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Original Research Article

Acceptance and awareness regarding influenza vaccine among healthcare workers in a tertiary care centre, Kerala

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ABSTRACT

Background: The seasonal Influenza is a contagious respiratory illness. The most important step in preventing flu is to get a flu vaccination each year along with everyday preventive actions. The objective of this research was to study the acceptance and awareness of Influenza vaccine among health care workers of a tertiary care centre, Kerala and to explore the preventive practices.
Methods: This study was a hospital based cross sectional study conducted among 204 health care workers in a tertiary centre in Kerala. A simple random sampling technique was adopted. Data was collected using self-administered pretested semi structured questionnaires.
Results: 165 (80.9%) are aware of the Influenza vaccine while 39 (19.1%) are not aware of the Influenza vaccine. 30 (14.7%) has received at least one dose of Influenza vaccine in last five years while 174 (85.2%) has not received the vaccine. 161(78.9%) says they are willing to get vaccinated against Influenza while 43(21.1%) are not willing to get vaccinated.
Conclusions: Even though there is good awareness about Influenza vaccine, the number of vaccine recipients is less than ideal. However, majority are willing to take Influenza vaccine in the future which shows good acceptance.

Keywords: H1N1, Vaccine hesitancy, Health care worker

INTRODUCTION

The seasonal influenza commonly known as the flu is a contagious respiratory illness. It is caused by influenza viruses that infect the nose, throat, and sometimes the lungs. The respiratory illness can range from mild to severe illness, and at times can lead to death.[1] As per World Health Organization, persons at increased risk for severe disease include pregnant women, the very young and very old, immune-compromised people, and people with chronic underlying medical conditions. Apart from these groups, it is well-established that health care workers (HCWs), because of their close proximity to patients, are recognized to be at risk for both acquiring influenza from patients and transmitting it to patients and may contribute to hospital influenza outbreaks in health-care facilities. The first and most important step in preventing flu is to get a flu vaccination each year along with everyday preventive actions (hand washing, avoiding crowded places/people who are sick, cough etiquette) which helps to slow the spread of the causative organisms.[1] Influenza causes substantial morbidity and mortality annually, particularly in high-risk groups.

Studies show that healthcare-associated transmission of influenza contributes to this burden but is often under-recognized except in the setting of large outbreaks.

The CDC has recommended annual influenza vaccination for healthcare workers (HCWs) with direct patient contact since 1984 and for all HCWs since 1993. The rationale for these recommendations is to reduce the chance that HCWs serve as vectors for healthcare-associated influenza due to their close contact with high-risk patients and to enhance both HCW and patient safety.[2] In India, as in many other countries, vaccination against the influenza A/H1N1 virus is considered as one of the effective methods of prevention of influenza and in most states, it is offered free of charge for health-care workers (HCWs). The objective of this research was to study the acceptance and awareness of Influenza vaccine among health care workers of a tertiary care, Kerala and to explore the preventive practices.

METHODS

This study was a hospital based cross sectional study conducted among the health care workers in the Government Medical College, Thrissur Kerala. Study was conducted for a period of six months during June 2019 to November 2019. Sample size was calculated using the formula:[3]

$N=Z\alpha^2pxq/d^2$,

where $z\alpha=1.96$ $p=31.9\%$

Inclusion criteria

All doctors of Government Medical College Thrissur who were employed in the institution for a period of at least 6 months were included.

Exclusion criteria

Health care workers other than doctors and doctors who were employed less than 6 months in Government Medical College Thrissur were excluded.

A simple random sampling technique was adopted, and 204 health care workers (doctors) participated in the study. After obtaining consent from the authorities of the institution, a list of doctors of the institution was obtained. The study adhered to the tenets of the declaration of Helsinki for the research in humans. After taking informed consent data was collected using self-administered pretested semi structured questionnaires. The data was analysed using Epi info software version 6.

Operational definitions

Influenza vaccine acceptance: The action of consenting to receive Influenza vaccine when offered or active support and participation in Influenza immunization sessions as per recommendations. Influenza vaccine hesitancy: Behaviour influenced by a number of factors including issues of confidence (do not trust vaccine or provider) complacency (do not perceive a need for a vaccine, do not value the vaccine) and convenience (access).

Preventive practices

Infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where health care is delivered. This includes components like hand hygiene and use of personal protective equipment.

RESULTS

Demographic details

The age of the study participants ranged from 22 to 60 with a mean of 30.69±8.27 years. 74 (36.8%) of the study participants were males, while 130 (63.2%) were females. The years of service ranged from less than 1 year to 35 years with a mean of 4.66±6.98 years (Table 1).

Table 1: Sociodemographic details of the study participants.

Variable	N (%)
Age, Mean±SD	30.69±8.27
Gender	
Male	74 (36.8)
Female	130 (63.2)
Years of service	4.66±6.98 years

Awareness about influenza vaccine

165 (80.9%) are aware of the Influenza vaccine while 39 (19.1%) are not aware of the Influenza vaccine.

Acceptance of influenza vaccine

161 (78.9%) says they are willing to give consent to vaccinated against Influenza (vaccine acceptance) while 43 (21.1%) are not willing to get vaccinated (vaccine hesitance).

140 (68.6%) believe they are in the high risk of getting Influenza, while 64 (31.4%) believe they are not at high risk. 30 (14.7%) has received at least one dose of Influenza vaccine in last five years while 174 (85.2%) has not received the vaccine. When asked about how much affect would Influenza would have on their health if they were to get ill, 1 (0.5%) believed it would not affect them at all while 45 (22.10%) believed it would slightly affect their health, 112 (54.9%) believed it would have a moderate severity, while 46 (22.5%) believed it Influenza has the potential to severely affect their health (Table 2).

Table 2: Awareness and acceptance of Influenza vaccine.

Variable	N (%)
Has received any optional vaccines in their lifetime	
Yes	168 (82.4)
No	36 (17.6)
Aware about Influenza vaccine	
Yes	165 (80.9)
No	39 (19.1)
Believes they are at high risk of getting Influenza	
Yes	140 (68.6)
No	64 (31.4)
Received Influenza vaccine at least once in last 5 years	
Yes	30 (14.7)
No	174 (85.2)
Are willing to get vaccinated against Influenza (vaccine acceptance)	
Yes	161 (78.9)
No	43 (21.1)
Assumption of how much Influenza would affect one's health	
Not at all	1 (0.5)
Slightly	45 (22.1)
Moderately	112 (54.9)
Severely	46 (22.5)

168 (82.4 %) has received any optional vaccine in their lifetime and 36 (17.6%) has never received any optional vaccines.

Preventive practices

When asked about preventive practices, 4 (2.0%) never wore gloves during physical examination, 21 (10.3%) seldom wore gloves, 97 (47.5%) wore gloves some of the times while 82 (40.2%) made sure to always wear gloves during physical examination. While 9 (4.4%) never changed their gloves after each patient contact, 19 (9.3%) seldom changed it, 90 (44.1%) changed the gloves some of the times while 86 (42.2%) always ensured to change gloves after each patient contact. 9 (4.4%) never washed their hands before each patient contact, 31 (15.2%) seldom washed their hands, 105 (51.5%) washed their hand some of the times 81 (39.7%) always made sure to wash their hands before each patient contact.

Total 7 (3.4%) never washed their hands after each patient contact, 29 (14.2%) seldom washed their hands, 87 (42.6%) sometimes washed their hands while 81 (39.7%) always washed their hands after each patient contact. While 1 (0.5%) never wore surgical masks during patient contact, 4 (2.0%) seldom wore mask, 36 (17.6%) sometimes wore masks. 163 (79.9%) of the study participants always wore surgical masks during each patient contact (Table 3).

Table 3: Practice of preventive actions.

Practice	Never, N (%)	Seldom, N (%)	Sometimes, N (%)	Always, N (%)
Wearing gloves during physical examination	4 (2.0)	21 (10.3)	97 (47.5)	82 (40.2)
Change gloves after each patient contact	9 (4.4)	19 (9.3)	90 (44.1)	86 (42.2)
Wash hands before each patient contact	9 (4.4)	31 (15.2)	105 (51.5)	59 (28.9)
Wash hands after each patient contact	7 (3.4)	29 (14.2)	87 (42.6)	81 (39.7)
Wearing surgical masks	1 (0.5)	4 (2.0)	36 (17.6)	163 (79.9)

DISCUSSION

In 2019 World Health Organization recognized vaccine hesitancy as an international challenge and included among the ten threats of global health.[4] In this context it becomes imperative to explore the attitude and awareness of health care workers towards an optional vaccine like Influenza vaccine.

As per the study, 165 (80.9%) are aware of the Influenza vaccine while 39 (19.1%) are not aware of the Influenza vaccine. This is comparable to the study conducted in Tamil Nadu state of India were 82% of health care workers were aware of the Influenza vaccine.[5] Several high risk groups have been identified as "the priority group" to receive the influenza A (H1N1) vaccination and among these, healthcare workers have been identified "as a first priority" to be vaccinated against influenza A (H1N1) by the World Health Organization.[6] In this study 140(68.6%) believe they are in the high risk of getting Influenza, while 64 (31.4%) believe they are not at high risk. This is lower when compared to study conducted in Maharashtra where 98.5% believed they were among the high-risk group.[7] 30 (14.7%) has received at least one dose of Influenza vaccine in last five years while 174 (85.2%) has not received the vaccine. This measure can roughly be considered as the compliance to Influenza vaccine. This is slightly lower than the compliance seen in the study conducted by Hadaye et al.[7] It is also interesting to note the vaccine compliance among doctors across various countries are comparable. The compliance reported across various studied shows 16.5% for Spain; 21.3% Greece, while it is 25% in China and Turkey reports 34.9% compliance.[8] If we look at the general population, a large community study in Pune shows that vaccine compliance among the public is 8.3%.[9]

161 (78.9%) says they are willing to get vaccinated against Influenza (vaccine acceptance), while 43 (21.1%) are not willing to get vaccinated (vaccine hesitance). A similar percentage of acceptance was obtained in a study done in Italy.[10] It is clear from these studies that the majority of the health care workers are willing to take the H1N1 vaccine. But further large-scale studies on compliance and barriers would be required to see whether this willingness to accept vaccine is translated to practice. The data collection of this study was done just before the beginning of the pandemic. The questions related to infection control practices in this study give us an overview about the prevalent practices among health care workers before the Covid pandemic. In this study 82 (40.2%) made sure to always wear gloves during physical examination, while 81 (39.7%) always made sure to wash their hands before each patient contact. 163 (79.9%) always wore surgical masks during each patient contact. A study conducted in South India revealed the hand hygiene practices as 30% which is slightly lower than the present study, use of personal protective equipment's as 40% which is comparable when considering usage of gloves during physical examination. Even before the pandemic there is a high percentage (79.9%) usage of surgical mask during patient contact.[11]

Limitations

The current study was limited to exploring the attitude and awareness of doctors towards influenza vaccine. A sample including health care workers such as nurses, pharmacist, lab technicians and other paramedical professional would have been more representative for studying attitude and awareness. The data collection was conducted pre-covid so the preventive practices are more representative of pre covid era rather than the current post covid era. The reason for vaccine hesitancy was not explored in this study, further qualitative studies are required to understand these reasons, so that actionable conclusions can be derived to boost the acceptance and to tackle misinformation if any.

CONCLUSION

Even though there is good awareness about Influenza vaccine, the number of vaccine recipients is less than ideal. However, majority are willing to take Influenza vaccine in the future. The views regarding the risk of getting influenza and the severity of disease differed among the health care workers. The study shows a need of improvement of practice of preventive actions against health care associated infections.

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