

## A Study of Infectious Disease Responses, Through the Input of Primary Health Centers and Outpatient Attendance in Hilla City /Iraq

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**Abstract:** Worldwide Infectious diseases is considered as the cause of high death rate, their way of transmission gives both individuals and community concern, societal beliefs and norms can affect the people's behavior towards the factors of the transmission of the disease. Iraq still accounts among countries of high incidence of these diseases, though, there are efforts made to increase awareness about the infectious diseases by the Ministry Of Health, through mass media, education of people and supports by UN and some organizations. A descriptive analytic design study was conducted on Nonprobability sampling of (100) participants conducted in two Primary Health Care Centers and outpatient department in Hilla teaching hospital. A questionnaire has been used as a tool for data collection from the period of the 1st of February to 20th April 2015. Descriptive and inferential statistical analyses were used to analyze the data. The results of the study revealed that (62%) sample age was between (32-38) years, (72%), were females, (38%) secondary school graduates, and (73%) did not have a job, (87%) were residents of urban areas, (86.3%) used tap water. Results showed significance for most of the domains with age, as well as with sex and educational level except the item concerning (Awareness about clinical manifestations) at  $P \leq 0.05$ .

**Keywords:** Response, outbreak, infectious diseases, attendance, awareness

### INTRODUCTION

Infectious diseases are diseases that damage or injure the host which leads to impair host function caused by the presence and activity of a pathogenic microbial infection. Their transmission occurs by several pathways through contact with an infected individual, by water, food, airborne inhalation, or through vector born spread. (Davao, 2011). In human societies, the spread of infectious diseases can have a great impact on beliefs and norms as well as it affect's person's behavior, for example, there are dramatic changes in people's attitude towards HIV infection, sexual relationships & safe sex (Funk,et al.2010),( Funk,et al.2010).

However, in many communities. Infectious diseases are considered a cause of concern among the community and public health professionals (Dushoff, 2009). The threat of transferring the infectious diseases has increased due to many factors, such as the international spread through human migration, and the effects of globalization (public health agency of Canada, 2013). According to World Health Organization, each year infectious diseases kill 3.5 million people – mostly the poor and young children who live in low and middle income countries. Research can change this and bring health to many more people. WHO has brought people and institutions

together to identify and advocate for the research priorities that will bring new and innovative approaches and products. During the year 2013, over a million of people were living with infectious diseases, an estimated 2.1 million people were newly infected with HIV – down from 3.4 million in 2001. Moreover, poverty is considered an important factor in increasing the incidence of the Infectious diseases, almost 3 billion people live on less than 2US\$ a day, and they continue to be at the greatest risk for these diseases. (WHO, 2012). Iraq is facing huge burden regarding the infectious diseases, for example (per 100 000 population Tuberculosis incidence in 2000 50 in 2013 it was 45). (GHO, 2015).

Nevertheless, efforts are made by the Ministry Of Health to increase awareness about infectious diseases through mass media, education of people and supports by the UN and some other organizations. This study was designed to identify the responses of people in Hilla city regarding the prevention and control of the infectious diseases and to find out the association between the responses and the demographic data Responses: beliefs, attitudes and perception which may have an impact on peoples behavior towards the prevention and control measures of the infectious diseases (Lau, 2003).

## MATERIALS AND METHODS

### *The Design of the Study*

The current study is a descriptive study

### *Sample of the Study*

A nonprobability ( purposive sampling) was selected randomly which consists of ( 100) adult clients to participate in this study, The criteria of the study sample included adult clients who were attending the outpatient department and two primary health care centers from different age groups, they can read and write and all of them agreed to participate in this study.

### *Setting of the Study*

This study was conducted in two Primary Health Care Centers and outpatient department in Hilla teaching hospital during 1ST October 2014 to 22th of Jun 2015

### *Instruments*

A questionnaire format was constructed based on previous studies and review of literatures, in addition to the researchers' experiences in this field. A face to face interview technique was carried out for data collection. The questionnaire was reviewed by 10 expertises, most of them agreed about the items and all their comments were taken in consideration. In order to determine the reliability of the questionnaire test retest was done  $R=0.88$ . Answers to questionnaire for each item was given either Yes or No.

### *The questionnaire was comprised of three sections*

1. Sociodemographic characteristics of sample such as ( age , sex and educational level )
2. Housing and environment such as (Residency, Source of drinking water, and Number of rooms
3. Responding items consisted of 4 domains (mode of transmission, awareness about clinical manifestation, measures of prevention and control and awareness about social aspects) .

Statistical analysis was performed by using the Statistical package (SPSS) (version 20) A descriptive statistic was used to describe the sociodemographic characteristics and percentage, in addition Spearman's correlation coefficient was used to find out the relations between the sociodemographic characteristics and some variables (P. value 0.01) were considered significant.

### *Ethical Consideration*

ethical approval was obtained from the college of Nursing University Of Babylon and verbal informed consent was obtained from all the participants included in the study.

## RESULTS OF THE STUDY

The study sample is male and female, their ages are between (18-39) years old and more, the Mean  $\pm$ SD of the ages is (2.76 $\pm$ 0.754). Most samples are females (72%), (38%) secondary school graduates, and (73%) do not have a job. Most of the sample is part of 4-7 family members (56%) table (1). According to table (2) results show that most of the sample

residing in the urban areas (87%), and (86.3%) use tap water. In terms of number of rooms the majorities live in houses with 1-3 rooms (83%). Table (3) illustrates that (61%) of the sample ages are (32) years old have negative responses toward the mode of transmission items.

However, the same age group they have positive responses regarding the awareness about clinical manifestations. It is interesting to find that the same age group (60%) of them have a positive response concerning the other two items "measures of prevention and control" and awareness about social aspects. From table (4) it can be seen that most of the subjects (72%) of the female answers are negative, regarding the first item "mode of transmission" while the same table show that a high percent (71) of female have a positive response to the other two items (Measures of prevention and control) and (Awareness about social aspects), in addition (61%) of the females have positive responses to the item (Awareness about clinical manifestations).

However, the majority of the male has negative responses regarding most of the items. In relation to the educational level, table (5) reveals that secondary school graduate represent (32%) and their responses are positive in answering the items of "mode of transmission", same table indicates that the primary graduate participants answer (yes) as the majority of them represent (58%). While (61%) of primary school graduates are positively answering the items of (awareness about social aspect) and negatively in response to (measure of prevention and control). However, college graduates have a negative response in regard to (measure of prevention and control). Whereas the minority of the sample show negative responses (8%) concerning the (awareness about clinical manifestations) and (awareness about social aspect).

## DISCUSSION

Population response towards infectious diseases is one of the most important elements that affect health behaviors, in particular, the responses toward the mode of transmission, awareness about clinical manifestations, measures of prevention and control and awareness about social aspects.

Sample age and their responses. This study declared that the majority of the sample age group were at middle age this means that this group of age has more responses than younger people. However, there is no significant relationship between those participants and their responses regarding mode of transmission(Awareness about clinical manifestations) The current result is consisted with a study conducted by ( Khuwaja, et, al. 2002) they found that most of the patients in their study belong to the middle age.

The present study shows that there is no significant relationship between this age group and the sample responses (awareness about their clinical manifestation) at (p 0.01). While there is a significant relationship between participants age and their responses regarding (mode of transmission) (e.g. respiratory droplet, sneezing, spitting and speaking, others like tattooing and ear piercing). This study is consistent with a result of (Sharma, 2007), (Khuwaja, et. al 2002) who found significant differences about responses toward clinical manifestations such as, fever, presence of skin rash and diarrhoea. Same studies illustrated that half of the sample study were aware about these symptoms.

### *Sample Gender and their Responses*

This finding declared that middle people may be more concerned about their health. In regard to gender variable,

there is a significant relationship between sex and the attitudes toward disease except the domain of (awareness of clinical manifestations) this can be explained that females are more aware about the danger of infectious diseases which may have an impact on the control of them, However, (Khawaja, al. 2002) reported that there were no differences regarding this item. While (Serouri et. al. 2002) revealed that there was a gap between male and female as response towards the same item.

Other measures of prevention and control such as, hand washing, wearing a mask, as well social awareness like social stigma. (Sharma, 2007) This finding is in line with the factors described by Lau, who mentioned that woman and older people were more responding to such measures than men and younger individuals. (Lau, 2003).

### **Educational Level and their Responses**

The educational level has a significant effect on peoples' responses toward the fact of infectious diseases, this may in turn have dramatic effects on the spreading of those diseases. (Dushoff, 2009), (Liu, et al,2013) stated that educated individuals may seek information and responding to infectious diseases more than uneducated ones. Moreover those with high education level are more likely to avoid crowded places, but may have a high risk for eating outdoor if their economic status were good.(Marmot, 2005).(Public Health Agency of Canada, 2013).

### **CONCLUSION**

Based on the findings of this study, it can be concluded that the majority of current sample have modest responses toward the infectious diseases, nevertheless it is found that the overall responses have significant association to the demographic variables.

### **RECOMMENDATIONS**

Activating the educational programs to motivate population toward measures of prevention and control of infectious diseases especially those of high pattern of infectivity, emphasis on information regarding the mode of transmission, which in turn enabling people to be more aware to deal with the different aspects of the diseases, a public efforts should take place through the mass media and the other nongovernmental organizations and agencies to reinforce such practices and finally the curriculum of the school should comprise the aspects of infectious disease.

### **REFERENCES**

- 1.Al-Serouri AW, Takioldin M, Oshish H, Aldobaibi A, Abdelmajed A . (2002) Knowledge, attitudes and beliefs about HIV/AIDS in Sana'a, Yemen, Eastern Mediterranean Health Journal. 8(6): 706-714 (transmission) to be added and rural, urban.
- 2.Cowling BJ, Ng DM, Ip DK, Liao Q, Lam WW, Wu JT, Lau JT, Griffiths SM, Fielding R. (2010) .Community psychological and behavioral responses through the first wave of the 2009 influenza A(H1N1) pandemic in Hong Kong, J Infect Dis. Sep 15;202(6):867-76.
- 3.Curtis V, Aunger R, Rabie T.( 2004) Evidence that disgust evolved to protect from risk of disease, the Royal Society B, 7 May
- 4.Davao Institute for educational research development & consultancy. (2011) Level of awareness of communicable disease check-list. March 19.

- 5.Dushoff J,(2009) Exploring how infectious diseases, beliefs and behaviors interacts on a social network, McMaster University, Canada
- 6.Fassati A. (2011) Conscience and Values in the response to Infectious Diseases, <http://thomasmoreinstitute.org.uk/papers/>, 12, October: 1-15
- 7.Funk S, Gilad E, Jansen. (2010) Endemic disease, awareness, and local behavior response, Journal of theoretical biology, , 21 May. 246(2) 501-509
- 8.Funk S, Salathé, M, Vincent A, A Jansen. (2010) Modelling the influence of human behavior on the spread of infectious diseases: a review, 26 July,
- 9.Khuwaja A k, Qureshi R. Fatmi Z. (2002) Knowledge about hepatitis Band C among patients attending family medicine clinics in Karachi, Eastern Mediterranean Health Journal. 8 (6):787-793
- 10.Lau J T. (2003) Monitoring community responses to the SARS epidemic in Hong Kong: from day 10 to day 62, J Epidemiology& Community Health. 57: 864-870
- 11.Liao Q, Cowling B, Lam WT, Ng MW. (2010) Fielding R, Situational Awareness and Health Protective Responses to Pandemic Influenza A (H1N1) in Hong Kong: A Cross-Sectional Study, Public Library of Science, October, 5(10).
- 12.Liu H, Li M, Jin M, Jing F, Wang H, and Chen. (2013) Public awareness of three major infectious diseases in rural Zhejiang Province, China: a cross-sectional study, BMC infectious dis. 13(192): April 29.
- 13.Mak KK, Lai CM. (2012) Knowledge, risk perceptions, and preventive precautions among Hong Kong students during the 2009 influenza A (H1N1) pandemic, Am J Infect Control. Apr; 40(3):273 5
- 14.Marmot M.(2005) Social determinants of Health inequalities, the lancet, 365, March19: 1099-1104
- 15.Public Health Agency of Canada. (2013) responding to an infectious disease: Progress between SARS and Pandemic Influenza H1N1, <http://www.phac-aspc.gc.ca/ep-mu/rido-iem/index-eng.php>, 1-14
- 16.Sharma N, Malhotra R, Taneja DK, Saha R, Ingle JK.( 2007) Awareness and Perception about Tuberculosis in the General Population of Delhi, Asia Pac J Public Health; 19(2): 10-15
- 17.World Health Organization. ( 2012) Global Report for Research on Infectious Diseases of Poverty,
- 18.World Health Statistics. (2015) Fact sheet N°290 Global Health Observatory (GHO) data,

**Table (1)** Demographic characteristic of the sample

<b>Age</b>	<b>Frequency</b>	<b>Percent %</b>
18-24	8	8.0
25-31	19	19.0
32-38	62	62.0
39 and more	11	11.0
Total	100	100.0
<b>Mean ±SD</b>	<b>2.76±0.754</b>	
<b>Sex</b>		
Male	28	28.0
Female	72	72.0
Total	100	100.0
<b>Educational level</b>		
Cannot read or write	9	9
Read and write	32	32
Primary school	9	9
Secondary school	38	38
	12	12
Total	100	100
<b>Occupations</b>		
Work	27	27.0
Not work	73	73.0
Total	100	100.0
<b>Family members</b>		
1-3	24	24.0
4-6	56	56.0
More than 7	20	20.0
Total	100	100.0

**Table (2)** Housing and Environment

Items	Frequency	Percent %
Residency		
Rural	13	13
Urban	87	87
Total	100	100
Source of drinking water		
Tab water	88	86.3
Bottle water	5	4.9
Water system	7	6.9
Total	100	100
Number of rooms		
1-3 rooms	83	83
More than4	17	17
Total	100	100

**Table (3)** correlation of age and participants responses

Items		Age				Spearman's correlation coefficient
		No.	No.	No.	No.	
		18	25	32	39	
Mode of Transmission	No	0	13	61	11	-0.620**
	Yes	8	6	1	0	
Awareness about clinical manifestations	No	0	1	1	9	-0.480**
	Yes	8	18	61	2	
Measures of prevention and control	No	8	15	2	0	0.774**
	Yes	0	4	60	11	
Awareness about social aspects	No	8	14	1	0	0.773**
	Yes	0	5	61	11	
Total		32	76	248	44	
400(100*4)						

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table (4)** correlation of gender and participants responses

Items		Gender		Spearman's Correlation coefficient
		Male	Female	
		No.	No.	
Mode of transmission	No	13	72	0.674**
	Yes	15	0	
Awareness about clinical manifestations	No	0	11	-0.219*
	Yes	28	61	
Measures of prevention and control	No	25	0	0.926**
	Yes	3	72	
Awareness about social aspects	No	23	0	0.876**
	Yes	5	72	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Table (5)** Correlation of educational level and population responses

population responses		Educational Level					Spearman's correlation coefficient
		Not read or write	Read & write	Primary school	Secondary school	College & more	
		No.	No.	No.	No.		
Mode of transmission	No	0	0	5	5	12	-0.569**
	Yes	0	32	9	32	5	
Awareness about clinical manifestation	No	8	14	1	0	8	-0.504*
	Yes	0	5	58	11	0	
Measures of prevention and control	No	0	13	61	11	0	0.679**
	Yes	2	6	4	0	3	
Awareness about social aspects	No	8	14	1	0	8	0.656**
	Yes	0	7	61	11	0	
Total 400(100*4)							

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).