MASTER OF PUBLIC HEALTH

A cooperative Program of

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH
&
The IIHMR University

Practicum Training at

Integrated Disease Surveillance Program

By

Dr. Richa Sharma

IIHMR/JHSPH MPH

2013-2015

JHSPH| 615 N Wolfe St #5041, Baltimore, MD 21205, United States | PH+1 410-955-5000
IIHMR| 1, Prabhu Dayal Marg, Near Sanganer Airport, Jaipur 302029, India| Ph. +91-141-3924700

MASTER OF PUBLIC HEALTH

A cooperative Program of

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH
&
The IIHMR University

Practicum Training

At

Integrated Disease Surveillance Program

(IDSP)

A Study Of Awareness Regarding H1N1 Influenza Among The Residents Of Jaipur, Rajasthan

By

Dr. Richa Sharma

Under the guidance of

Dr. P.R Sodani

Year 2013-2015

JHSPH| 615 N Wolfe St #5041, Baltimore, MD 21205, United States | PH+1 410-955-5000
IIHMR| 1, Prabhu Dayal Marg, Near Sanganer Airport, Jaipur 302029, India| Ph. +91-141-3924700

MASTER OF PUBLIC HEALTH

A cooperative Program of

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH
&
The IIHMR University

Appendix C (Certificate from advisor/ advisors and Dean Academic and Student Affairs)

TO WHOMSOEVER MAY CONCERN

This is to certify that ***Dr. Richa Sharma*** *student of Master of Public Health Program offered by Institute of Health Management Research: Jaipur in cooperation with Johns Hopkins Bloomberg School of Public Health, Baltimore has undergone Practicum Training at* ***Integrated Disease Surveillance Program*** *on the topic* ***A Study Of Awareness Regarding HIN1 Influenza Among The Residents Of Jaipur, Rajasthan*** *from January 2015 to April 2015.*

The Candidate has successfully carried out the study designated to her during practicum training and her approach to the study has been sincere, scientific and analytical.

The Practicum Training is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

Dr. Ashok Kaushik

(IIHMR Jaipur)

Dr. P.R. Sodani
(IIHMR Jaipur / JHSPH Baltimore)

MASTER OF PUBLIC HEALTH

A cooperative Program of

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH
&
The IIHMR University

CERTIFICATE BY SCHOLAR

This is to certify that the Practicum Project titled **A Study Of Awareness Regarding H1N1 Influenza Among The Residents Of Jaipur, Rajasthan** and submitted by Dr. Richa Sharma, Enrollment No. 8 under the supervision of Dr. P.R Sodani for award of **Master of Public Health** carried out during the period from January 2015 to 2015 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Abstract

The life threatening disease swine flu is, without a speck of doubt, caused a massive damage and panic among the common people of Rajasthan, India (2015). It has affected various strata of the society specifically the marginalized sector; due to lack of inaccessible medical care. The objective was to find out the awareness, perception, and myths of general population (Slum and non-slum) of Jaipur, towards swine flu. The present descriptive study was carried out in slum (Jawahar Nagar Teela No 1) and non-slum (Gaurav Towers) areas of Jaipur district. The study respondents were selected randomly, on basis of their availability. Using a structured questionnaire consisting of both closed and open-ended questions, a sample of total of 120 respondents (60 male and 60 female) were interviewed with the selection criteria being that they must be adults over the age of 18 years and must be residents of Jaipur. The sample size calculated based on prevalence, came up to 118 and for the purpose of equal distribution we rounded it off to 120. Sets of questions have been designed that consist of mostly closed ended and some open-ended questions that will be used to interview the respondents.

The number of confirmed cases and deaths due to H1N1 in Rajasthan were collected from the IDSP (Integrated Disease Surveillance Program) Office of Jaipur. The section of the study, which assesses Jaipur public's awareness regarding H1N1, was conducted within Jaipur at two locations (Gaurav Towers and Jawahar Nagar Teela No. 1) due to the economic divide that these locations represented. Thus elucidating a more complete picture of the awareness among Jaipur's lower socioeconomic group as well as the middle and upper socioeconomic groups. The trend of H1N1 virus in Rajasthan shows that, it is evident that the maximum numbers of H1N1 virus positive cases were seen in the beginning months of 2015. This is the maximum number seen since 2009. Also there's a sudden rise

in the number of deaths that were observed from the month of January 2015 as compared to February 2015.

The results of this study shows that maximum number of deaths occurred between the age group of 25 and 34 years of age among females. For males the maximum number of deaths occurred between the age group of 35 to 44 years of age. Among the respondents interviewed 96.7 % and 95% claimed to have an awareness of the existence of Swine Flu.

Also respondents interviewed, 96.6 % of non – slum respondents claimed to be aware of the current outbreak of H1N1 in Jaipur compared to an 86% of the respondents of the slum areas.

The presence of fever was cited by 70.7% of the non-slum respondents while a higher 84.2% of the slum respondents cited fever as one of the signs of swine flu. Chills/ cough awareness was again higher in the respondents of slum areas as compared to the non –slum areas. Knowledge of s ore throat as a sign of swine flu was almost at equal levels in both areas at 63.8% & 66.7 %.

The respondents interviewed 15.5% non-slum respondents were in close contact with someone with swine flu as compared to 10.5% of the slum respondents. The majority of the respondents in both areas knew a co-worker that had contracted the disease.

The respondents that were in close proximity to someone that had contracted the swine flu only 3.4% of non-slum respondents had themselves vaccinated in order to prevent themselves from contracting the disease and that only 1.8% non-slum respondents started taking medications in order to prevent themselves from developing symptoms of swine flu. While in the slum areas none of the exposed respondents took any type of preventive action. This study recommends the implementation of an H1N1 influenza behavior communication change program for the slum as well as non-slum areas in order to

strengthen the compliance of the population, towards the practice of scientific prevent measures and not rely on homemade remedies.

TABLE OF CONTENTS

ACKNOWLEDGEMENT

In the completion of my Practicum Thesis, several people and institutions have helped me and been instrumental in fulfillment in the completion Practicum Thesis.

I am extremely thankful to:

My respected Director, Dr. S.D. Gupta, Institute of Health Management Research, Jaipur, for the cooperation extended by him in providing me with the opportunity of pursuing this field study.

Dr. P.R Sodani, this project would not have been possible without the support of Dr. Sodani, who is the advisor for this Practicum Thesis. Dr. Sodani's sincere efforts in explaining the subject and the related topics helped me to accomplish each step through out my Practicum Thesis. I extend my sincere thanks to Dr. Sodani, for his active involvement right from the beginning of the Practicum Thesis. Also I am grateful to the entire IIHMR faculty for being extremely helpful through out my Practicum Thesis.

Dr. Nutan Jain for being supportive throughout the project and granting the IRB approval.

Dr. B.R Meena, Director Medical and Health Services, State of Rajasthan, for his guidance and constant support and help all through of my project, I would like to extend my appreciation and gratitude to Dr.Meena, for allowing me the opportunity to do this Thesis.

Also my sincere gratitude to Dr. Aditya Atreya, Nodal Officer IDSP, Jaipur, and all the staff members of IDSP cell, for their compassion and generosity and making this work possible.

INTRODUCTION

Background

H1N1 influenza is a contagious respiratory disease that causes symptoms similar to those of the seasonal flu[1]. The name swine flu was initially used to describe the type of influenza because Laboratory tests showed that this strain of the flu virus was made up of genes that were very similar to the ones that caused influenza among pigs, also call swine. However we now know that it's is made up of genes from several different flu viruses that normally circulate among pigs, birds and humans[1]. Influenza type A (H1N1) virus is the subtype of Influenza type A that was the most common cause of human influenza (Flu) pandemic in the year 2009 causing a total of 14,286 confirmed deaths worldwide[1]. A total of 2,720 deaths and 44,987 lab confirmed cases of influenza were reported in India in the year 2010. Rajasthan reported 149 deaths and 3032 cases of H1N1 in the year 2009.

About the Virus: It is an enveloped RNA virus and belongs to the family orthomyxoviridae[2]. The size of the virus is 80-200 nm /.08 -0.12 micron in diameter. There are three types of influenza A virus, namely A, B & C. The virus contains two surface antigens H (hemagluttinin) and N (neuraminidase)[2].

A Confirmed case: one or more of the following defines Influenza A (H1N1) virus infection as an individual with laboratory confirmed new influenza A (H1N1) virus infection:

- Real-time RT-PCR[2],
- Viral culture[2]
- Four-fold rise in new influenza A(H1N1) virus-specific neutralizing antibodies[2].

- **A suspected case:** Influenza A H1N1 virus infection is defined as a person with acute febrile respiratory illness (reported or documented fever, and one of the following[2]: cough, sore throat, shortness of breath, difficulty in breathing or chest pains) with onset[2]

- Within 7 days of close contact with a person who is a probable or confirmed case of the new influenza A (H1N1) virus infection[2], or

- Within 7 days of travel to a community internationally where there has been one or more confirmed Pandemic influenza A (H1N1) cases[2], or

- Resides in a community where there are one or more confirmed new influenza cases[2].

High Risk Groups[2]-

These risk groups include[2]:

- Children younger than 5 years old[2];

- Adults 65 years of age and older[2];

- Chronic pulmonary condition (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular, or metabolic disorders (including diabetes mellitus)[2];

- Immunosuppression, including that caused by medications or by HIV[2];

- Pregnant women[2];

- Residents of nursing homes and other chronic-care facilities[2];

- Obesity[2].

Categorization of Swine flu (Influenza A, H1N1 subtype) cases[3].

All the patients were categorized in category A, category B and category C as per guidelines on categorization of Influenza A (H1N1) cases given by Ministry of Health & Family Welfare, Government of India, (Revised on 05.10.09)[3].

Category- A

- Patients with mild fever plus cough / sore throat with or without body ache, headache, diarrhea and vomiting[3].

Category-B

. (i) In addition to all the signs and symptoms mentioned under Category-A, if the patient has high-grade fever and severe sore throat, may require home isolation and Oseltamivir[3].

Category-C

· In addition to the above signs and symptoms of Category-A and B, if the patient has one or more of the following[3]:

- Breathlessness, chest pain, drowsiness, fall in blood pressure, sputum mixed with blood, bluish discoloration of nails[3];
- Children with influenza like illness that had a severe disease as manifested by the red flag signs. (High and persistent fever)[3].
- Worsening of underlying chronic conditions[3].

- All these patients mentioned above in Category-C require testing[3],
- Immediate treatment[3].
- Hospitalization and treatment.[3]

The H1N1 virus is now pandemic and continues to circulate seasonally worldwide. The symptoms of H1N1 flu virus are very similar to those of regular human influenza. And these symptoms include: Cough, fever, sore throat, stuffy or runny nose, body aches, headache, chills, and fatigue. It is important for people to be aware of H1N1 influenza, how it is spread and what are the precautions needed to take in order to protect themselves against H1N1 influenza. H1N1 influenza is caused when people suffering from H1N1 influenza sneezes or cough, they spray tiny drops of the virus into the air, which is inhaled by a healthy person and making that person sick with H1N1 influenza. Similarly H1N1 influenza can circulate via fomites. H1N1 influenza can lead to serious complications including respiratory failure and pneumonia; also it can be fatal for immunocompromised patients Since H1N1 influenza is highly contagious, preventive measure is the key to prevent the spread of H1N1 influenza. Young children, pregnant women and the elderly are at the highest risk of developing complications due to this virus. Symptoms usually last for six days. It is typically contracted by transmission from person-to-person through respiratory droplets. For those at high-risk it is recommended that antivirals *(Oseltamivir or Zanamivir)* be administered.

An outbreak of H1N1 was reported from Rajasthan in the first week of January 2015. And until February 22, 2015 212 confirm deaths due to this virus were reported from Rajasthan. In comparison to other states mortality was the highest in Rajasthan during this time frame. In Rajasthan a total of 212 deaths had occurred from January 1, 2015 – February 22, 2015.

The majority of those deaths occurred in the areas of: Jaipur (17.5%), Ajmer (13.2%), Jodhpur (11.8%), and Nagaur (10.8%).

RATIONALE

This study is being conducted to understand the current H1N1 outbreak and the awareness of this disease as well as its preventive measures among the residents of Jaipur. From this study it was discovered that weather the preventive measures and methods of transmission of Swine Flu are common knowledge in Jaipur. The distribution of proper information to the public on the status of the H1N1 influenza pandemic will be very crucial for achieving the awareness of the potential risks and the optimum code of behavior during the pandemic[4].

Objectives Of The Study

The objectives of this study are:

- To assess current situation of H1N1 in Jaipur, Rajasthan.
- To evaluate the awareness of H1N1 outbreak among the residents of Jaipur.
- To study the correct understanding of preventive measures and treatment among the residents of Jaipur
- To suggest recommendations, in order to prevent the spread of H1N1 Influenza.

REVIEW OF LITERATURE

The review of literature include studies which have been done on similar objectives one of such similar study is "**Modeling for appropriate awareness of H1N1 influenza among urban population of Vadodara, India[4].** " by Suresh Kumar Rathi et al. The key findings

of this study were that, majority of the participants were adequately aware of the H1N1 influenza regarding causative agent and prevention[4]. The important findings of this study were the knowledge on preventive aspects of H1N1 influenza like vaccine, hand washing, isolation of infected person and age of contracting the infection, through multivariate model[4].

Another similar study conducted on the knowledge and awareness of H1N1 Influenza is "**A study on awareness regarding swine flu (influenza A H1N1) pandemic in an urban community of Karnataka[5]** " by K. Shilpa et al. The findings in this study suggest that, Knowledge regarding swine flu pandemic was low among study participants. Most of the participants had health seeking behavior, as many of them practiced hand washing[5]. Creating awareness about pandemic through effective mass media is vital for containing the pandemic[5].

Another similar study was conducted in Bareilly, Uttar Pradesh "**Awareness, Perception and Myths towards Swine Flu in School Children of Bareilly, Uttar Pradesh** " by Varsha Chaudhary et al[6]. The key findings of this study were that most of the About 97% of the students mention use of mask as most effective way to prevent them from swine flu. Knowledge of availability of medicine was present in less than half of the students[6]. TV was found to be the main source from which they get knowledge (79%), and they are trying to get knowledge (53.2%) of swine flu. Among them, 74% students were taking precaution against swine flu[6].

Present study aims to assess to evaluate the awareness of among the residents of Jaipur district of H1N1 outbreak and to appraise the knowledge of preventive measures and treatment among the residents of Jaipur in order to correlate the public's knowledge with

the H1N1outbreak. The study aims to determine whether how many respondents were aware of the precautionary methods against H1N1 influenza. Such as practicing hand washing, vaccination, prophylactic treatment etc.

METHODOLOGY

Study Area

The study was conducted in slum (Jawahar Nagar Teela No 1) and non-slum (Gaurav Towers) areas.

Study design

This is planned to be a Cross sectional study, conducted in slum (Jawahar Nagar Teela No 1) and non-slum (Gaurav Towers) areas of Jaipur district. The study respondents were selected randomly, on basis of their availability.

Tool

Using a structured questionnaire consisting of both closed and open-ended questions, a sample of total of 120 respondents (60 male and 60 female) will be interviewed with the selection criteria being that they must be adults over the age of 18 years and must be residents of Jaipur.

Sample Size

Based on the prevalence rate (36.3%) of H1N1 influenza, 120 respondents will be the correct sample size.

As the H1N1 influenza was still ongoing during this study, it was not possible to calculate the exact prevalence rate. Hence the prevalence rate is taken with reference to a study done

by Neisha Sundaram et al: Cultural epidemiology of pandemic influenza in urban and rural Pune, India: a cross-sectional, mixed-methods study[7].

The sample size calculated based on prevalence came up to 118 and for the purpose of equal distribution we rounded it off to 120.

Study Respondents

60 male and 60 female will be chosen at random with 60 respondents being from Gaurav Towers and 60 Respondents being from Jawahar Nagar Teela no 1. Furthermore of out 60 respondents from non-slum (Gaurav Towers) will be equally divided amongst men (30) and women (30). Similarly, 60 respondents from slum (Jawahar Nagar Teela No 1) will be equally divided amongst men (30) and women (30).

The study respondents will be selected randomly, on basis of the availability of the respondents.

Methods Of Data Collection

Questionnaire

Sets of questions have been designed that consist of mostly closed ended and some open-ended questions that will be used to interview the respondents.

The number of confirmed cases and deaths due to H1N1 in Rajasthan were collected from the IDSP (Integrated Disease Surveillance Program) Office of Jaipur. The section of the study, which assesses Jaipur public's awareness regarding H1N1, was conducted within Jaipur at two locations (Gaurav Towers and Jawahar Nagar Teela No. 1) due to the economic divide that these locations represented. Thus elucidating a more complete picture of the awareness among Jaipur's lower socioeconomic group as well as the middle and

upper socioeconomic groups. Using a structured questionnaire consisting of both closed and open ended questions a sample of 120 respondents were interviewed at random. Out of the 120 respondents 60 were from Gaurav Towers and 60 from Jawahar Nagar, also the number of men and women interviewed were kept at equal proportions at 60 men and 60 women. All of the collected data was analyzed using SPSS software.

Consent form

Prior to the interview using the questionnaire a consent form will be signed by the respondents to ensure their respect for person, rights, privacy, and confidentiality as well as willingness to participate in the survey.

Data analysis

The collected data will be tabulated using Microsoft excel and analyzed using SPSS software.

Ethical Issues (Consent Form)

A written consent will be signed by participants to ensure anonymity privacy and confidentiality. Respondents will have the whole right to refuse or withdraw at any point from the survey. The reason for the selection in all the risks and benefits will be elaborated to the respondents within the consent form.

RESULTS

Trend Of H1N1 In Rajasthan

Table 1.1 shows the trend that the H1N1 virus has taken in Rajasthan since 2009. From the graph it is evident that the maximum number of H1N1 virus positive cases were seen in the beginning months of 2015. This is the maximum number seen since 2009.

Table 1.1 Year wise number of positive samples in Rajasthan (2009-2015)

Year	Total Sample	Positive	Negative	Positive %
2009	9163	3032	6131	***33.1%***
2010	7999	1709	6290	21.4%
2011	680	39	641	5.7%
2012	1836	434	1402	23.6%
2013	4173	865	3308	20.7%
2014	744	65	679	8.7%
2015	11105	4549	6556	41.0%

Situation Of H1N1 In Rajasthan (January 2015 – February 22, 2015)

Table 2.1 shows the documented deaths and confirms positive cases due to the H1N1 virus. From the table it is evident that there's a sudden rise in the number of deaths that were observed from the month of February 2015 as compared to January 2015.

Table 2.1 Day Wise Report Of Positive Confirmed Cases And Deaths Due To H1N1

Date	Total sample	Positive	Negative	Death	Death percent	Positive percent
January 1, 2015 to January 31, 2015	735	180	555	39		
February 1, 2015 to February 22, 2015	10370	4369	6001	175		
Total	**11,105**	**4549**	**6556**	**214**	**4.7**	**41.0**

Table 2.2 shows that a maximum number of deaths occurred between the age group of 25 and 34 years of age among females. For males the maximum number of deaths occurred between the age group of 35 to 44 years of age.

Table 2.2 presents the percentage distribution of respondents by age, occupation, education and sex. The sex distribution i.e., the total number of females and males were equally distributed. A total of 120 respondents were interviewed out of which 60 were men and 60 were women.

Table 2.2 Age & Sex Wise Distribution Of H1N1 Deaths In Rajasthan from January-February 22,2015

Age group	Male	Percent	Female	Percent	Total	Percent
0-04	3	2.8	2	1.9	5	2.4
05-14	3	2.8	1	.9	4	1.9
15-24	4	3.8	16	15.1	20	9.4
25-34	11	10.4	35	33.0	46	21.7
35-44	30	28.3	15	14.2	45	21.2
45-54	22	20.8	14	13.2	36	17
55-64	22	20.8	15	14.2	37	17.5
65+	11	10.4	8	7.5	19	9
Total	106	100	106	100.0	212	100.0

Survey Results

General Characteristics

Tables 3.1 show the general characteristics of the respondents of both the slum & non-slum areas of Jaipur the various characteristics include: the age, gender, religion, education, and occupation of the respondents. The male and female respondents were interviewed equally between slum and non-slum areas and the numbers of male and female respondents were also of equal proportions. The age of the respondents varies between 11 to more than 40 years of age. The majority of respondents were between ages of 21 - 30 years of age. Hinduism was the religion of both areas. The non-slum area showed respondents with many having higher education as compared to the slum where mostly had no schooling or were primary and secondary schooling educated.

Table 3.1 General Characteristics of Respondents		
Characteristics		
	Non-Slum	**Slum**
Gender		
Male	50.0	50.0
Female	50.0	50.0
Education		
No Formal schooling	5.0	20.0
Primary	8.3	20.0
Secondary	8.3	33.3
Senior Secondary	8.3	11.7
Vocational Course	8.3	0.0
Graduate	26.7	10.0
Post graduate	20.0	3.3
Professional degree	15.0	1.7
Religion		
Hindu	96.7	93.3
Muslim	3.3	6.7
Occupation		
Student	15	11.7
Sales Executive	10.0	0.0
Daily Labor	3.3	10.0
Pvt. / Govt. Job	13.3	13.3
Business	11.7	15.0
House Wife	38.3	35.0
Other	8.3	15.0
Age Group		
11- 20 Years	31.7	23.3
21-30 years	55.0	41.7
31-40 Years	8.3	18.3
More than 40 Years	5.0	16.7

H1N1 Awareness / Prevention measures Knowledge Among Slum & Non-Slum Respondents

Table 4.1 demonstrates the awareness of the respondents as to their knowledge of the existence of H1N1 Influenza, its outbreak in Jaipur, its various symptoms & preventive

measures as well as the source of their awareness. Not much variation was observed between the non-slum and slum areas. Of the respondents interviewed 96.7 % and 95% claimed to have an awareness of the existence of Swine Flu. The Responses were almost equally divided between the two areas of study with both sides having an almost equal knowledge of the existence of the disease. The above table also shows that of the respondents interviewed 96.6 % of non – slum respondents claimed to be aware of the current outbreak of H1N1 in Jaipur compared to an 86% of the respondents of the slum areas.

Table 4.1 H1N1 Awareness / Prevention measures Knowledge Among Slum & Non-Slum Respondents

Indicator	***Non-Slum***	***Slum***
% Aware of the existence of swine flue	96.7	95.0
% Aware of the various symptoms of swine flu	98.3	94.7
Awareness of the Various H1N1 symptoms ***(Multiple responses)***		
Fever	70.7	84.2
Chills/Cough	62.1	75.4
Sore throat	63.8	66.7
Stuffy or Runny Nose	53.4	19.3
Headache	34.5	29.8
Percent Aware of the outbreak of Swine flue in Jaipur	96.6	86.0
Various Sources of awareness ***(Multiple responses)***		
News paper	81.0	61.4
Radio	8.6	7.0
Signs/banners	22.4	19.3
Hospital	31.0	15.8
Word of Mouth	51.7	66.7
Other (internet)	20.7	5.3
% Aware of how Swine flu is spread	89.7	89.5
% Aware of Swine Flu precautions in order to	98.3	96.5

prevent spread		
Knowledge of specific preventive measures ***(Multiple responses)***		
Mask use of mask	60.3	47.4
Hygiene (Wash Hands)	63.8	84.2
Home Remedy	15.5	12.3
Isolation	1.7	1.8
Vaccination	1.7	3.5
Medication	8.6	8.8

The presence of fever was cited by 70.7% of the non-slum respondents while a higher 84.2% of the slum respondents cited fever as one of the signs of swine flu. Chills/ cough awareness was again higher in the respondents of slum areas as compared to the non –slum areas. Knowledge of s ore throat as a sign of swine flu was almost at equal levels in both areas at 63.8% & 66.7 %.

The table also shows the source of the respondents' awareness. The various sources of awareness claimed were: Internet, Newspaper, Radio, Signs and banners, Hospital and word-of-mouth. Of the aforementioned sources of awareness, newspaper and word of mouth were claimed by most respondents in both slum and non-slum.

Both areas of respondents almost equally claimed to be aware of which preventive measures to take. A disappointing level of people in both areas claimed the use of mask while a greater number of people in the slum areas claimed the need for hygiene as compared to the non- slum areas. Both areas claimed that a homemade remedy could be used for smelling which would prevent the contraction of swine flu. In comparison both areas were almost equally unaware of the use of vaccines and medicines as preventive measures.

Respondents exposure to a swine flu infected person

Table 5.1 demonstrates that of the respondents interviewed 15.5% non-slum respondents were in close contact with someone with H1N1 Influenza as compared to 10.5% of the slum respondents. The majority of the respondents in both areas knew a co-worker that had contracted the disease.

Table 5.1 Respondents exposure to swine flu

Indicator	***Non-Slum***	***Slum***
% Of respondents that were in close contact with a swine flu infected person	15.5	10.5
% Association of respondent with swine flu infected person		
Husband	0	1
Wife	0	1
Son	1	0
Daughter	1.7	1.8
Son in-law	1.7	0
Co-worker	13.8	5.3

Jaipur Respondents actions in-order to prevent the contraction & spread of H1N1 Influenza

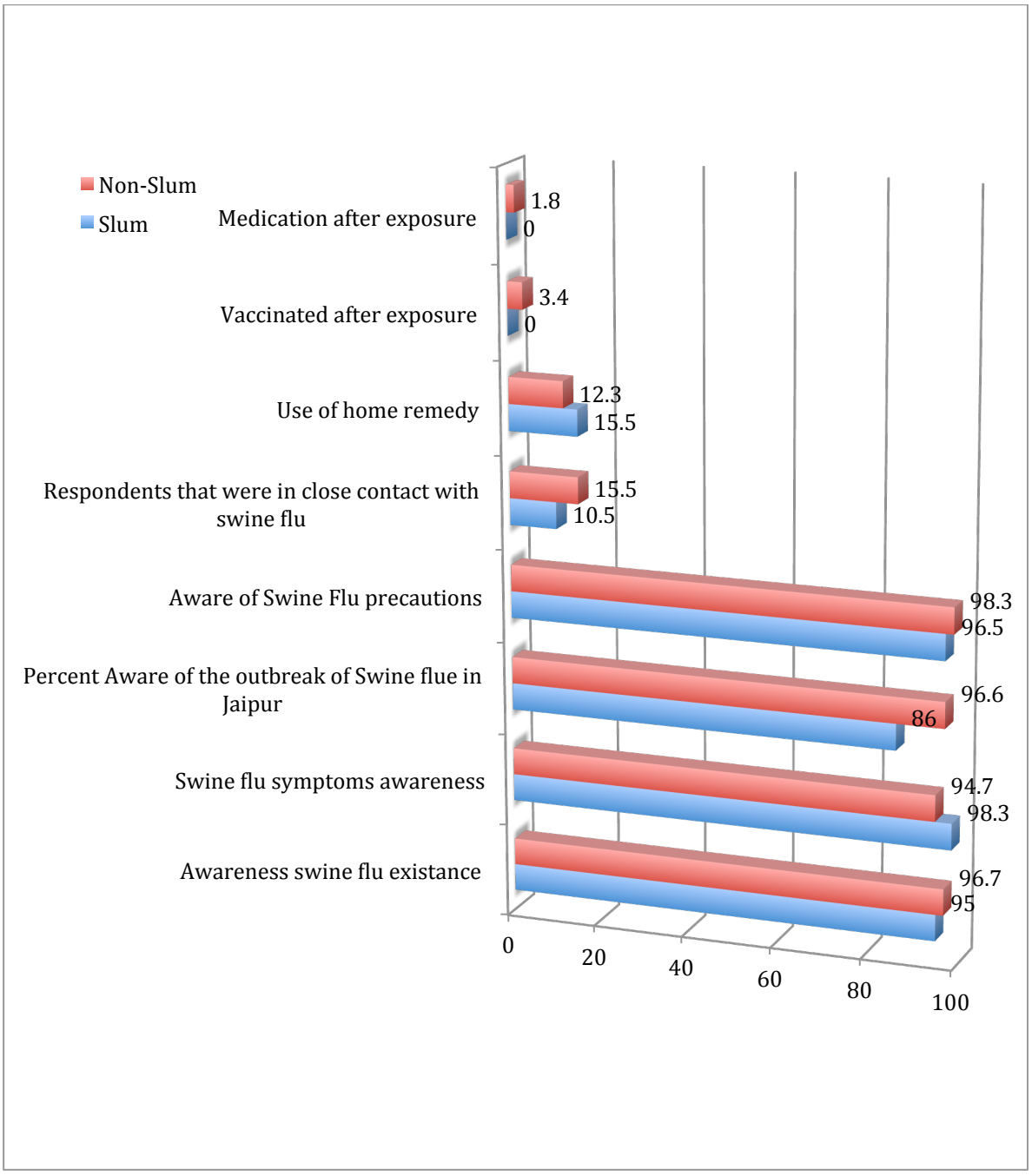
Table 6.1 demonstrates that of the respondents that were in close proximity to someone that had contracted the H1N1 Influenza only 3.4% of non-slum respondents had themselves vaccinated in order to prevent themselves from contracting the disease and that only 1.8% non-slum respondents started taking medications in order to prevent themselves from developing symptoms of swine flu. While in the slum areas none of the exposed respondents took any type of preventive action.

Table 6.1

	Non-Slum	***Slum***
% That had themselves vaccinated after exposure	3.4	0.0
% That used medication after exposure	1.8	0.0

Graph 1.1 demonstrates that the respondents were appropriately aware about the preventive measures but despite having the awareness the percent of respondents that opted for the vaccine and medication was dismal in the non- slum areas and non existent in the slum areas.

Graph 1.1 Comparison of awareness vs. preventive actions of respondents (slum vs. non-slum)



Conclusions & Recommendations

This study investigated Jaipur's respondents slum and non-slum's areas levels of awareness and preventive practices regarding H1N1 influenza pandemic in order to provide scientific support to assist health sector authorities in developing strategies and health education campaigns to prevent transmission of H1N1 influenza. In order to reduce the burden of H1N1 influenza significantly there is a need to strengthen the interventions (antiviral drugs, vaccine and behavioral) with utmost force. Although drug Tamiflu is available but most of general public view is that it's effectiveness when they have contracted the disease, most of them are not aware that this drug is also used in prophylaxis. Furthermore, suspicions about the effectiveness of vaccine have limited the role of vaccine in prevention of H1N1 influenza. Hence the only practical choice is behavioral intervention, till date.

The study revealed that the majority of the participants of both slum and non-slum areas were adequately aware of the H1N1 influenza regarding causative agent and its preventive measures but, the respondent's use of this knowledge to protect themselves and thus prevent the outbreak of the disease is lacking, as well as the use of medications after having been exposed and use of vaccines to prevent contracting to prevent the development of the disease.

This study recommends the implementation of an H1N1 influenza behavior communication change program for the slum as well as non-slum areas in order to strengthen the compliance of the population, towards the practice of scientific prevent measures and not rely on homemade remedies.

SUPPLEMENTARY

Study Tools

1.		
2. Age		
3. Gender	Male	Female
4. Religion	1. Hindu 2. Muslim 3. Christian 4. SC 5. ST 6. OBC	
7. Education	1.No formal schooling 2.Primary 3.Secondary 4.Senior secondary 5.Vocational course 6.Graduate 7.Postgraduate 8.Professional degree 9.Any other (Specify) _____	
8. Occupation	_____	
9. Are you aware of what swine flu is?	Yes	No (stop interview)
10. Are you aware of the symptoms of swine flu? 11. What are symptoms of swine flu?	Yes (go to Q 11) 1. Fever 2. Chills 3. Cough 4. Sore throat 5. Stuffy of Runny Nose 6. Headache 7. Fatigue	No (Q12)
12. Are you aware of that currently there is a swine flu outbreak in Jaipur?	Yes proceed to Q 13	No
13. How did you find out about the outbreak in	1. Newspaper 2. Radio 3. Signs / banners	

Jaipur?	4. Hospital 5. Word of mouth 6. Other specify _____	
14. Do you know how swine flu is spread?	Yes	No
15. Do you know of what precautions to take in order to prevent the spread of swine flu?	Yes	No (move to Q18)
16. Name the precautions to take in order to prevent the spread of swine flu.		
17. How did you learn of these precautions?	1. Newspaper 2. Radio 3. Signs / banners 4. Hospital 5. Word of mouth 6. Other specify _____	
18. Do you know anyone that has contracted the Swine flu? 19. How do you know this person?	Yes 1.Spouse/ ifr&iRuh 2.Son / csVk 3.Daughter / csVh 4.Son in Law/ nkekn 5.Daughter in Law/ cgw 6.Grand Childreniksrsiksfr; k¡ 7.Others (Specify) vU; ¼Li"V djssa½ ----------	No

20. Did you get any vaccination?	Yes	No
21. After being vaccinated did you develop any symptoms	Yes (move to Q 22)	No (stop interview)
22. Did you take the medicine Oseltamivir?	Yes	No

Consent Form

Namaste! I am Richa Sharma an MPH student from the Indian Institute of Health Management Research (IIHMR), Jaipur.

Purpose of the research: This study aims to understand the awareness among the population of Jaipur about Swine Flu its methods of transmission and methods of prevention. It will help me understand the cause of the current outbreak in Jaipur.

Why selected: You are invited to participate because you are part of the population of people residing within Jaipur, Rajasthan.

Procedure: You are being invited to take part in this questionnaire because I am interested in learning about your awareness of the current H1N1 outbreak, its cause, methods of transmission and methods of prevention.

If you agree to participate, you will be asked questions from the prepared questionnaire and you will be asked to share your knowledge on H1N1 as well as the source of your knowledge, as well as the precautions that your aware of and the precautions that you have taken. You will also be asked to share some basic demographic data with us and information that will help me better understand the reason for the occurrence of the current outbreak if H1N1 Influenza Type A (Swine Flu).

Risk and Benefits: It is possible that you may feel uncomfortable talking about some of the topics. However, we do not wish for this to happen. Adequate care has been taken to frame and sequence the questions in a manner that is sensitive to the residents of Jaipur. Additionally, you do not have to answer any questions that you feel are too personal, if talking about them makes you feel uncomfortable, or if you are unsure about the nature of the information you are going to share. I would greatly appreciate your honest responses, because they will be useful in providing an accurate picture of the current awareness about H1N1 of people within Jaipur.

Right to Refuse or Withdraw: You do not have to take part in this research if you do not wish to do so, and choosing not to participate will not affect your situation in any way.

Privacy, confidentiality and anonymity: I will not be sharing information about you or your responses with anyone. The information that I collect from this survey will be kept private and securely protected. Your information will not serve any other purposes than to provide an accurate current situation of the retired pensioners of Rajasthan government services. Your identity will not be disclosed in the final report because all the data will be presented after compilation. All information obtained from you will be confidential and only I will access it. Information will be compiled and results will be shared for the group as a whole. Therefore, nobody will ever come to know your identity.

Whom to Contact: If you have any questions, you can ask me now. If you wish to ask questions later, you may contact

Dr. Richa Sharma, IIHMR, Jaipur
Mobile No- 957-131-0664
e-mail –dr.richapathak@gmail.com

Contact slip will be handed over to the respondent.

May I speak to you? Yes ☐ NO ☐

ERB APPROVAL

IIHMR JAIPUR

Indian Institute of Health Management Research, (IIHMR)
1, Prabhu Dayal Marg, Sanganer Airport, Jaipur - 302011, India Phone +91-141-3924700
Fax :+91-141-3924738, ihmr@iihmr.org

Institutional Review Board

IORG #: **IORG0007355**

Ethical Declaration Format

1	Serial No. of Institutional Committee for Ethics and Review of Health Management Research office	2015	03
1	Project Title	A STUDY OF AWARENESS REGARDING H1N1 INFLUENZA AMONG THE RESIDENTS OF JAIPUR, RAJASTHAN	
2	Name of Faculty In-charge/ Project Coordinator	Dr Rich Pathak	
3	Date of Submission to the Committee	0 9 0 4 1 5	
4	Date of Submission to the Agency	0 0 0 0 0 0	
5	Review Category of the Proposal		
	Expedited Review	✓	
	Full review		
6	Date of Review	1 3 0 4 1 5	
7	Reviewer's Name		
8	Reviewer's Feedback (Please tick the following, if you are satisfied)		
8.1	Respect for person	✓	
8.2	Fair subject selection	✓	
8.3	Informed consent	✓	
8.4	Maintaining privacy	✓	
8.5	Maintaining confidentiality	✓	
9	Final Comment		
	Approved without suggestions	✓	
	Approved with suggestions		
	Sent back for revision and re-submission		
	Not approved		
10	Signature of the reviewer/ member		

REFERENCES

1. http://bodyandhealth.canada.com/channel_condition_info_details.asp?disease_id=350&channel_id=2098&relation_id=74074
2. CD Alert Monthly newsletter for National center for disease control, Directorate general of health services, Government of India.
3. Epidemiological and clinical profile of patients with swine flu (Influenza A H1N1) attending Guru Govindsingh Government Hospital, Jamnagar, India. By Gelotar Prakash.
4. Modeling for appropriate awareness of H1N1 influenza among urban population of Vadodara, India. By Suresh Kumar Rathi et al.
5. A study on awareness regarding swine flu (influenza A H1N1) pandemic in an urban community of Karnataka. By K. Shilpa et al.
6. Awareness, Perception and Myths towards Swine Flu in School Children of Bareilly, Uttar Pradesh. By Varsha Chaudhary et al.
7. Cultural epidemiology of pandemic influenza in urban and rural Pune, India: a cross-sectional, mixed-methods study by Neisha Sundaram et al.