



Uptake of influenza vaccination, awareness and its associated barriers among medical students of a University Hospital in Central Saudi Arabia



Mohammed S. Abalkhail^a, Mohannad S. Alzahrany^a, Khaled A. Alghamdi^a,
Muath A. Alsoliman^a, Mosa A. Alzahrani^a, Badr S. Almosned^a, Ibrahim M. Gosadi^{a,b},
Shabana Tharkar^{b,*}

^a Department of Family and Community Medicine, College Of Medicine, King Saud University, Riyadh, Saudi Arabia

^b Prince Sattam Chair for Epidemiology and Public Health Research, Department of Family and Community Medicine, College of Medicine, King Saud University, Riyadh, Saudi Arabia

ARTICLE INFO

Article history:

Received 22 January 2017

Received in revised form 6 April 2017

Accepted 1 May 2017

Keywords:

Awareness

Barriers

Influenza vaccination

Medical students

Saudi Arabia

Uptake

ABSTRACT

Outbreaks of influenza epidemics are common but influenza vaccination is sub-optimal among the health-care staff including the medical students. The study aims to assess the rate of vaccine uptake among medical students, its associated barriers and levels of awareness. A cross sectional study was done at a University Hospital in Saudi Arabia on 421 medical students by self administered questionnaire from February to March 2015. The immunization rate of seasonal influenza vaccine was just 20.7% in 2015, while it was 57% for cumulative of previous three-year period. The intended uptake among those offered vaccination was 68%. The significant determinants of vaccine uptake were clinical years of medical study ($p < 0.05$) and previous history of vaccination ($p < 0.0001$). The major sources influencing vaccine uptake decision were health department guidelines, medical training, social and media influence. Barriers of vaccination constituted, assumption of not being at risk of influenza (37.9%), vaccine side effects (28.9%), questioned effectiveness of the vaccine (14.5%), and inability to allocate time (11%). Knowledge levels were unsatisfactory and males scored lower (5.4 ± 1.7) than females (6.5 ± 1.4) out of total score of 9. Both knowledge and uptake of annual influenza vaccination was inadequate. Policy makers can formulate strategies with a focus on larger coverage of medical students.

© 2017 The Authors. Published by Elsevier Limited on behalf of King Saud Bin Abdulaziz University for Health Sciences. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Influenza is the commonest airborne infection that can be acquired. The term ‘flu’, as is widely known, causes a range of symptoms with severity depending on the virulence of the organism. The symptoms of influenza may vary from mild sickness like respiratory discomfort to death caused by pneumonia, congestive heart or lung failure. The susceptibility to acquire influenza increases among children, elderly and immuno-compromised, pregnant women, patients with other co-morbid conditions like chronic obstructive pulmonary disease, diabetes, kidney and liver disorders and among

* Corresponding author at: Prince Sattam Chair for Epidemiology and Public Health Research, Department of Family and Community Medicine, College of Medicine, King Saud University, 11541, BO 2454, Riyadh, Saudi Arabia.

E-mail address: shabsttharkar@yahoo.com (S. Tharkar).

the health care workers, which are categorized as high risk groups. This highly contagious illness is transmitted through air borne route and may spread rapidly during seasonal epidemics affecting large population with reports of reaching pandemic proportions [1].

It is estimated that approximately 9% of the world's population is affected by influenza annually accounting to nearly one billion infections and three to five million severe cases, and deaths annually [2]. Considering the situation in developed nation like the United States, nearly 20% of the population is affected annually with around 225,000 hospitalizations every year [3]. Severity of illness, mortality rate and costs involved in management of influenza tend to escalate among high risk groups. The disease causes a huge economic burden on the national healthcare systems. It is estimated that the direct medical expenditure in US, for management of moderately severe seasonal influenza outbreak costs more than

\$10 billion [4]. Though not well documented, the burden of illness from influenza, its mortality and medical costs tend to be higher in low-middle income and developing countries. An astonishing figure of \$3 trillion has been estimated as the cost incurred by a single pandemic of flu globally [5].

Since anti viral chemoprophylaxis is ineffective in management and control of influenza, the principal method of prevention is by means of immunization [6,7]. World Health Organization recommends that the high risk categories be immunized against influenza. Healthcare staff play a predominant role in transmission of infection from person to person—among patients, other healthcare staff and family members. Documented evidence from many research studies suggest that vaccination of healthcare staff considerably reduces the risk of cross transmission thereby limiting the spread of epidemic [8,9]. The Centre for Disease Control and Prevention strongly recommends annual vaccination program for all the healthcare staff—physicians, nurses, medical students, and other staff [10,11].

Saudi Arabia deserves greater attention as it serves as an abode for major pilgrimage center with an annual turnover of millions of pilgrims from around the globe. There is a high risk for transmission of infection posing major threat to the health of airport personnel, healthcare staff, security personnel and civilians. Hence Saudi Thoracic Society had issued guidelines recommending adoption of strict vaccination strategies [12]. Despite the recommendations, surveys conducted across some provinces reported lower awareness levels and lower uptake rate among the healthcare staff [13]. Data on vaccination uptake, its barriers and awareness levels is scanty and there is an urgent need to assess and review the situation in this challenging region. Medical students present a vital and a large subset of healthcare staff. Hence this study was performed with the objective of assessing the rate of vaccination uptake, identifying the associated barriers and factors influencing uptake decisions among the medical students in one of the largest tertiary care centre of the central region of Saudi Arabia so that the findings may aid in recommendations towards comprehensive coverage.

Methods

Cross sectional study design was used to accomplish the study objectives on 421 medical students enrolled at a tertiary care teaching hospital using random sampling method in the study period between February and March 2015. The questionnaire consisting of closed ended format was adopted from a previous study [14] and piloted on 20 students for suitable modifications. It was then self-administered to the study subjects maintaining anonymity to prevent introduction of any kind of bias. The purpose of study was briefed and written consent was obtained before administering the questionnaire. The components of the questionnaire were socio-demographic information, previous history of influenza vaccination, questions on knowledge related to influenza, determinants of vaccination denial and acceptance. The ethical clearance and approval was obtained by the Institutional Review Board.

The knowledge score was computed based on the responses given to questions on identifying priority groups for vaccination and mode of transmission of the disease. Each correct answer was awarded a positive score. A tricky and misleading question was retained from the model study [14] for determination of accuracy in choosing the right answers. Analysis was performed using Statistical Package for the Social Sciences (SPSS), version 21. (IBM; Armonk, New York). Mean and standard deviation were derived for scores and t test was applied as test of significance. Inferential statistics were analyzed to compute significance testing of differences in scores across gender, years of study and vaccine uptake using ANOVA. A p value of less than 0.05 was considered as significant.

Results

The study included 295 males (70%) and 126 females (30%) as study subjects. The mean age of male and female subjects was 21.5 ± 1.6 and 22.1 ± 1.2 years respectively. The subjects from clinical years of study (≥ 3 rd year) contributed to the major proportion

Table 1
General characteristics of respondents.

Variables		Male N (%)	Female N (%)	Total N (%)
Gender		295(70)	126(30)	421
Age in years	(Mean \pm SDSD)	21.5 \pm 1.6	22.1 \pm 1.2	
Year of study	1 st year	51(17.2)	–	51(12.11)
	2 nd year	65(22.3)	8(6.43)	73(17.34)
	3 rd year	98(33.2)	30(23.8)	128(30.4)
	4 th year	22(7.4)	35(27.7)	57(13.5)
	5 th year	59(20)	53(42.0)	112(26.6)
Smoking status	Current regular	14(4.7)	–	14(3.31)
	Current Occasional	20(6.7)	10(7.3)	30(7.12)
	Ex-smoker	10(3.3)	2(1.58)	12(2.9)
	Never smoker	251(85.0)	114(90.4)	365(86.7)
History of Chronic illness	Asthma	21(7.1)	4(3.1)	25(5.93)
	Diabetes	1(0.3)	1(0.79)	2(0.47)
	Epilepsy	–	1(0.79)	1(0.23)
	Hypertension	4(1.3)	–	4(0.95)
	Other	9(3.0)	15(11.9)	24(5.7)
Living with susceptible individuals	Under 16	174(58.9)	84(66.6)	258(61.2)
	Pregnancy	11(3.7)	7(5.5)	18(42.8)
	Over 65	54(18.3)	29(23.0)	83(19.7)
	Health care Professional	49(16.6)	34(26.8)	83(19.7)
	None of the above	78(26.4)	14(11.1)	92(21.9)
Seasonal flu Immunization Rate	Year 2015	67(22.7)	20(15.7)	87(20.7)
	Year 2014	42(14.2)	17(13.9)	59(14.01)
	Previous year	54(18.3)	41(32.5)	95(22.6)
	Never	132(44.7)	48(38.1)	180(42.8)
Vaccine offered group	Yes	196(66.4)	94(74.6)	290(68.9)
	No	99(33.5)	32(25.4)	131(31.1)
Any side effect	Yes	15(9.3)	13(16.6)	28(6.7)
	No	147(90.7)	65(83.4)	212(50.4)

Download English Version:

<https://daneshyari.com/en/article/5672757>

Download Persian Version:

<https://daneshyari.com/article/5672757>

[Daneshyari.com](https://daneshyari.com)