An evaluation of attitude toward vaccines among healthcare workers of a University Hospital in Southern Italy

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Key words: Vaccine, healthcare workers, physicians
Parole chiave: Vaccini, operatori sanitari, medici?

Abstract

Background. Vaccination is an effective and safe health technology. Despite this vaccine coverage falls short of national and international targets.

Study design. The aim of the study was to evaluate the views of medical staff at Messina University Hospital regarding vaccinations, their current and future vaccination status and whether they recommend it to their patients.

Methods. The study was conducted from April 2016 to March 2017 by an anonymous face-to-face questionnaire submitted to HCWs.

Results. A general lack of confidence and insecurity about vaccination was shown by a substantial proportion of physicians analyzed while pediatricians showed a positive attitude to vaccines. However, many physicians had not been immunized with the recommended vaccines for HCWs and therefore represent a potential source of infection for both patients and the general population.

Conclusions. Despite the evidence of the effectiveness and safety of vaccines, compliance by HCWs remains very low for a variety of reasons. A range of measures are therefore needed to ensure their use, not only by the general population, but also by doctors who should be their major promoters.

Introduction

Vaccinations are universally deemed one of the most effective and safest means of primary prevention in public health. When a coverage rate of more than 95% is attained this can lead to a reduction in the number of susceptible individuals (community protection or herd immunity) (1, 4).

There are two problems regarding vaccines in Italy: the first is a loss of confidence in vaccinations resulting in a fall in vaccine coverage, and the second is the failure of healthcare workers (HCWs), who should be their promoters, to be vaccinated or their being inadequately vaccinated. The loss of confidence is related to the diminished perception of the severity of vaccine-preventable
diseases due to the reduced spread of some serious diseases and related deaths, and the mistaken belief that the associated risks of vaccinations are greater than those resulting from the illnesses themselves (5-9).

Another advantage of vaccinations is their cost-effectiveness: indeed, the resources needed for vaccines are far less than those required to treat the diseases and/or their complications (10-12).

The second problem concerns physicians, who should be the main promoters of vaccination according to the code of ethics and in line with the most up-to-date scientific evidence. In October 2016, the Italian Federation of Physicians and Dental Surgeons (Associations) introduced disciplinary measures, justified by medical deontology, against physicians who do not recommend vaccinations, even to the point of withdrawing their license to practice (13).

According to the World Health Organization (WHO), 59 million HCWs are at risk of becoming infected every day. Hence, they are a potential source of infection for each individual they come into contact with (14). In Europe, vaccination policies vary considerably, but vaccination coverage is often inadequate, particularly in Italy, for the following vaccinations: hepatitis B, influenza, measles, mumps, rubella, varicella, diphtheria-tetanus and pertussis (15, 16). Well-designed vaccination schedules can substantially reduce risks. The Italian Legislative Decree N° 81 of April 2008 recognized the importance of vaccinations for HCWs given the job-related risk: the law making the occupational physician of a hospital responsible for: the identification of subjects at risk, the dissemination of information regarding health monitoring and the evaluation of the advantages and disadvantages of giving vaccinations (17, 18). In addition, from an economic and organizational point of view, the vaccination of HCWs can reduce absenteeism and ensure continuity and quality of patient care (19, 20). Currently, vaccination coverage of HCWs is inadequate both in Italy and in other European countries since it falls below the target set by the Global Vaccine Action Plan, which aims to achieve a nationwide vaccination coverage rate of at least 90% and at least 80% coverage in all districts by 2020 (21). Despite a European Directive (2000/54/EC) on the protection of workers to be adopted by all Member States issued in the year 2000, HCWs do not appear to comply with the international and national guidelines and vaccination recommendations (22). Reasons for non-adherence of HCWs to vaccination campaigns are frequently due to the fear of side effects, a lack of trust in the effectiveness of active immunization, not enough time to access the service or mere oversight (23).

Materials and methods

The aim of the study was to evaluate the opinions of the medical staff at Messina University Hospital regarding vaccinations and their willingness to accept vaccines and recommend them to their patients. The study was conducted from April 2016 to March 2017 through the administration of an anonymous face-to-face questionnaire.

This study analyzed HCWs’ perception of the importance, effectiveness and safety of vaccines and their willingness to recommend the different vaccinations to their patients. In addition, the immune status of physicians was analyzed by evaluating their vaccination history, and, in the case of non-immunization or incomplete immunization, we investigated their intentions regarding subsequent vaccinations. Differences in doctors’ behavior regarding vaccinations were also studied in relation to the number of years of service and their specialization (medical, surgical, etc.).

Frequency distributions were prepared to summarize the results of all statistical
variables provided by the 394 respondents, while the mean and standard deviation was calculated for the single quantitative variable (years of service). The latter was converted into a dichotomous variable (0 = less than or equal to 5 years and 1 = greater than 5 years) to study the degree of association and the chi square test was used to detect any statistically significant correlations. Values of p <0.05 were considered statistically significant. All analyses were carried out using R software (The R Project for Statistical Computing).

Results

A total of 394 physicians completed the survey (47.7% fully qualified and 52.3% in training). Gender ratio was 37.1% male and 62.9% female. As regards age, the sample was divided into four groups: 20-29 (52.3%), 30-39 (11.7%), 40-49 (8.1%) and over 50 (27.9%). Years of service ranged from a minimum of 1 to a maximum of 33 (9.96 ± 10.18 SD), with 63.5% having worked in the healthcare environment for less than 5 years and 36.5% for more.

The physicians practiced in three professional areas: medicine (54.8%), surgery (36%) and services (9.1%). This latter category was excluded for the evaluation of statistical significance. Pediatricians accounted for 18.5% of respondents in the medical field.

- Opinions and attitudes to vaccination by physicians

We analyzed the opinions of physicians about several statements on the importance, effectiveness and safety of vaccinations. The results are presented in Table 1.

- Opinion and attitude to vaccination by pediatricians

We also evaluated the attitude of pediatricians on the same topics analyzed for other physicians. All pediatricians considered vaccines important to reduce or eliminate serious illnesses, above all in certain situations, in particular in developing countries. Only one pediatrician was more confident about immunization due to illness and 20% were unsure. A small percentage of pediatricians were found to be uncertain about the safety and effectiveness of vaccines and only 15% of the sample feared side-effects (15% were uncertain); all respondents agreed on the effectiveness of vaccines to prevent infectious diseases and no respondents expressed uncertainty about the long-term effects. It should be emphasized that none of the pediatricians interviewed had any religious barriers that constituted an obstacle to vaccination.

- Association between opinion about vaccines and years of service

We also evaluated associations between years of service (< 5 yr and >5 yr) and the individual items. Statistically significant differences were observed between the group with less than 5 years of service and that with more than 5 years of service in relation to statements related to: side effects (χ² = 77.693, p <0.01), possibility of contracting infectious diseases (χ² = 19.257, p <0.01), fear of contracting diseases (χ² = 23.544, p <0.01) and confidence regarding long-term effects (χ² = 18.513; p <0.01) (Table 2).

- Opinions about the need for HCWs to be vaccinated

We assessed physicians’ opinion of the need for vaccination as a requirement to work in the healthcare sector and as a moral duty, given that physicians should set an example for their patients (Table 1).

We also asked all interviewees whether specific vaccines are required for physicians, to evaluate their knowledge of guidelines on immunization for healthcare workers (Table 3).
<table>
<thead>
<tr>
<th>Opinion and attitudes about vaccinations by the interviewed physicians</th>
<th>Disagree</th>
<th>Unsure</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>Clinical area</td>
<td>Surgical area</td>
<td>Clinical area</td>
</tr>
<tr>
<td>“I believe vaccines are important for reducing or eliminating serious illness”</td>
<td>16.2%</td>
<td>25%</td>
<td>2.8%</td>
</tr>
<tr>
<td>“I think vaccines are useful in certain situations, for example, in developing countries”</td>
<td>2.2%</td>
<td>0.9%</td>
<td>4.2%</td>
</tr>
<tr>
<td>“I believe more in the natural immunity acquired through disease than in vaccines”</td>
<td>60.4%</td>
<td>49.1%</td>
<td>77.5%</td>
</tr>
<tr>
<td>“I don’t believe in vaccines: I think they do more harm than good”</td>
<td>86%</td>
<td>81.5%</td>
<td>93%</td>
</tr>
<tr>
<td>“I’m afraid of side effects”</td>
<td>43.6%</td>
<td>56.5%</td>
<td>23.9%</td>
</tr>
<tr>
<td>“My religious convictions are against vaccinations”</td>
<td>85.5%</td>
<td>84.3%</td>
<td>87.3%</td>
</tr>
<tr>
<td>“I don’t think to be at risk of contracting any infectious disease”</td>
<td>75.4%</td>
<td>68.5%</td>
<td>85.9%</td>
</tr>
<tr>
<td>“I’m afraid of getting sick after I get vaccinated”</td>
<td>51.4%</td>
<td>66.7%</td>
<td>28.2%</td>
</tr>
<tr>
<td>“I don’t think vaccines are effective”</td>
<td>74.3%</td>
<td>65.7%</td>
<td>87.3%</td>
</tr>
<tr>
<td>“I’m wary of the long-term effects by vaccines on health”</td>
<td>52%</td>
<td>63.9%</td>
<td>35.2%</td>
</tr>
<tr>
<td>“I believe that vaccinations are an indispensable requirement for working in the healthcare sector”</td>
<td>10.6%</td>
<td>15.7%</td>
<td>2.8%</td>
</tr>
<tr>
<td>“I believe that vaccines of HCWs is their duty (they should be a model for their patient)”</td>
<td>20.7%</td>
<td>28.7%</td>
<td>8.5%</td>
</tr>
</tbody>
</table>

$\chi^2$ and P value

- $\chi^2 = 32.125$ p < 0.01
- $\chi^2 = 48.419$ p < 0.01
- $\chi^2 = 48.116$ p < 0.01
- $\chi^2 = 11.344$ p < 0.01
- $\chi^2 = 76.1963$ p < 0.01
- $\chi^2 = 7.0031$ p < 0.05
- $\chi^2 = 15.738$ p < 0.01
- $\chi^2 = 92.1273$; p < 0.01
- $\chi^2 = 23.036$ p < 0.01
- $\chi^2 = 41.50$ p < 0.01
- $\chi^2 = 43.39$ p < 0.001
- $\chi^2 = 34.56$ p < 0.01
Table 2 - Opinion of physicians about vaccination related to years of service

<table>
<thead>
<tr>
<th></th>
<th>Fear of side effects</th>
<th>Possibility to get sick without vaccination</th>
<th>Possibility of getting sick despite vaccination</th>
<th>Distrust in the long-term effects of vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 ys</td>
<td>Yes</td>
<td>10.40%</td>
<td>3.60%</td>
<td>12.80%</td>
</tr>
<tr>
<td></td>
<td>Not sure</td>
<td>40.40%</td>
<td>29.60%</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>Not</td>
<td>49.20%</td>
<td>66.80%</td>
<td>61.20%</td>
</tr>
<tr>
<td>&gt; 5 ys</td>
<td>Yes</td>
<td>50%</td>
<td>7.60%</td>
<td>12.50%</td>
</tr>
<tr>
<td></td>
<td>Not sure</td>
<td>18.80%</td>
<td>11.10%</td>
<td>49.30%</td>
</tr>
<tr>
<td></td>
<td>Not</td>
<td>31.30%</td>
<td>81.30%</td>
<td>38.20%</td>
</tr>
</tbody>
</table>

- Opinion about vaccination requirements for pediatricians

In contrast with the positive attitude towards vaccinations by the pediatric group we found a significant percentage who disagreed with the need to be vaccinated to work in the healthcare environment (“I believe that vaccinations are an indispensable requirement for working in the healthcare sector”) with 55% of the sample disagreeing and 40% uncertain. As regards the statement “I believe that vaccines for HCWs are a must”, 60% of respondents disagreed and 30% were uncertain.

The pediatrician group was also evaluated regarding their knowledge of immunization guidelines for healthcare workers. A varying percentage of respondents declared that the following vaccines were not recommended for HCWs: influenza (10%), chickenpox (35% and 35% unsure), measles-mumps-rubella (25% and 25% unsure), hepatitis B (5%), tetanus-diphtheria-pertussis (5%), hepatitis A (75%), Str. pneumoniae (40% and 20% unsure), N. meningitis and tuberculosis (25%).

- Attitude of physicians toward recommending vaccination to their patients

We analyzed the willingness of physicians to recommend the different vaccinations to their patients: our findings revealed that 32.9% recommend them sporadically, 6.1% state it not within their duty and 7.3% were not sure.

In our sample, only 44.7% of respondents advised vaccinations to their patients. Analysis of the specific vaccinations showed that 43.1% of the sample recommended the influenza vaccine, 27.9% the anti-diphtheria-tetanus-pertussis vaccine and 22.3% the anti-hepatitis B vaccine. Other vaccinations were recommended less frequently, in particular optional vaccination against encapsulated germs, anti-tuberculosis vaccine and hepatitis A vaccine. Polio vaccination, although compulsory since 1967, was recommended by only 4.5% of respondents (Table 4).

- Attitude of pediatricians toward recommendation of vaccines to their patients

The pediatrician group recommended all vaccines in 10% of cases while 20% of the respondents did not recommend vaccines (Table 4).

- Association between willingness to recommend vaccines and years of service

In our study, we also analyzed the associations between the number of years of service and the inclination of doctors to recommend the different vaccinations to their patients. We found that vaccinations are more often recommended by doctors in
Table 3 - Knowledge of recommended vaccines for HCWs by professional area

<table>
<thead>
<tr>
<th>Do you believe that the following vaccine is recommended for healthcare workers?</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>( \chi^2 ) and P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Clinical area</td>
<td>Surgical area</td>
<td>Total</td>
</tr>
<tr>
<td>Influence</td>
<td>78.7%</td>
<td>73.1%</td>
<td>85.9%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Chickenpox</td>
<td>31.8%</td>
<td>38.9%</td>
<td>21.1%</td>
<td>52.5%</td>
</tr>
<tr>
<td>MMR</td>
<td>38%</td>
<td>44.4%</td>
<td>28.2%</td>
<td>40.8%</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>80.5%</td>
<td>75.9%</td>
<td>87.3%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>49.7%</td>
<td>36.1%</td>
<td>70.4%</td>
<td>30.7%</td>
</tr>
<tr>
<td>DTP</td>
<td>38.5%</td>
<td>45.4%</td>
<td>28.2%</td>
<td>39.1%</td>
</tr>
<tr>
<td>Anti-pneumococcal</td>
<td>54.7%</td>
<td>40.7%</td>
<td>76.1%</td>
<td>22.3%</td>
</tr>
<tr>
<td>Anti-meningococcal</td>
<td>48%</td>
<td>27.8%</td>
<td>78.9%</td>
<td>29.6%</td>
</tr>
<tr>
<td>BCG</td>
<td>68.2%</td>
<td>51.9%</td>
<td>93%</td>
<td>11.2%</td>
</tr>
</tbody>
</table>

Note: MMR: measles, mumps and rubella. BCG: Bacillus Calmette Guérin.
Table 4 - Recommended vaccination by (a) all physicians* (b) by pediatricians and (c) in relation to length of service

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Percentage of physicians (a) (n=394)</th>
<th>Percentage of pediatricians (b) (n=40)</th>
<th>Length of service (c)</th>
<th>&lt; 5 ys</th>
<th>&gt; 5 ys</th>
</tr>
</thead>
<tbody>
<tr>
<td>No indication</td>
<td>35.5%</td>
<td>20%</td>
<td></td>
<td>26%</td>
<td>22%</td>
</tr>
<tr>
<td>TDP</td>
<td>25.4%</td>
<td>70%</td>
<td></td>
<td>29%</td>
<td>13%</td>
</tr>
<tr>
<td>Poliomyelitis</td>
<td>4.1%</td>
<td>60%</td>
<td></td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>HBV</td>
<td>20.3%</td>
<td>65%</td>
<td></td>
<td>26%</td>
<td>10%</td>
</tr>
<tr>
<td>HAV</td>
<td>3.5%</td>
<td>35%</td>
<td></td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Varicella</td>
<td>9.1%</td>
<td>40%</td>
<td></td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>MPR</td>
<td>12.2%</td>
<td>55%</td>
<td></td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>Seasonal influenza</td>
<td>37.6%</td>
<td>40%</td>
<td></td>
<td>33%</td>
<td>44%</td>
</tr>
<tr>
<td>HPV</td>
<td>4.1%</td>
<td>50%</td>
<td></td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>BCG (anti-tuberculosis)</td>
<td>3.5%</td>
<td>35%</td>
<td></td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Anti-pneumococcal vaccine</td>
<td>9.6%</td>
<td>50%</td>
<td></td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>Anti-meningococcal vaccine</td>
<td>9.6%</td>
<td>50%</td>
<td></td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>C-anti-meningococcal vaccine</td>
<td>0.5%</td>
<td>5%</td>
<td></td>
<td>1%</td>
<td>0%</td>
</tr>
</tbody>
</table>

training than specialists, with statistically significant differences ($\chi^2 = 55.377; p <0.01$) (Table 4).

- **Vaccination coverage among HCWs and attitudes to be vaccinated**

We then evaluated the percentage of vaccinated HCWs and their intentions about future vaccination, if not vaccinated (Table 5).

**Discussion and conclusion**

The most astonishing result of our study is the documentation of general mistrust and insecurity regarding vaccine efficacy by a substantial percentage of the Italian physicians interviewed.

From our results, the first problem to be analyzed is related to the lack of confidence about the efficacy and safety of vaccines.

Table 5 - Percentage of vaccinated physicians° and possible adherence (%) to vaccination of unvaccinated

<table>
<thead>
<tr>
<th>Vaccination</th>
<th>Vaccinated</th>
<th>Possible percentage adherence to vaccination of unvaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Probably</td>
</tr>
<tr>
<td>DTP</td>
<td>78.8%</td>
<td>47.80%</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>85.5%</td>
<td>18.75%</td>
</tr>
<tr>
<td>Influence</td>
<td>46.3%</td>
<td>55.30%</td>
</tr>
<tr>
<td>MMR</td>
<td>43.4%</td>
<td>42.10%</td>
</tr>
<tr>
<td>Chickenpox</td>
<td>41.3%</td>
<td>62.50%</td>
</tr>
</tbody>
</table>
Analyzing the data about the items “long-term risks” and “effectiveness” of vaccines showed clinicians to be the category expressing the greatest concern about these issues. The same group also did not think that being vaccinated was a prerequisite for HCWs to work in healthcare settings. In addition, a small percentage of this category in our sample did not recommend vaccinations to their patients for religious beliefs, in accordance with existing literature (18).

In our study fears concerning side effects were expressed, particularly by surgeons. On comparing categories in relation to years of service, physicians with more than 5 years of service were found to be the most afraid of side effects or post-vaccine pathologies, and generally tended to consider themselves more immune to infectious diseases, in accordance with existing literature (24).

A second problem relates to the vaccination of HCWs and the knowledge of vaccines. Young professionals are more widely vaccinated than older professionals, and this might be explained by the fact that these vaccinations were more readily available to them as children and adolescents, in accordance with existing literature (16).

Pediatricians showed a favorable attitude to vaccines, with the only exception for the topic “need to be vaccinated to work in the healthcare sector”. In fact, most of the 394 physicians agreed on this point, showing a general unwillingness to be vaccinated.

Awareness of recommended vaccines for HCWs in our sample was low and this reflects the international literature (25, 26). The risk of HCWs acquiring HBV infection is related to the extent of percutaneous or mucosal exposure to blood and other bodily fluids. HBV vaccination is recommended for all HCWs, regardless of specialty, in high-income countries. Despite this danger to their health, only 80.5% of the interviewees considered it necessary, and this is in accordance with existing literature data (27, 28).

In a previous survey conducted on healthcare workers at the same hospital, protective antibody levels (≥10 mIU / ml) were found in 65% of subjects who had completed the full vaccine schedule (three doses) and in 35% of subjects who had only received one or two doses of HBV vaccine (29).

HCWs are also a target category for influenza vaccination, in view of the need to protect patients and to maintain continued provision of healthcare services during flu epidemics. Although the vaccine was considered necessary by 78.2% of HCWs, only 45.2% declared having been vaccinated; far below the 75% target rate required by the Italian PNPV (National Vaccine Prevention Plan) 2017-2019 and the target cited in the CDC Report on 2015-2016 seasonal flu vaccine coverage in physicians (30).

One of the reasons that may explain low vaccination coverage is the lack of active provision of vaccination especially for non-vaccinated or seronegative healthcare workers (31, 32).

In our hospital three consecutive vaccination campaigns led to an increased adherence to influenza vaccination. This was achieved through an active and informed campaign, directly promoted in the workplace which gave many healthcare workers access to vaccination whilst still enabling them to cover their work schedules (33).

The vaccine coverage declared by the healthcare workers studied fell below the 95% target required by the PNPV, with the exception of HBV vaccine coverage (94.5%). The study revealed a percentage of vulnerable subjects that was comparable to others present in the literature and, in some cases, greater (34, 35).

This finding is particularly worrying given the current epidemiological situation in Italy in relation to the high number of measles cases among HCWs reported to the Integrated Surveillance System. In light of this, the Ministry of Health issued a letter of instructions circulated to all Sicilian health facilities.
and our hospital has launched a vaccination program for healthcare professionals (36). Nosocomial measles transmission is facilitated by its highly contagious nature (reproduction number ranging from 7 to 15) and HCWs are estimated to be at a 13 to 19-fold higher risk of acquiring measles compared to the general population. Moreover, susceptible HCWs may expose their colleagues/patients to risk: many nosocomial measles cases have been reported in the literature over the last two decades (37-39).

Despite the European Directive and the issue of national legislation on HCWs’ protection, low immunization coverage and transmission of vaccine-preventable diseases among HCWs are frequently documented with nosocomial outbreaks (40).

In Italy, studies into vaccination coverage among HCWs are not available either on national or regional level. The limitations of our study are the lack of a serological evaluation and that vaccination coverage is evaluated only on the basis of the physician’s anamnestic answers: this could lead to rates being under or over estimated. One possible reason for the low coverage of healthcare workers is a lack of trust in vaccination. The education and training of healthcare operators by professional bodies and the National Federation of Associations of Medical Doctors and Dental Surgeons (FNOMCEO) is a vital means to redress this. An additional effective tool to increase vaccination coverage among HCWs could be for vaccination to be offered by occupational physicians and hygienists through the institution of mobile vaccination points.

It should be noted that the same vaccinations for HCWs are strongly recommended for healthcare graduate students. Since they are the future of Italian healthcare they constitute a category that must be adequately informed, educated and trained.

The final problem arising from our study is related to the promotion of vaccination. Fortunately, pediatricians, who are (or should be) the main promoters of vaccination in children, show a positive attitude to this prevention tool in accordance with international literature (41).

However physicians working in other branches of medicine showed a general tendency to not recommend vaccinations, believing this not to fall within their professional duties, a breach of the code of ethics. This was particularly apparent for clinical physicians, who should, along with general practitioners, pediatricians and hygienists, be the main promoters of vaccination as an effective tool to prevent infectious diseases.

This may in part explain the reduction in immune coverage in the pediatric population, determined, however, by other factors (42, 43). In fact, a phenomenon known as “vaccine hesitancy” has spread worldwide due to a general lack of confidence in vaccines (24, 43). In order to contain this phenomenon, National Health Authorities have taken action to promote and support vaccination policies in recent years, in line with a recommendations of the Council of the European Union (44). The Italian National Health Service has funded vaccination programs for all ages and many national documents have suggested that the promotion of vaccinations should rely on a positive vaccine culture being disseminated throughout the population (43, 45, 46).

Riassunto

Valutazione dell’opinione nei confronti delle vaccinazioni degli operatori sanitari di un Ospedale Universitario del Sud Italia

Introduzione. La vaccinazione è una tecnologia sanitaria efficace e sicura. Nonostante questa affermazione nel panorama nazionale e internazionale, le coperture dei vaccini sono al di sotto del target richiesto.

Disegno dello studio. Lo scopo dello studio è stato quello di valutare le opinioni del personale medico dell’Ospedale Universitario di Messina relativamente alle vaccinazioni, la loro volontà di sottoporvisi e di consigliarle ai loro pazienti.
**Metodi.** Lo studio è stato condotto dall’aprile 2016 al marzo 2017, attraverso la somministrazione di un questionario anonimo agli operatori sanitari.

**Risultati.** Il nostro studio mostra una generale mancanza di fiducia e insicurezza nei confronti della vaccinazione da una parte sostanziale di medici analizzati. Il gruppo dei pediatri ha mostrato un atteggiamento positivo nei confronti delle vaccinazioni. Molti medici non sono immunizzati con le vaccinazioni raccomandate per gli operatori sanitari e potrebbero rappresentare, dunque, una fonte di infezione per i pazienti e per la popolazione generale.

**Conclusioni.** Nonostante l’evidenza dell’efficacia e della sicurezza dei vaccini, l’aderenza a questa pratica rimane molto bassa per motivi eterogenei negli operatori sanitari. Sono necessarie misure eterogenee per implementare il loro utilizzo non solo nella popolazione generale, ma anche nei medici che dovrebbero esserne i principali promotori.

**References**

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