

## WHAT MOTIVATES THE NURSING STAFF TO GET VACCINATED AGAINST INFLUENZA?

## O QUE MOTIVA A EQUIPE DE ENFERMAGEM A SE VACINAR CONTRA INFLUENZA?

## ¿QUÉ MOTIVA AL PERSONAL DE ENFERMERÍA A VACUNARSE CONTRA LA INFLUENZA?

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### ABSTRACT

**Objective:** To describe the reasons for getting vaccinated against Influenza among the nursing team. **Methods:** Cross-sectional study carried out between 2019 and 2022. Of the 1,657 workers who participated in the survey, the nursing team was included (N = 390). The analysis included the dimensions that motivate vaccination against Influenza, sociodemographic variables and vaccination history. SPSS, version 22.0, for Windows was used. **Results:** The majority of the nursing team consider that: they have a high chance of contracting Influenza (60.0%), Influenza can be a serious illness (52.1%) and have a lot to gain from vaccination (84.7%). In relation to stimuli for action, the most relevant reason for vaccination was accessing information about the benefits of the vaccine in the media (53.0%). **Conclusion:** The reasons for getting vaccinated against Influenza are related to the dimensions Susceptibility, Severity, Benefits and Stimuli for action.

**Descriptors:** Influenza Vaccines; Nursing, Team; Nurses; Licensed Practical Nurses.

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## RESUMO

**Objetivo:** Descrever os motivos para se vacinar contra Influenza entre a equipe de enfermagem. **Métodos:** Estudo transversal realizado entre 2019 e 2022. Dos 1.657 trabalhadores(as) que participaram do inquérito, foram incluídos a equipe de enfermagem (N = 390). A análise incluiu as dimensões que motivam a vacinação contra Influenza, variáveis sociodemográficas e histórico de vacinação. Utilizou-se o SPSS, versão 22.0, para Windows. **Resultados:** A maioria da equipe de enfermagem consideram que: possuem grande chance de contrair Influenza (60,0%), a Influenza pode ser uma doença grave (52,1%) e tem muito a ganhar com a vacinação (84,7%). Em relação aos estímulos para ação, o motivo para vacinação de maior relevância foi acessar informações sobre os benefícios da vacina nos meios de comunicação (53,0%). **Conclusão:** Os motivos para se vacinar contra Influenza estão relacionados às dimensões Suscetibilidade, Gravidade, Benefícios e Estímulos para ação. **Descritores:** Vacinas contra Influenza; Equipe de Enfermagem; Enfermeiras e Enfermeiros; Técnicos de Enfermagem.

## RESUMEN

**Objetivo:** Descrever os motivos para vacunarse contra la influenza entre un equipo de enfermagem. **Métodos:** Estudio transversal realizado entre 2019 y 2022. Dos 1.657 trabajadores(as) que participaram do inquérito, foram incluídos a equipe de enfermagem (N = 390). El análisis incluye las dimensiones que motivan la vacunación contra la influenza, las diversas sociodemográficas y las históricas de la vacunación. Utilice SPSS, versión 22.0, para Windows. **Resultados:** La mayoría del equipo de enfermagem considera que: possuem grande chance de contrair Influenza (60,0%), a Influenza pode ser uma doença grave (52,1%) e tem muito a ganhar com a vacinação (84,7%). En relación con los estímulos para la acción, o motivo para la vacunación de mayor relevancia para acceder a información sobre los beneficios de la vacuna en los medios de comunicación (53,0%). **Conclusión:** Los motivos para vacunarse contra la influenza están relacionados con las dimensiones de susceptibilidad, gestación, beneficios y estímulos para la acción. **Descriptor:** Vacunas contra la Influenza; Grupo de Enfermería; Enfermeras y Enfermeros; Enfermeros no Diplomados.

## INTRODUCTION

Influenza is an acute infection of the respiratory system and is highly transmissible through respiratory droplets produced by coughing, sneezing or talking, with a tendency to cause epidemics. Fever, headache, myalgia, cough and fatigue are some of the signs and symptoms of the disease, which can range from asymptomatic infection to severe forms, especially in children, pregnant women, healthcare

workers, the elderly and people with chronic illnesses.<sup>1</sup>

Influenza vaccination is one of the most important prevention methods to protect against the disease, possible complications and deaths. However, vaccination coverage among healthcare workers is below the minimum of 90% recommended by the Ministry of Health for eligible groups. In the 2022 campaign, the vaccination coverage of health workers in Brazil was 71%<sup>1</sup> and in Salvador/Bahia, in 2014, 69% of nurses and 61% of nursing

technicians and assistants were vaccinated against influenza in the last campaign.<sup>2</sup>

Vaccinating healthcare workers against influenza is necessary because it prevents their own infection and that of their families, protects users of healthcare services by reducing the transmission of influenza in healthcare facilities, and also benefits their employers by reducing absenteeism.<sup>3</sup>

The nursing team stands out in this scenario, as they are on the front line of care for the population, and are exposed to biological material and, consequently, the risk of contagion by infectious diseases, such as influenza.<sup>4</sup> This team is made up of nurses, nursing technicians, nursing assistants and midwives. The duties of this group of workers include producing and managing the care provided in response to the needs of the person, family and community, as well as carrying out procedures such as dressings, administering medicines and vaccinations.<sup>5</sup>

An integrative review shows that the Health Beliefs Model is able to explain the acceptance of influenza vaccination among health workers.<sup>6</sup> A literature review revealed that the elements that health workers mentioned as favoring influenza vaccination were self-protection, protection of family and service users. Based on this result, the authors highlight the importance of understanding the motivators for vaccination

in order to facilitate the design, implementation and evaluation of specific educational programs aimed at these workers.<sup>7</sup>

Given this context of exposure and the recommendation to vaccinate these professionals, the aim of this study was to describe the reasons for vaccinating nursing staff against influenza.

## **METHOD**

### **Type and place of study**

This is a cross-sectional study with a descriptive approach carried out between 2019 and 2022. The study areas were 4 municipalities: Santo Antônio de Jesus (103,055 inhabitants) and Cruz das Almas (60,346 inhabitants), cities in the Recôncavo Baiano; Feira de Santana, the second largest city in the state of Bahia, which has 616,279 inhabitants; and São Gonçalo dos Campos, a city in the Metropolitan Region of Feira de Santana, with 39,513 inhabitants.<sup>8</sup>

### **Data collection instrument and study variables**

The questionnaires used took into account the sociodemographic conditions of the workers, occupational exposures, characteristics of the work, the work environment, knowledge of forms of infection for infectious diseases, immunization/vaccination status and health

status. The investigation into the barriers and motivations involved in the vaccination process was based on the Strategic Advisory Group of Experts on Immunization (SAGE)<sup>9</sup> and the Health Beliefs Model.<sup>10</sup>

SAGE brings the models for understanding vaccine hesitancy of Complacency, Convenience and Confidence ("3Cs") and a more complex matrix organized into three categories: contextual influences, individual and group influences and issues directly related to the vaccine or vaccination.<sup>9</sup>

The Health Beliefs Model was originally formulated with four categories. Thus, for an individual to act preventively, they need to believe that: a) they are susceptible to contracting a disease; b) its occurrence has serious consequences for some aspect of their life; c) carrying out a prophylactic intervention is effective in reducing the susceptibility or severity of the disease, in other words, it brings benefits; d) and this preventive action does not involve many negative aspects, such as cost or pain.<sup>10</sup>

Subsequently, two categories were added to the model: e) Stimuli for Action, which can be conceptualized as devices capable of encouraging the acceptance of preventive measures, such as media campaigns and f) Self-efficacy, the belief of being sufficiently capable of overcoming the difficulties inherent in prophylactic action.<sup>10</sup>

The variables selected were related to sociodemographic data (gender, age, race/skin color, education, job title, length of experience, marital status and children), the reasons for influenza vaccination (susceptibility, severity, benefits and triggers for action) and the history of influenza vaccination.

### **Sample and eligibility criteria**

The study population, made up of different categories of health workers, was selected by stratified random sampling, by level of complexity of the service and occupation. Of the 1,657 workers who took part in the survey, the nursing team (N= 390) was included in this study, with 238 nursing technicians and 152 nurses.

### **Data analysis**

To analyze the variables of interest, a descriptive analysis was carried out using absolute and relative frequencies of the selected variables. The statistical program *Statistical Package for the Social Sciences* (SPSS), version 22.0, for Windows was used. The answers ranged from "totally agree" to "totally disagree". For dichotomization, we considered "totally agree" and "agree" as affirmative answers and "neither agree nor disagree", "disagree" and "totally disagree" as negative.

## Ethical aspects

The study was approved by the Research Ethics Committee under CAAE 90204318.2.0000.0053 and the participants signed the Informed Consent Form (ICF).

## RESULTS

The study population consisted of 238 (61%) nursing technicians and 152

(39%) nurses. They were predominantly female (93.3%), aged 21-49 (85.3%), of black race/skin color (90.8%), had completed higher education and/or postgraduate studies (52.3%) and had up to 10 years' experience in the position (63.5%). The majority had a partner (55.8%) and children (68.8%). Influenza vaccination in the last campaign was reported by 87.6% of those interviewed (table 1).

**Table 1.** Sociodemographic and work characterization of the nursing team. Bahia, Brazil, 2022.

Variables ( n = 390 )*	N	%
<b>Gender</b>		
Male	26	6,7
Female	364	93,3
<b>Age</b>		
21 to 49 years old	330	85,3
50 years and over	57	14,7
<b>Race/skin color</b>		
Not black	35	9,2
Black	347	90,8
<b>Education</b>		
Up to incomplete higher and technical education	185	47,7
Complete higher education and postgraduate studies	203	52,3
<b>Position</b>		
Nursing Technician	238	61,0
Nurse	152	39,0
<b>Length of experience</b>		
Up to 10 years	230	63,5
Between 10 and 20 years	90	24,9
20 years or more	42	11,6
<b>Marital status</b>		
With a partner	217	55,8
No partner	172	44,2
<b>Children</b>		
Yes	265	68,8
No	120	31,2
<b>Influenza vaccination**</b>		
Yes	340	87,6
No	46	11,9
Don't know/don't remember	2	0,5

\*The number of responses varied due to losses in the database.

\*\*Self-reported data regarding vaccination of workers.

As for the reasons for getting vaccinated against influenza in relation to the susceptibility category (table 2), the majority of participants said that working with many people increases their chances of infection (74%) and that they have a high chance of contracting influenza (60%). They also report that their chances of becoming infected in the near future are high (36.9%), that they are very concerned about the possibility of contracting influenza (40.6%)

and that they believe they will become infected next year (13%).

With regard to the severity of the infection (table 2), most of the nursing staff consider that contracting influenza can make daily activities more difficult (67.9%) and that influenza can be a serious illness (52.1%). They also say that contracting influenza could jeopardize their jobs (26.8%), harm their families (42.7%) and be more serious than other illnesses (12.2%).

**Table 2.** Reasons for being vaccinated against influenza related to susceptibility and severity among nursing staff. Bahia, Brazil, 2022

Dimensions	Variables ( n = 390 )*	N	%
Susceptibility	<b>Working with lots of people every day increases my chances of catching the flu</b>		
	Yes	284	74,0
	No	100	26,0
	<b>Only people over 60 get the flu</b>		
	Yes	52	13,6
	No	330	86,4
	<b>I have a high chance of catching the flu</b>		
	Yes	231	60,0
	No	154	40,0
	<b>Healthy people can catch the flu</b>		
	Yes	304	80,4
	No	74	19,6
	<b>I think my chances of catching the flu in the near future are high</b>		
	Yes	139	36,9
	No	238	63,1
	<b>I worry a lot about catching the flu</b>		
	Yes	155	40,6
	No	227	59,4
	<b>I'm going to get the flu next year</b>		
	Yes	50	13,0
	No	335	87,0
	<b>The thought of catching the flu scares me</b>		
	Yes	93	24,3
	No	290	75,7

<b>Gravity</b>	<b>If I caught the flu, it could jeopardize my job</b>		
	Yes		
	No	102	26,8
		279	73,2
	<b>If I caught the flu, it would harm my family</b>		
	Yes	164	42,7
	No	220	57,3
	<b>Having the flu would make daily activities more difficult</b>		
	Yes	258	67,9
	No	122	32,1
	<b>If I caught the flu, it would be more serious than other illnesses</b>		
	Yes	47	12,2
	No	337	87,8
	<b>Flu can be a serious illness</b>		
	Yes	198	52,1
	No	182	47,9

\*The number of responses varied due to losses in the database

With regard to the benefits of influenza vaccination (table 3), the majority of participants say that getting vaccinated protects the people who live with them from contracting influenza (50.1%) and reduces the chances of absenteeism (66.1%). Most of the nursing staff believe that they would not be afraid of contracting influenza if they were vaccinated (50.8%) and having a chronic illness is a reason to get vaccinated (79.9%). It should also be noted that 29.4% of those interviewed believe that being

vaccinated against influenza will prevent them from contracting the disease.

With regard to the incentives to get vaccinated against influenza (table 3), the participants reported that they got vaccinated against influenza because they received information about the benefits of the vaccine in the media (53%), there was a vaccination campaign at work (46.2%) and coworkers got vaccinated and encouraged it (21.1%).

**Table 3.** Reasons for being vaccinated against influenza related to the benefits and incentives for action among nursing staff. Bahia, Brazil, 2022

<b>Dimensions</b>	<b>Variables ( n = 390 )*</b>	<b>N</b>	<b>%</b>
	<b>Getting vaccinated against the flu will prevent me from catching the flu</b>	112	29,4
	Yes	269	70,6
	No		
	<b>Vaccinating myself against the flu will protect the people who live with me from catching the flu</b>		

<b>Benefits</b>	Yes	191	50,1
	No	190	49,9
	<b>Getting vaccinated against flu will reduce the chances of missing work</b>		
	Yes	254	66,1
	No	130	33,9
	<b>I have a lot to gain from getting vaccinated against the flu</b>		
	Yes	322	84,7
	No	58	15,3
	<b>I wouldn't be afraid of catching the flu if I got a flu shot</b>		
	Yes		
	No	195	50,8
		189	49,2
	<b>Having a chronic illness (such as diabetes, heart disease or asthma) is a reason to get vaccinated against the flu</b>		
	Yes	306	79,9
	No	77	20,1
<b>Stimuli for action</b>	<b>I got vaccinated against the flu because a friend or family member encouraged me to do so</b>		
	Yes	46	12,0
	No	336	88,0
	<b>I got vaccinated against the flu because there was a vaccination campaign at my work</b>		
	Yes	176	46,2
	No	205	53,8
	<b>I got vaccinated against the flu after hearing about the benefits of the vaccine in the media (television, radio, social networks).</b>		
	Yes		
	No	204	53,0
		181	47,0
	<b>I was vaccinated against the flu because my boss thought it was important and necessary for me to carry out my work activities.</b>		
	Yes		
	No	88	23,0
		295	77,0
	<b>I got vaccinated against the flu because my work colleagues got vaccinated and encouraged me to get vaccinated</b>		
	Yes		
	No	81	21,1
		303	78,9

\*The number of responses varied due to losses in the database

## DISCUSSION

This study reveals that some nursing staff consider themselves susceptible to influenza. This result is corroborated by

Chinese researchers who also found that workers were more likely to contract influenza (19.4%) and believed that if they didn't receive the vaccine, they would get the disease that year (7.5%).<sup>11</sup>



The international literature records different reasons for influenza vaccination. In Slovenia, for example, there is a perception that the position held may generate a higher risk of influenza infection.<sup>12</sup> As in Jordan, a cross-sectional study found that participants considered that being a health worker increased the risk of contracting influenza compared to the general population.<sup>13</sup>

With regard to susceptibility, as in this study, research with Irish nurses revealed that the greater risk of influenza infection played a fundamental role in the acceptance of vaccination. In general, nurses who perceived themselves as more likely to acquire influenza infection were more likely to accept the vaccine.<sup>14</sup>

In this study, nurses and nursing technicians consider influenza to be potentially serious and with many consequences, which reveals a perception of increased severity among these professionals. These findings are in line with the literature. In another cross-sectional study carried out in Ireland, the vast majority of the 462 nurses participating in the study considered that influenza infection makes it possible to take sick leave from work (approximately 80%), stay in bed (approximately 60%) and pass the infection on to the family (approximately 70%).<sup>14</sup>

Some quantitative studies with nurses<sup>15,16</sup> and healthcare workers<sup>13</sup> also state

that participants believe that influenza infection and its complications can be serious. In this study, the analysis revealed that healthcare workers who believed in the potential for serious complications from influenza were significantly more likely to receive the vaccine.<sup>17</sup>

In terms of benefits, the participants in this study consider that they have a lot to gain from influenza vaccination. The most cited reasons for influenza vaccination among nurses<sup>14,16</sup> and healthcare workers<sup>12,18</sup> were self-protection and protection of family members and patients.

Despite being a complex analysis, some other reasons emerge from the literature studied, namely: having a chronic illness<sup>12,13,19</sup>, believing in the safety of the vaccine<sup>16</sup> and its effectiveness in protecting against influenza infection<sup>11,16,17</sup>, as well as for preventing absence from work.<sup>13, 14, 17</sup>

A study<sup>17</sup> in Singapore found that healthcare workers who believed in the vaccine's efficacy in preventing influenza and its safety were more likely to have been vaccinated during previous influenza seasons.

In addition, a significant correlation was found between nurses' perception of the benefits of the influenza vaccine and their intention to receive it. Thus, the greater the perception of benefit, the greater the intention to receive the vaccine.<sup>16</sup>

In this study, there were various incentives for influenza vaccination. A study carried out among nurse managers and teammates identified this group as influencers for the influenza vaccination of professional colleagues. The authors emphasized the importance of seeking the opinion of colleagues before accepting or refusing the vaccine.<sup>14</sup> In addition, 30% of nurses in a cross-sectional study carried out in Vietnam reported that influenza vaccination was recommended by colleagues.<sup>18</sup>

The reasons cited for vaccination by Singaporean healthcare workers vaccinated against influenza were easy access to the vaccine in the workplace and peer pressure.<sup>17</sup> Some authors<sup>12,19</sup> also emphasize that one of the reasons for influenza vaccination among healthcare workers was easy access to the vaccine in their workplace.

A study with nurses in Israel showed a strong correlation between stimuli for influenza vaccination and the intention to receive the vaccine.<sup>16</sup> And a careful integrative review concluded that all the dimensions of the Health Beliefs Model are related to influenza vaccination among health workers and can also explain and predict the acceptance of the vaccine by these workers.<sup>6</sup>

The limitation of this study is the use of local data, which may not represent the total population of nurses and nursing

technicians. For this reason, a sample calculation was carried out in order to eliminate the risk of bias. Another limitation refers to the fact that the study is descriptive/exploratory, which restricts other observations, emphasizing the need for other methodologies and analyses. And, as strengths, this study allows discussion about what motivates nursing staff to get vaccinated against influenza and consequently protect the people around them. It should be noted that this vaccine is administered annually in a national campaign, so the motivation to carry out the preventive measure needs to be present every year in order to keep the vaccination card up to date.

## CONCLUSION

The reasons for getting vaccinated against influenza among the nursing staff are related to the dimensions of Susceptibility, Severity, Benefits and Stimuli for action. The perception of an increased risk of contracting influenza is notable among nurses and nursing technicians, which is to be expected given that their work activities involve frequent and intimate contact with health service users. However, we are still struck by the number of workers with incomplete vaccinations.

The nursing team considers influenza to have the potential to be a serious disease

with important consequences in various areas of these workers' lives, and they also identify that the benefits of influenza vaccination are numerous. The data obtained in this study can help with interventions aimed at the nursing team in order to increase vaccination coverage among these workers.

With regard to incentives to get vaccinated against influenza, vaccination campaigns at work and access to information about the benefits of the vaccine in the media stood out.

We therefore suggest some strategies for achieving the vaccination targets for this occupational group, namely: continuing to offer influenza vaccination in the workplace, as in primary health care, in the case of countries with this model of care, such as Brazil; expanding campaigns to all workplaces where the nursing team works, including secondary health care; using social networks with information about influenza and the influenza vaccine in workplaces, periodically reviewing the worker's vaccination card or even mobilizing an exclusive "D-Day" for vaccinating health workers.

Furthermore, further studies in other research locations are recommended, preferably in a multicenter manner, as well as the use of other research methodologies, such as the qualitative method, in an attempt to gain a deeper understanding of the

reasons for getting vaccinated against influenza among nursing staff.

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