



Factors Affecting Nurses' Control of New Respiratory Tract Infections

Eunha Jin¹, *Aeri Jang²

1. Gwangju Veterans Hospital, Gwangsan-gu, Gwangju, South Korea
2. Department of Nursing, Mokpo, National University, Muan-gun, Jeollanam-do, South Korea

*Corresponding Author: Email: aerijsang@mnu.ac.kr

(Received 10 May 2024; accepted 26 May 2024)

Dear Editor-in-Chief

New respiratory diseases have a high morbidity rate, accounting for over 50% of all infectious diseases (1). In cases like COVID-19, the severity, morbidity, and mortality rates tend to increase in individuals with underlying health conditions or older age groups (2). Therefore, it is time for nurses caring for elderly patients with chronic illnesses to implement rigorously infection control measures against such new respiratory tract infections. Veterans' hospitals are health-care facilities that provide public health services for national heroes sacrificed for their country and people (3).

In the Republic of Korea, specifically, patients visiting veterans' hospitals have an average age of 71.2 (4) and typically have more than 5 chronic conditions (5). Given the nature of veterans' hospitals, the patients are perceived as a high-risk group for severe new respiratory infections and have an increased risk of complications and death. As such, understanding the infection control performance of nurses in veterans' hospitals is of great significance. However, the infection control performance against new respiratory diseases is due to various causes. To overcome these limitations, research should be conducted by incrementally introducing demographic, job-related characteristics, the proven variable of risk perception, and the variable of intra-institutional communication, as well as clarifying their significant

influence and importance. Hence, this study aimed to provide foundational data to reduce new respiratory tract infections' incidence, morbidity, and mortality rates. It was very surprising to me that a study on the influencing factors of new respiratory infectious diseases was published as a master's degree research result. Please send a letter to the editor to quickly share these results (6).

Risk perception showed significant differences based on age ($F=3.83$, $P=0.023$), education ($t=-2.75$, $P=0.006$), clinical experience ($F=3.89$, $P=0.005$), and training in infection control ($t=2.07$, $P=0.048$). For perceived severity, a subcategory of risk perception, significant differences were observed based on age ($F=9.59$, $P<0.001$), education ($t=-3.81$, $P<0.001$), clinical experience ($F=6.64$, $P<0.001$), and training in infection control ($t=2.88$, $P=0.004$). Communication within health-care facilities on new respiratory tract infections showed significant differences based on the workplace ($t=-2.75$, $P=0.006$). Communication was observed to be more prevalent in wards compared to specialized departments (ER, ICU, examination room, dialysis room, and outpatient clinic). The level of infection control performance demonstrated significant differences according to age ($F=5.77$, $P=0.004$), education ($t=-2.03$, $P=0.044$), clinical experience ($F=3.30$, $P=0.012$), and infection con-



trol training experience ($t=1.98$, $P=0.49$).

Controlling for general characteristics, the hierarchical regression analysis on the influence of risk perception and communication within health-care facilities on the infection control performance for new respiratory tract infections was conducted in three stages. The first model set education, a demographic characteristic, as the control variable to understand the influence on infection control performance for new respiratory tract infections. The variable was statistically significant ($F=4.11$, $P=0.044$), with a coefficient of determination of 1.5%. The second model used education, a demographic characteristic, and clinical experience and infection control training experience, which are job-related characteristics, as control variables. They were also statistically significant ($F=2.37$, $P=0.031$), with a coefficient of determination of 3.8%. The third model added independent variables of risk perception and communication within health-care facilities to understand their influence on infection control performance after controlling for external variables and found that they were also statistically significant ($F=8.43$, $P<0.001$), with a coefficient of determination of 22.3%. The regression coefficients for the risk perception and communication within health-care facilities in the third model ($t=3.35$, $P=0.001$; $t=6.08$, $P<0.001$) showed that the higher the risk perception and the smoother the communication within health-care facilities, the significantly higher the infection control performance level. The factors affecting the level of infection control performance for new respiratory tract infections were communication within health-care facilities followed by risk perception.

The findings of this study confirm that enhancing communication within health-care facilities and improving risk perception are vital strategies to boost nurses' performance in infection control for new respiratory tract infections. Therefore, this study suggest the following:

First, there is a need to establish a communication system where members can exchange and provide feedback on infection control guidelines.

Such a step involves disseminating updated government guidelines via hospital websites or utilizing the hospital's electronic medical record system for information transmission and researching methods of information delivery through personal social media networks.

Second, it is essential to develop training programs that can enhance the performance in infection control for respiratory diseases and conduct subsequent studies to verify the efficacy of such programs.

Third and last, given the unpredictable and diverse variables that might influence infection control performance for new respiratory tract infections, continuous research on additional influencing factors should be pursued.

Conflict of interest

The authors declare that there is no conflict of interest.

References

1. Korea Disease Control and Prevention Agency (2022). Respiratory infections. <https://www.kdca.go.kr/>
2. Wismans A, Zwan PVD, Wennberg K, et al. (2022). Face mask use during the COVID-19 pandemic: how risk perception, experience with COVID-19, and attitude towards government interact with country-wide policy stringency. *BMC Public Health*, 22:1622.
3. Korea Veterans Health Service (2022). Introduction to veterans hospitals. <http://www.bohun.or.kr>.
4. Statistics Korea (2022). National veterans' living conditions survey. <https://kosis.kr/eng/>
5. Koo GH, Dong JY, Lee KH, et al. (2021). The effect of integrated health and welfare services on the control of medical use and medical expenses in Korean Veteran's Hospitals. *Korean J Hosp Mgt*, 26(2):1–16.
6. Eunha Jin (2023). Factors influencing clinical nurses' infection control performance of new respiratory infectious diseases: Focusing on Veterans Affairs Hospital. Domestic Master's Thesis Nambu University, Gwangju.