



## Factors affecting uptake of influenza vaccination among family physicians



H. Akan<sup>a,\*</sup>, E. Yavuz<sup>b,1</sup>, M.E. Yayla<sup>c,2</sup>, H. Külbay<sup>d,3</sup>, E.Ç. Kaspar<sup>e</sup>, O. Zahmacioğlu<sup>f,4</sup>, S. Badur<sup>g,5</sup>

<sup>a</sup> Department of Family Medicine, Yeditepe University Faculty of Medicine, İnönü Mahallesi, Kayışdağı Cad., 26 Ağustos Yerleşimi, 34755 Kadıköy, İstanbul, Turkey

<sup>b</sup> Public Health Institution of Turkey, 1st Family Health Center, Family Medicine Clinic Samsun Training and Research Hospital Kadıköy Samsun, Rize, Turkey

<sup>c</sup> Turkey Public Health Office, Sarıcam Mehmet Akif Ersoy Family Medicine Center, Ministry of Health, Adana, Turkey

<sup>d</sup> Turkey Public Health Office, Zümruvevler Number 1 Family Medicine Clinic, İstanbul, Turkey

<sup>e</sup> Department of Biostatistics and Medical Informatics, Yeditepe University Faculty of Medicine, İnönü Mahallesi, Kayışdağı Cad., 26 Ağustos Yerleşimi, 34755 Kadıköy, İstanbul, Turkey

<sup>f</sup> Department of Psychiatry, Yeditepe University Faculty of Medicine, İnönü Mahallesi, Kayışdağı Cad., 26 Ağustos Yerleşimi, 34755 Kadıköy, İstanbul, Turkey

<sup>g</sup> Department of Virology, İstanbul University Faculty of Medicine 34093Fatih/Çapa, İstanbul, Turkey

### ARTICLE INFO

#### Article history:

Received 14 July 2015

Received in revised form

14 December 2015

Accepted 26 January 2016

Available online 18 February 2016

#### Keywords:

Influenza vaccination

Health care workers

Family physicians

### ABSTRACT

**Aim:** The aim of this study was to determine the factors that influenced the decisions of family physicians working in primary care health services to receive influenza vaccines.

**Methods:** This cross-sectional study was performed between June 2014 and September 2014. Physicians were reached electronically via e-mail. A self-reported questionnaire consisting of 50 items covering potential factors that may have influenced their decision to receive vaccination, including perceived risk, severity of the perceived risk, perceived benefit, perceived barriers, cues to action, attitudes, social influences and personal efficacy, was administered to the study participants. Cronbach's alpha for the questionnaire was determined to be 0.92 in the pilot study.

**Results:** The response rate was 27.5% ( $n = 596$ ). Regularly vaccinated physicians accounted for 27.3% of the responses. The median age was  $41.84 \pm 7.80$ , and the median working duration of the group was  $17.0 \pm 7.8$  years. The factors that led to increased vaccination compliance ( $p < 0.05$ ) included working duration, age, chronic disease history and living with a person over 65 years. Nearly all major domains, i.e., perceived risk, severity of the perceived risk, perceived benefit, perceived barriers, attitudes, social influences and personal efficacy, there were differences between the compliant and noncompliant groups. Multi-regression analyses revealed that risk perception, organizational factors such as time and convenient vaccination increased vaccine compliance. However, the perceived necessity to be vaccinated annually had a negative effect on vaccination behaviour ( $p < 0.05$ ).

**Conclusion:** Strategies aimed to increase the flu vaccination ratio among physicians that do not take different factors into account are more likely to be unsuccessful. In the planning and implementation of strategies aiming to increase the vaccination ratio among physicians, it is both necessary and important to take into account behavioural and organizational factors.

© 2016 Elsevier Ltd. All rights reserved.

\* Corresponding author. Tel.: +90 555 828 17 16.

E-mail addresses: [hakan@yeditepe.edu.tr](mailto:hakan@yeditepe.edu.tr)

(H. Akan), [erdincyavuz@gmail.com](mailto:erdincyavuz@gmail.com) (E. Yavuz), [meyayla76@yahoo.com](mailto:meyayla76@yahoo.com) (M.E. Yayla), [medicine80@hotmail.com](mailto:medicine80@hotmail.com) (H. Külbay), [ecaltunok@yeditepe.edu.tr](mailto:ecaltunok@yeditepe.edu.tr) (E.Ç. Kaspar), [ozahmacioglu@yeditepe.edu.tr](mailto:ozahmacioglu@yeditepe.edu.tr) (O. Zahmacioğlu), [sbadur@hotmail.com](mailto:sbadur@hotmail.com) (S. Badur).

<sup>1</sup> Tel.: +90 505 2102881.

<sup>2</sup> Tel.: +90 530 9717654.

<sup>3</sup> Tel.: +90 533 4901203.

<sup>4</sup> Tel.: +90 535 3682801.

<sup>5</sup> Tel.: +90 532 3608523.

### 1. Introduction

Influenza is a contagious disease associated with yearly seasonal outbreaks and significant mortality among risk groups [1]. During outbreaks, health professionals are repeatedly exposed to the influenza virus but generally continue working even when infected. Because the disease is often asymptomatic, these health professionals can further spread the virus to their patients and families [2–4]. The administration of influenza vaccines to health professionals has

been demonstrated to be a cost-effective method that reduces the loss of work hours, nosocomial transmission and mortality among hospitalized patients [5–8]. Studies have suggested that physicians who are vaccinated are more likely to recommend the influenza vaccine to their patients and that physician and nurse attitudes are important factors that influence patient decisions regarding vaccinations [9–11].

Recommendations on the indications for and application of the influenza vaccine, the vaccination ratio among the population, and whether the vaccine is provided free of charge vary considerably from one country to another. Similar country-specific variations are also observed for health professionals. In certain countries, all health workers are vaccinated free of charge, whereas in other countries, only health workers specializing in certain areas receive free vaccinations against influenza [12,13]. In European countries, the vaccination ratio among health professionals varies between 12 and 98%. If Romania, the country with the highest vaccination ratio, is excluded, the vaccination ratio is between 14 and 50%, with most countries being closer to the lower limit [14].

In Turkey, certain risk groups, such as the elderly ( $\geq 65$  years); people living in nurseries; patients with chronic diseases, such as asthma; patients with chronic metabolic diseases, such as diabetes; patients with cardiac disease; patients with kidney disease; patients with haemoglobinopathies; and children and adolescents from 6 months to 8 years on long term acetylsalicylic acid treatment, are provided the vaccine free of charge. To promote vaccination, the Ministry of Health has been providing influenza vaccines to health care workers free of charge since 2011. The ratio of those who have received an influenza vaccination to those who have not is relatively low within the general Turkish population [15]. Although the exact ratio varies each season, a study performed in Turkey determined that the average ratio of vaccination was 9% among men and 6% among women. In persons aged at least 65 years, this ratio increased to 15.8% among men and 13.0% among women [16].

There are currently no comprehensive data in Turkey regarding the ratio of regular vaccinations among health care professionals. Most previous studies on this subject have been limited in scope to a single hospital or a city. These studies indicated that the vaccination ratio varies between 16.7 and 23.2%. One study, which was conducted after a local vaccination campaign, found that 41.7% of hospital health care workers and 79.4% of primary care physicians were vaccinated. Overall, the vaccination ratio generally seems low among health care professionals in different studies [17–20]. The number of studies on the factors that influence the decision to vaccinate is limited. Previous studies on this subject have suggested that misconceptions regarding the efficacy and side effects of the vaccines, the perception of risk and the accessibility of the vaccines affected the vaccination ratios of health care professionals.

Primary care physicians are responsible for the primary protection of patients and the prevention of diseases. Because they are in regular contact with patients, an understanding of their attitudes towards influenza vaccinations is important with respect to developing and implementing strategies to increase the ratio of vaccinations among both physicians and the general population. The aim of this study was to determine the factors that influenced the attitudes of family physicians working in primary care health services towards influenza vaccines and their decision to receive vaccinations.

## 2. Methods

This cross-sectional study was performed between June 2014 and September 2014 by using a self-reported questionnaire.

### 2.1. Study population

A total of 21,384 family physicians were registered as primary health care physicians at 6,829 family health care centres in Turkey [21]. Family physicians voluntarily registered to two primary communication platforms, an official Turkish Family Physicians Association mailing list and a social media group, and were reached electronically via e-mail. A total of 2,200 registered family physicians were contacted. An e-mail was sent to their personal requesting the completion of a Google survey; a subsequent reminder e-mail was also sent 15 days later. The survey responses were collected anonymously. Of the contacted physicians, 606 completed the survey (a 27.5% response rate).

### 2.2. Questionnaire

A self-reported questionnaire consisting of 50 items on the factors that influenced the decision to receive a vaccination was administered to the study participants. The questionnaire items were formed from a consensus among the study authors based on a review of the national and international literature and an evaluation of the strategies of the Turkish Ministry of Health regarding vaccination of physicians against influenza. The first section of the questionnaire comprised multiple-choice answers concerning demographic information and the vaccination status of the family physicians. Regularly vaccinated study participants were considered to be “vaccination compliant,” whereas those who were never vaccinated or who skipped at least one of their regular vaccinations were considered to be “vaccination noncompliant.”

The questionnaire's second section assessed behavioural aspects and was prepared based on an approach previously used by Looijmans-van den Akker et al. and Hopman et al. regarding health attitude models [22,23]. The questionnaire was organized under different factors: *perceived risk, severity of the perceived risk, perceived benefit, perceived barriers, cues to action, attitudes, social influences and personal efficacy*. Each factor consisted of at least three items used in the strategies for promoting vaccinations in Turkey. Study participants were asked to answer each question with a score ranging from one to five based on a five-point Likert scale format, with a score of one corresponding to “strongly agree” and a score of five corresponding to “strongly disagree.” Regularly vaccinated study participants were considered to be “vaccination compliant,” whereas those who were never vaccinated or were vaccinated once or irregularly were considered to be “vaccination noncompliant.”

The third section of the questionnaire consisted of two multiple-choice questions asking the physicians the sources they used to obtain information about influenza and the sources they would like to use to obtain further information.

A pilot application of the questionnaire was performed with 30 randomly-selected family physicians working in the Black Sea region. Cronbach's alpha for the questionnaire was 0.92.

### 2.3. Statistics

The categorical variables were reported as counts and percentages, whereas the continuous variables were reported as means, standard deviations, medians, inter-quartile ranges, minima and maxima. Comparisons between vaccination habit groups were made using the Mann Whitney *U* test due to non-normal distribution patterns for the continuous variables. The categorical variables were compared using a chi-square test or Fisher's exact test.

The effects of the independent variables on vaccination habit were evaluated with univariate and multivariate logistic regressions. The regression results were reported as odds ratios, 95% confidence interval boundaries of the odds ratios and *p* values.

Download English Version:

<https://daneshyari.com/en/article/2402176>

Download Persian Version:

<https://daneshyari.com/article/2402176>

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