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A Patient Safety Issue: Mandatory Influenza Vaccination for Health Care Workers

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Abstract

With respect to nosocomial influenza infections, the welfare of patients is best served by high rates of staff immunity against influenza. However, data from the Centers of Disease Control (CDC) in the USA and the Robert Koch-Institute (RKI) in Germany indicate that most of health care workers (HCWs) choose not to be vaccinated. Under voluntary influenza immunization standards, institutional influenza outbreaks occur every flu season. The question about the legality of implementation mandatory flu vaccination for HCWs is an ongoing debate, which covers several different positions.

To characterize the attitudes of German HCWs toward mandatory influenza immunization, an anonymous questionnaire was offered to HCWs of the University Hospital in Frankfurt/Main / Germany. Our study showed that almost 70% of the respondents would accept mandatory influenza vaccination.

In our opinion an annual influenza vaccination should be required for HCWs who care for immunocompromised patients and residents in long-term care if there will be a failure of voluntary vaccination programs. An informed declination should be obtained from employees who decline vaccination and these HCWs ought to work in uncritical areas of patient care.

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Keywords: healthcare worker; influenza; mandatory Vaccinations; vaccine uptake rate

1. Introduction

The Standing Committee on Vaccination (STIKO) at the Robert Koch-Institute (RKI) in Germany has explicitly recommended that health care workers (HCWs) ought to be vaccinated against influenza (see **Fig. 1**). However, vaccination rates among HCWs in Germany remain low (15 up to 35%). Multiple studies demonstrated that influenza immunization rates among HCWs only reached sufficient rates when the immunizations were made mandatory (5, 6).

The University Hospital Frankfurt/Main offers influenza vaccination to HCWs and medical students free of charge through the Occupational Health Service. In order to improve the influenza vaccination rates among HCWs, a local campaign - which included both publicity and education - started in 2003/2004.

Despite extraordinary resources dedicated to this program, and the fact that the vaccination rate of our institution is better than average annual uptake of influenza vaccine in German hospitals, almost half of HCWs chose not to be vaccinated (11).

As part of a series of studies on vaccine uptake and action and beliefs of HCWs toward influenza vaccination (12, 14), we conducted a questionnaire study in order to identify HCWs perception of influenza immunization and attitudes towards mandatory influenza vaccination of HCWs.

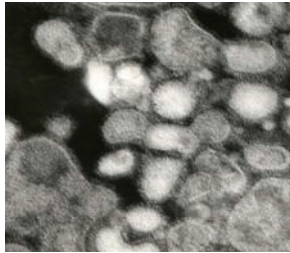


Fig 1: Electron microscope illustration of influenza viruses (Family Orthomyxoviruses),
Institute of Medical Virology Frankfurt 2007

2. Methods

The Frankfurt University Hospital is a 1,247-bed hospital with 3,900 employees in 24 medical departments and research facilities. In the medical school there are approximately 3,300 medical and dental students. To assess the attitudes of German HCWs towards mandatory influenza vaccinations, an anonymous questionnaire was offered to HCWs and medical and dental students of the University Hospital in Frankfurt/Main. The study has been started in February 2009 and isn't finished and this point of time.

2.1. Questionnaire

The questionnaire comprised 23 questions divided into five areas of inquiry:

- Demographic data: age, sex, profession group, field of work
- Attitude towards mandatory influenza vaccination
- Awareness of importance of influenza vaccination
- Personal influenza vaccination status
- Desired incentives for HCWs in order to improve the influenza vaccination rate of HCWs

The anonymous questionnaires were distributed either before the occupational medicine lectures for the students or before regular occupational medical check-ups for the HCWs.

3. Results

The first statistical evaluation of 500 questionnaires showed that flu vaccination is considered as an important matter for HCWs (see **Fig.2**).

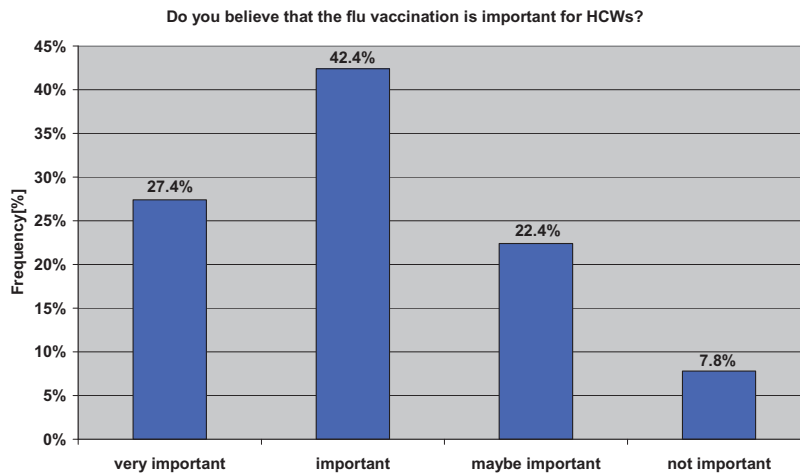


Fig 2: Assessment of HCWs regarding the importance of flu vaccination.

Our study showed that almost 70% of the respondents would accept mandatory influenza vaccination. Overall, 47.4% showed a positive attitude towards mandatory influenza vaccination for every HCWs with direct patient contact and 22.4% requested mandatory influenza vaccination for HCWs who care for immunocompromised patients. Only 17.4% refused mandatory influenza vaccination. Our analysis of the profession groups revealed that there are different attitudes and perceptions between various occupational categories. Physicians demonstrated the highest rate of compliance with mandatory flu vaccination (see **Tab. 1**).

Tab. 1: Acceptance of mandatory flu vaccinations according job description (n = 500)

Mandatory flu vaccination Profession group	Mandatory flu vaccination			
	for every HCW	only for HCWs who care for immunocompromised patients	don't know	refusal
Physicians	55.4%	21.7%	7.2%	15.7%
Medical students	46.9%	19.2%	18.5%	15.4%
Nurses	43.3%	18.0%	14.0%	24.7%
Med. technicians	44.7%	34.1%	8.2%	12.9%
Others	51.9%	25.0%	11.5%	11.5%
Total	47.4%	22.4%	12.8%	17.4%

4. Discussion

The health care system exists primarily for the benefit of their patients. Patients expect that every measure would be done in order to minimize health risks while they are patients in that system. Multiple studies demonstrate that high levels of HCWs' influenza-immunity confer protection on patients who cannot be or have not been effectively vaccinated themselves (1, 2, 7).

Undoubtedly, HCWs are at increased risk of influenza infection compared to the general population, most likely because of their increased exposure (4, 6). Immunization of HCWs prevents influenza spread within

institutions and reduces transmission to patients and the morbidity among HCWs. Nevertheless, HCWs do not follow well-accepted and evidence-based immunization recommendations (9, 10, 13). Unfortunately, voluntary programs have not succeeded in attaining acceptable influenza vaccination rates among HCWs, and thereby endanger the vulnerable patients (5, 6).

The issue of mandatory influenza immunization has divided HCWs and even experts of infectious diseases. However, the obligation to do no harm is not coercion; it ought to be a fundamental ethical principle for HCWs (8). The “autonomy argument” focuses on individual rights of HCWs to refuse immunizations, ignoring the rights of patients. Ethical assessment requires the party responsible to balance competing rights, and should include a patient’s right to a safe healthcare environment (3).

Although there is concern that an influenza immunization requirement would be met with resistance our data shows that mandatory flu vaccinations - e.g. for HCWs who care for immunocompromised patients - ought to be implemented and, in all probability, with additional education, widely accepted.

In order to appreciate the results of our study some possible limitations need to be addressed. First, the results from a single academic institution may not be applicable to other institutions.

Second, the “social desirability bias”, (i.e. selecting a choice of answers considered as being the most “socially favorable”) may lead to bias in our survey, which may affect the reliability of some of the answers.

5. Key messages

- Due to low flu vaccination rates since more than twenty years of voluntary vaccination campaigns, mandatory vaccinations ought to be considered.
- Compulsory flu immunizations seems to be accepted among German HCWs.

6. Acknowledgement

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7. Conflict of Interest

The views in this article are the personal views of the authors and do not necessarily represent the views of the professional organizations or institutions within which we are members.

The authors declare that they have no conflict of interest.

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