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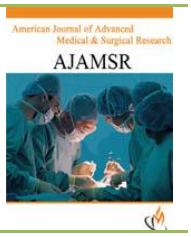

AWARENESS ABOUT SEASONAL INFLUENZA VACCINE AMONG UNDERGRADUATE MEDICAL STUDENTS IN TABUK REGION, SAUDI ARABIA

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ABSTRACT

It is suggested that achieving a high vaccine uptake in the early stages of a medical career might therefore improve subsequent influenza vaccine uptake. To explore awareness, experience and attitude towards seasonal influenza vaccination among undergraduate medical students in Tabuk region in the kingdom of Saudi Arabia. A cross-sectional study was carried out between March and May 2015 using an anonymous self-completed questionnaire. All medical students at Tabuk college of medicine (males and females) grades 2, 3 and 4 (n=349) were invited to participate in the study A semi structured questionnaire survey was developed and distributed hand to hand to measure the degree of awareness seasonal influenza vaccine among undergraduate medical students. The study included 301 undergraduate medical students out of invited 349 (response rate=86.2%). More than two-thirds of them (68.8%) were aware about the seasonal influenza vaccine. Almost half of them (50.7%) had their information about seasonal influenza through health campaigns whereas internet and TV were the sources of information among 22.2% and 15% of the participants, respectively. 79.1% of those students did not get the vaccine yet. Among those who vaccinated, family/friend advice (36.5%) and physician advice (33.3%) were the most reported motivators, 76.2% being vaccinated once in the last 5 years and only 7.9% reported side effects of the vaccine. Most of the participants (73.1%) believed that there is no enough community awareness of influenza vaccine, as well as 44.9% of them believed that the cause is ignorance of it `s existence or ignorance of its protective effect (33.9%), however 65.4%% of them believed on it beneficial effect on both the individual and community levels. Only 32.6% of the participants intended to take seasonal influenza vaccine next year. Although almost two-thirds of undergraduate medical students in Tabuk were aware of the existence of seasonal influenza vaccine, its uptake was much lower. Therefore there is an increase need of organization of health education campaigns in Tabuk region in order to increase the awareness about influenza vaccine and hence improve the quality of care that given to patients from the future health care workers.

INTRODUCTION

Influenza is one of the most prevalent respiratory illnesses affecting people from all ages worldwide [1]. Although it may occur throughout the year, influenza reported mostly during the winter season (season

epidemics). Seasonal influenza cases can lead to substantial morbidity and mortality worldwide [2].

In the past few years, it has been estimated that seasonal influenza vaccine coverage for young adults and health care workers is relatively low [3-5]. Using multiple overlapping announcements, vaccine coverage in the first four campaigns ranged between 21 and 29%, although international guidelines require annual vaccination against influenza [6]. Despite that, Influenza vaccination remains the most effective measure for preventing influenza outbreak and decreasing clinic visits for influenza-like illness and decreasing antibiotic use [7-9].

Amodio *et al* suggested that achieving a high vaccine uptake in the early stages of a medical career might therefore improve subsequent influenza vaccine uptake [10]. Previous studies have shown suboptimal influenza uptake amongst medical students (USA 48% [11], Hong Kong 67% [12]). Since medical students in the Kingdom of Saudi Arabia are not routinely offered the influenza vaccine and nor are there data on their seasonal influenza vaccine uptake and as they are HCW of the future, maximising uptake by addressing barriers in this population may help improve subsequent uptake rates.

Reviewing the literature, there was only one study done in Tabuk region in the kingdom of Saudi Arabia reviewing the effectiveness of seasonal influenza vaccine. This study showed that preoperative influenza vaccination reduces postoperative metastatic disease by reversing surgery-induced dysfunction in natural killer cells [13].

Hence the aim of the present study is to reveal awareness about seasonal influenza vaccination among undergraduate medical students in Tabuk region in the kingdom of Saudi Arabia.

METHODS

A cross-sectional study was carried out between March and May 2015 using an anonymous self-completed questionnaire. All medical students at Tabuk college of medicine (males and females) grades 2, 3 and 4 (n=349) were invited to participate in the study as those of grade 5 were at clinical hospital rounds at that time.

A semi structured questionnaire survey was developed and distributed hand to hand to measure the degree of awareness seasonal influenza vaccine among undergraduate medical students. It also included information regarding previous seasonal influenza vaccination and adverse reactions, personal history of seasonal influenza, motivators for vaccination, reasons against vaccinations, side effects of vaccination, and attitude towards seasonal influenza vaccination. Reasons for and against vaccination were adapted from questionnaires used in previous papers [14-16]. The questionnaire was piloted prior to the study on 15 volunteers.Analysis was performed using Statistical Package for the Social Sciences (SPSS) v21. Basic descriptive statistics were performed.

RESULTS

The current study included 301 undergraduate medical students out of invited 349 (response rate=86.2%). Majority of them (94.7%) aged at or below 25 years and almost two-thirds of them (67.8%) were females. Table 1

Figure 1 shows that 68.8 % of undergraduate medical students in University of Tabuk were aware about the seasonal influenza vaccine. Almost half of them (50.7%) had their information about seasonal influenza through health campaigns whereas internet and TV were the sources of information among 22.2% and 15% of the participants, respectively.

As demonstrated from table 2, 79.1% of those students did not get the vaccine yet. Among those who vaccinated, family/friend advice (36.5%) and physician advice (33.3%) were the most reported motivators, 76.2% being vaccinated once in the last 5 years and only 7.9% reported side effects of the vaccine.

Most of the participants (73.1%) believed that there is no enough community awareness of influenza vaccine, as well as 44.9% of them believed that the cause is ignorance of it `s existence or ignorance of its protective effect (33.9%), however 65.4%% of them believed on it beneficial effect on both the individual and community levels. More than half of them (55.5%) believed that seasonal influenza vaccine should be given to children whereas only 16.3% and 24.9% of them believed that it should be given to elderly people and health care workers, respectively. Only 32.6% of the participants intended to take seasonal influenza vaccine next year.

DISCUSSION

As far as we are know, this study is the first to report seasonal influenza vaccination uptake among medical students in KSA, in particular Tabuk region. Therefore, it sets the base for potential future seasonal influenza vaccination campaigns to begin during medical graduation.

Despite recommendations for annual seasonal influenza vaccination, this study demonstrates that only one-fifth of the medical students uptake it. In Australia, among health care workers, only three of the 10 studies reported seasonal influenza vaccination coverage of >50% [17-19]. In England, uptake/intention to receive seasonal influenza vaccine amongst medical students appears to be higher than that of HCW (40.3%) [20], although this is still below optimal levels. In United States studies, seasonal influenza coverage rates in hospitals where the vaccine is provided free to medical staff ranged from 2.1% to 82%, [21, 22] whereas lower rates were reported in hospitals without free vaccine or campaigns [23]. Other studies have documented uptake from 26% to 61% in Canada [24] and from 12% to 25% in Europe [25].

The barriers for community uptake mentioned in this study were mainly ignorance of its existence and ignorance of its protective effect. These barriers could be

overcome by community education about the existence, efficacy and safety of the vaccine and reassurance that side effects are infrequent and usually mild. In the present study, side effects were reported among only 7.9% of the participants, however, we did not inquire about details of these side effects.

In the present study, most of the students were not aware that the vaccine should be given to elderly people, chronic patients, pregnant women, extremely obese patients, auto-immune patients and health care workers. The same has been reported by others [26, 27].

Students in the present survey are likely to be influenced by family and friend members, and these influences may have a direct (or indirect) impact on decisions they make around vaccination. The same has been document by Edge, et al (2015) [27].

The formal medical training environment and guidance are clearly treated as the most important influencing factors as well as the medical course is a prime opportunity to implement this, perhaps particularly in clinical last years (4 and 5). However, in the present study we did not include those of fifth grade since they were in clinical hospital rounds. It is also important to increase awareness that medical students are at greater risk of contracting seasonal influenza due to the nature and extent of their patient contact during placements. Informing students about the potential possibility for transmission to patients should also become a priority in the effort to improve uptake. This is an important aim of interventions as findings from another study showed that even a minimal knowledge about H1N1, its severity and transmission can increase uptake significantly [28].

The response rate was high, means that we can be confident in our findings although we did not include students of fifth grade. In addition, we included students from one college, so generalizability of the results over all medical students in KSA might be affected.

In conclusion, although almost two-thirds of undergraduate medical students in Tabuk were aware of the existence of seasonal influenza vaccine, its uptake was much lower. Therefore there is an increase need of organization of health education campaigns in Tabuk region in order to increase the awareness about influenza vaccine and hence improve the quality of care that given to patients from the future health care workers.

ACKNOWLEDGMENT

Nil

CONFLICT OF INTEREST

No Interest

Table 1. Age and sex distribution of the participants

		N n=301	%
Age (years)	≤25	285	94.7
	>25	16	5.3
Gender	Males	150	32.2
	Females	151	67.8

Table 2. Seasonal influenza vaccine history among undergraduate medical students, Tabuk, Saudi Arabia

	Responses	N n=301	%
Taking seasonal influenza vaccine	Yes	63	20.9
	No	238	79.1
Motivation for being vaccinated	Physician advice	21	33.3
	Frequent flu attacks	9	14.3
	Family/friend advice	23	36.5
	TV advertisement	10	15.9
Frequency of seasonal influenza vaccination in the last 5 years	Once	48	76.2
	More than once	15	23.8
Reported side effects of vaccination	Yes	5	7.9
	No	46	73.0
	Don`t remember	12	19.1
Who advise you to take seasonal influenza vaccination (more than one answer is possible)	Physician	25	39.7
	Pamphlets	11	17.5
	Family	36	57.1
	Friends	4	6.3
Place of seasonal vaccination	Governmental hospital	48	76.2
	Private hospital	15	23.8

Table 3. Attitude of undergraduate medical students, Tabuk, Saudi Arabia toward seasonal influenza vaccine

		N n=301	%
Believing that there is sufficient awareness about seasonal influenza vaccine in the community	Yes	22	7.3
	No	220	73.1
	Don`t know	59	19.6
Having advised to not take seasonal influenza vaccine by somebody	Yes	61	20.3
	No	240	79.7
Reasons for low uptake of seasonal influenza vaccine by the community	Ignorance of its existence	135	44.9
	Ignorance of its protective effect	102	33.9
	Fear of its side effects	49	16.3
	Others	15	5.0
Is seasonal influenza vaccine is effective for at individual and community levels	Yes	197	65.4
	No	11	3.7
	Don`t know	93	30.9
Do you think that seasonal influenza vaccine should be given to:	Children	167	55.5
	Elderly people	49	16.3
	Chronic patients	32	10.6
	Pregnant women	26	8.6
	Extremely obese patients	8	2.7
	Auto-immune patients	97	32.3
	Health care workers	75	24.9
Is there contraindications to seasonal influenza vaccine	Yes	76	25.2
	No	28	9.3
	Don`t know	197	64.5
Do you decide to be vaccinated next season	Yes	98	32.6
	No	65	21.6
	Don`t know	138	45.8

Fig 1. Awareness of undergraduate medical students in Tabuk region about seasonal influenza vaccine

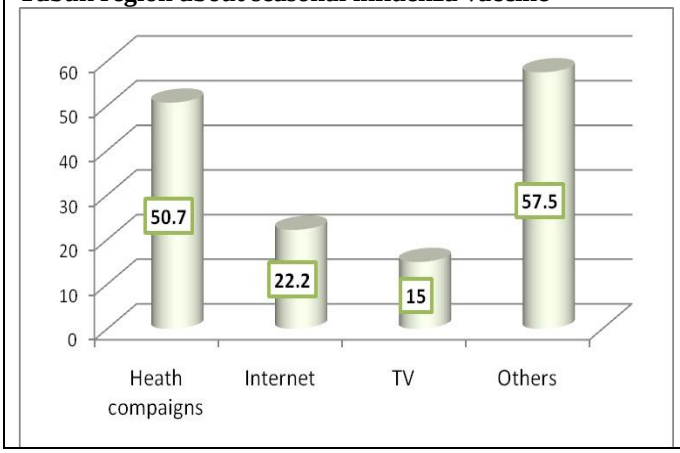
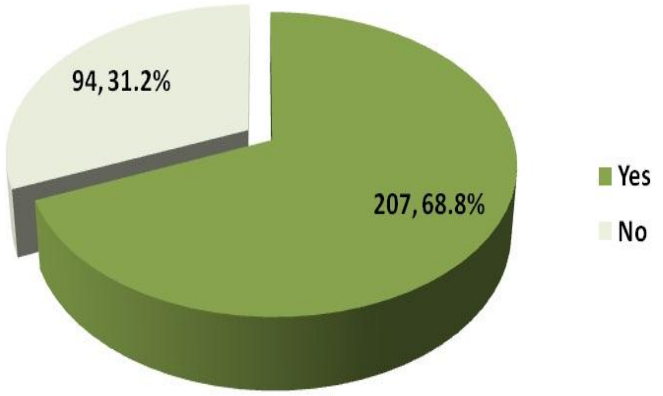


Fig 2. Source of information about seasonal influenza vaccine among undergraduate medical students, Tabuk, Saudi Arabia



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