetahuan telah digugurkan kerana soalan-soalan ini tidak berkaitan dengan mana-mana kumpulan soalan. Justeru itu KAPH1N1Q adalah sah dan berupaya menilai tahap pengetahuan, sikap dan amalan penduduk Malaysia terhadap penyakit influenza A (H1N1). Adalah dicadangkan untuk mengadakan kajian mengenai tahap pengetahuan, sikap dan amalan mengenai penyakit influenza A (H1N1) untuk penduduk Malaysia berbilang peringkat seperti penuntut sekolah, penduduk luar bandar dan dari pelbagai institusi seperti penuntut universiti.

## **ABSTRACT**

Influenza A (H1N1) is a new disease that infects human. The disease leads to the increasing incidence in many countries in the world and cause the occurrence of several large outbreaks in year 2009. In Malaysia, the total number of death was 79. The Minister of Health Malaysia also announced that there were possibilities that the virus could generate a deadlier second wave and may lead to a national health emergency. The objective of this study was to validate the knowledge, attitude and practice of H1N1 questionnaires (KAPH1N1Q) and evaluating the level of knowledge, attitude and practice of Malaysian people in response of current situation of pandemic influenza A (H1N1) infection.

The cross sectional study was carried out at Pasir Mas Health Clinic. A standardized self-administered questionnaires regarding knowledge, attitude and practice of influenza A (H1N1) were used to interview 171 respondents who attended the Pasir Mas Health Clinic. Reliability was assessed by Cronbach's alpha. Construct validity was assessed using exploratory factor analysis. Both validity and reliability were tested separately for each domain of knowledge, attitude and practice. The result of reliability of three

domains showed satisfactory reliability with Cronbach's alpha of knowledge domain was between 0.560 and 0.633, Cronbach's alpha of attitude domains was between 0.716 and 0.844 and Cronbach's alpha of practice domain was between 0.794 and 0.824. The questionnaires also showed satisfactory validity with factor loading of items in the knowledge domain range from 0.435 to 0.788, factor loading of items in the attitude domain range from 0.634 to 0.949 and factor loading of items in the attitude domain range from 0.401 to 0.910. There were five items of knowledge domain were deleted because the items had poor relationship to the knowledge domain. As the conclusion the KAPH1N1Q is valid and reliable to assess the Malaysian people toward their knowledge, attitude and practice towards influenza A (H1N1) infection. It is recommended to use this KAPH1N1Q for other Malaysian people such as school children, people in rural area and people in other institutions such as universities.