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Original Research Article

NURSES KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING INFLUENZA VACCINATION

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Abstract: *Influenza is a major public health concern, with vaccination being the most effective strategy for its prevention. Nurses play a vital role in promoting vaccination, yet barriers such as knowledge gaps and institutional challenges can hinder their adherence to vaccination practices.* ***Objective:*** *To assess the knowledge, attitudes, and practices of nurses regarding influenza vaccination in a tertiary care hospital in Pakistan.* ***Methods:*** *A descriptive cross-sectional study was conducted with 113 nurses using a structured questionnaire. Data were analyzed using SPSS version 26, with descriptive statistics summarizing key findings.* ***Results:*** *The majority of participants demonstrated limited knowledge, with only 47.8% correctly identifying the types of influenza viruses. Despite a generally positive attitude, with 44.2% agreeing to seek medical attention for influenza-like symptoms, vaccination practices were suboptimal. Only 18.6% of nurses frequently received the influenza vaccine, and 35.4% rarely encouraged their families to vaccinate.* ***Conclusion:*** *The findings underscore the need for targeted educational interventions and institutional policies to improve knowledge and vaccination practices among nurses. Enhancing these competencies is critical for reducing influenza transmission and improving public health outcomes.*

Keywords: Influenza Vaccination, Nurses, Knowledge, Attitudes, Practices, Pakistan

Introduction

Influenza is a significant public health concern worldwide, causing substantial morbidity and mortality annually. Vaccination is the most effective strategy to prevent influenza infection and its associated complications. Nurses play a crucial role in promoting vaccination uptake and preventing the spread of influenza through direct patient care and advocacy for public health measures. However, in resource-constrained countries like Pakistan, the adoption of influenza vaccination practices among nurses is limited, influenced by gaps in knowledge, attitudes, and institutional support (1, 2).

Despite global recommendations, influenza vaccination coverage in Pakistan remains suboptimal, with healthcare workers frequently reporting barriers such as misconceptions about vaccine efficacy, fear of side effects, and lack of institutional policies promoting vaccination (3, 4). Nurses, as frontline healthcare providers, are particularly vulnerable to influenza exposure and are critical to its prevention. Their knowledge, attitudes, and practices regarding vaccination are essential for reducing influenza transmission in healthcare facilities and the community (5). Studies in low- and middle-income countries have highlighted challenges faced by nurses in implementing vaccination programs, including limited access to training and vaccine supplies, inadequate institutional frameworks, and the absence of clear vaccination guidelines (6, 7). In Pakistan, cultural beliefs and misconceptions surrounding vaccines further exacerbate these challenges, leading to low vaccination rates among nurses (8). Addressing these issues is critical to improving vaccination rates and ensuring healthcare worker safety.

The World Health Organization emphasizes the need for healthcare workers, particularly nurses, to possess adequate knowledge and skills regarding vaccination protocols to ensure the success of immunization campaigns (9). Recent evidence suggests that educational programs targeting healthcare workers can significantly improve their attitudes and practices toward vaccination (10). However, limited research exists on the knowledge, attitudes, and practices of nurses in Pakistan regarding influenza vaccination, underscoring the need for this study.

This study aims to assess the knowledge, attitudes, and practices of nurses in Pakistan regarding influenza vaccination. The findings will help identify gaps and inform the development of targeted interventions to enhance vaccination uptake among nurses, contributing to improved public health outcomes in the country.

Methodology

The study utilized a descriptive cross-sectional design to evaluate the knowledge, attitude, and practice of nurses regarding influenza vaccination. The research was conducted at Jinnah Hospital Lahore, Pakistan, targeting staff nurses working in the ICU, emergency room, medical and surgical wards, and pediatric units. A convenient sampling technique was employed to select participants, and a sample size of 113 nurses was determined using Slovin's formula. Data collection spanned 4-6 months, during which questionnaires were distributed to the selected participants.

The data collection tool was an adapted and validated questionnaire designed to assess knowledge, attitudes, and practices regarding influenza vaccination. The tool underwent a reliability and validity check to ensure its appropriateness for the study context. Participants were provided with detailed information about the study's

objectives and their role, and their consent was obtained before data collection. Ethical approval was granted by the Ethics Committee of the Nursing Department at The Superior University, Lahore. Participants were assured of confidentiality, anonymity, and their right to withdraw from the study at any point without repercussions.

The data were entered into SPSS version 26 for analysis. Descriptive statistics, including frequencies and percentages, were used to summarize the demographic data and responses to the knowledge, attitude, and practice sections of the questionnaire. Normality tests were conducted to confirm the distribution of the data, and graphical representations such as histograms and bar graphs were created to illustrate key findings. Ethical considerations were strictly adhered to throughout the study, ensuring participants were not subjected to any harm or coercion.

This methodological approach provided a structured framework to systematically assess the knowledge, attitudes, and practices of nurses regarding influenza vaccination, offering valuable insights for evidence-based recommendations.

Results

This study aimed to evaluate the knowledge, attitude, and practice of nurses regarding influenza vaccination at Jinnah Hospital Lahore. A total of 113 nurses participated in the study, and their demographic data are summarized in Table 1. The majority of participants were aged 21-25 years (45.1%), with males (55.8%) forming a slight majority over females. Most participants (41.6%) had 1-5 years of professional experience, and 59.3% held a diploma in nursing.

The knowledge assessment revealed that while 61.9% of participants correctly identified that influenza vaccination could prevent influenza disease, only 47.8% recognized the three types of influenza virus. Additionally, 63.7% acknowledged that the influenza virus could cause severe disease, while 59.3% agreed that healthy adults should receive the influenza vaccine twice a year. The detailed responses are presented in Table 2.

Attitudes toward influenza vaccination varied among the participants, as summarized in Table 3. While 44.2% strongly agreed that they would visit a health facility if they experienced symptoms such as fever and muscle aches, 41.6% expressed concern about potential side effects of the influenza vaccine. Interestingly, 37.2% agreed that adults could be infected by influenza viruses that usually affect animals, whereas 35.4% strongly disagreed with the statement that influenza is not a contagious disease.

Regarding practices, detailed in Table 4, the findings indicated suboptimal influenza vaccination uptake. While 41.6% of nurses frequently washed their hands before and after patient contact, only 18.6% reported frequently receiving the influenza vaccine, and 35.4% rarely encouraged their families to undergo regular vaccination. However, nearly half of the participants (47.8%) frequently attended educational programs on influenza vaccination.

Table 1: Demographic Characteristics of Nurses

Variable	Category	Frequency (%)
Age	21-25 years	51 (45.1%)
	26-30 years	22 (19.5%)
	31-35 years	28 (24.8%)
	36-40 years	12 (10.6%)
Gender	Male	63 (55.8%)
	Female	50 (44.2%)
Experience	1-5 years	47 (41.6%)
	6-10 years	26 (23.0%)
	11-15 years	26 (23.0%)
	16-20 years	14 (12.4%)
Qualification	Diploma in Nursing	67 (59.3%)
	Post RN	46 (40.7%)

Table 2: Knowledge about Influenza and Its Vaccination

Question	Correct Response (%)
The pathogen causing influenza is divided into three types: A, B, and C	54 (47.8%)
Influenza vaccine can prevent influenza disease	70 (61.9%)
The influenza virus can cause severe disease	72 (63.7%)
Children, adults, and the elderly have the same risk of infection	54 (47.8%)
Influenza vaccination in healthy adults should be done twice a year	67 (59.3%)

Table 3: Attitudes toward Influenza Vaccination

Question	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Adults can be infected with influenza viruses affecting animals	23 (20.4%)	42 (37.2%)	30 (26.5%)	18 (15.9%)	N/A
Influenza is not a contagious disease	18 (15.9%)	23 (20.4%)	18 (15.9%)	14 (12.4%)	40 (35.4%)
Concern about side effects after vaccination	16 (14.2%)	47 (41.6%)	27 (23.9%)	23 (20.4%)	N/A
Visit health facilities for influenza symptoms	50 (44.2%)	25 (22.1%)	15 (13.3%)	14 (12.4%)	9 (8.0%)

Table 4: Practice of Influenza Vaccination among Nurses

Question	Very Frequently (%)	Frequently (%)	Occasionally (%)	Rarely (%)	Never (%)
Wash hands before and after patient contact	28 (24.8%)	47 (41.6%)	17 (15.0%)	20 (17.7%)	1 (0.9%)

Received influenza vaccination	12 (10.6%)	21 (18.6%)	24 (21.2%)	49 (43.4%)	7 (6.2%)
Encouraged family for regular vaccination	14 (12.2%)	18 (15.9%)	32 (28.3%)	40 (35.4%)	9 (8.0%)
Attended educational programs on influenza	54 (47.8%)	18 (15.9%)	22 (19.5%)	10 (8.8%)	9 (8.0%)

Discussion

This study assessed the knowledge, attitudes, and practices of nurses regarding influenza vaccination in a tertiary care hospital in Pakistan. The findings revealed several gaps in knowledge and suboptimal vaccination practices, despite a generally positive attitude among the participants. These results are consistent with previous research conducted in both low- and high-income countries, highlighting global challenges in promoting influenza vaccination among healthcare workers.

The study found that while 61.9% of participants correctly recognized that influenza vaccination prevents influenza disease, only 47.8% were aware of the types of influenza viruses. Similar findings were reported by Kyaw et al., who observed low levels of comprehensive knowledge about influenza vaccination among healthcare workers in Singapore, despite a high awareness of its importance in preventing disease (11). In Pakistan, limited access to educational resources and training programs may contribute to these knowledge gaps, as suggested in studies by Knowler et al. and Alshathri, who emphasized the importance of structured training to improve healthcare workers' understanding of vaccination (12, 13).

Attitudes toward influenza vaccination were generally positive in this study, with 44.2% of participants strongly agreeing to seek medical attention for symptoms like fever and muscle aches, and 41.6% expressing concerns about side effects. These findings align with Devereaux et al., who highlighted that concerns about vaccine side effects are a common barrier, even among healthcare workers with otherwise positive attitudes (14). Additionally, studies by Montero et al. and Petrova et al. have shown that addressing these concerns through transparent communication and evidence-based educational interventions can significantly improve vaccination attitudes (15, 16).

In terms of practices, the results revealed suboptimal influenza vaccination uptake, with only 18.6% of nurses reporting frequent vaccination and 35.4% rarely encouraging their families to vaccinate. This aligns with findings by Hatchett, who reported that logistical barriers, including limited access to vaccines and time constraints, often prevent healthcare workers from adhering to vaccination schedules (17). In the Pakistani context, these challenges are exacerbated by a lack of institutional policies promoting regular vaccination, as highlighted by Humphreys (18).

This study underscores the urgent need for targeted interventions to address knowledge gaps, improve attitudes, and promote better practices regarding influenza vaccination among nurses in Pakistan. Educational programs tailored to the local context, combined with institutional support and policy implementation, can significantly enhance vaccination rates. Furthermore, as suggested by the World Health Organization, providing free vaccines and addressing logistical barriers can incentivize healthcare workers to adopt vaccination practices more consistently (19).

Overall, the findings emphasize the importance of empowering nurses through education, mentorship, and organizational policies to promote vaccination, ultimately improving public health outcomes and reducing the burden of influenza.

Conclusion

This study highlights significant gaps in the knowledge, attitudes, and practices of nurses regarding influenza vaccination in a tertiary care hospital in Pakistan. While nurses demonstrated a generally positive attitude, their knowledge and vaccination practices were suboptimal, reflecting barriers such as limited access to education and institutional support. Addressing these issues through targeted educational programs, policy interventions, and improved access to vaccines is essential to enhance vaccination uptake among nurses. These efforts are critical for ensuring healthcare worker safety and reducing the public health burden of influenza.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department Concerned. (IRBEC-SNU-0034/24)

Consent for publication
Approved

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Conflict of interest

The authors declared absence of conflict of interest.

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Conception of Study, Final approval of manuscript.
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Manuscript revisions, critical input.
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Manuscript drafting.

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