



Review Article

An Integrative Review of Infection Control Research in Korean Nursing Journals

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SUMMARY

Purpose: This study was performed to analyze the characteristics and trends of published research papers related to infection control in Korean nursing journals.

Methods: A total of 177 studies published between 1970 and 2011 were reviewed using analysis criteria. Subject articles were selected through KoreaMed and journal database searches on the website of subject academic societies using key words related to healthcare-associated infections.

Results: Most reports were quantitative studies and the majority of them were descriptive studies. The most common subjects of research were infection control measures for pathogens, followed by disinfection and sterilization, and hand hygiene. Among them, the most descriptive studies were conducted on the knowledge, attitude, and performance of infection control. Theoretical framework, criteria for sample size and ethical consideration were rarely presented in quantitative studies.

Conclusions: To enhance the quality of infection control studies and establish infection control studies as a nursing knowledge body, meta-analyses and systematic literature reviews as well as quantitative studies are needed. Moreover, studies employing behavioral science to identify factors influencing the level of knowledge and practice and to change infection control behaviors are also warranted.

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Introduction

Infection control is a critical issue in clinical settings for patients' health and safety. Infection prevention activities include, but not limited to: Surveillance of infections, identifying, controlling and investigating outbreaks in collaboration with appropriate disciplines, infection prevention of healthcare workers (HCWs), ensuring aseptic techniques of procedures as appropriate, education of medical and nonmedical staff for infection prevention, proper disinfection and sterilization procedures of medical equipment and environment in hospitals, environmental management including medical waste management, participation in establishing, implementing, and evaluating proper isolation protocols, departmental infection control procedure, and identifying proper infection control measures for specific pathogens. Infection control activities are closely related to nursing practices in various clinical settings and specialties (Korean Society for Nosocomial Infection Control, 2011). Therefore, understanding the characteristics and trends of infection control is imperative for nursing researchers and

nursing disciplines to identify issues related to infection control, and to evaluate if the research focus and approach were appropriate to solve the related problems in clinical practice. Infection control is recognized as a nursing specialty with its activities being performed independently and autonomously by different nursing personnel regardless of if he or she is a direct or nondirect care provider. The full scale infection control in South Korea started with the appointment of a dedicated nurse for infection prevention at Seoul National University Hospital in the early 1990s (Oh & Choi, 1996). Under the amendment of the Medical Act in 2002, infection control has become one of the specialties in nursing. A masters-prepared infection control nurse has become an infection control nurse specialist, thus, resulting in creating a solid foundation for infection control and making it one of the most important nursing specialties in South Korea (Kim, Jeong, & Park, 2010). With the recent increase in the interest in infection control many nursing scholars, researchers, and front-line nurses started publishing research articles on infection control in nursing or nursing-related journals.

Recent studies were also conducted to analyze the body of knowledge accumulated in nursing through reviews of articles in specific journals (Choi et al., 2000; Shin et al., 2010), by analyzing articles according to the knowledge classification criteria (Jang, 2005)

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or statistical methods (Kang, 2002), and by analyzing the trends of articles with a focus on their key words (Jeong, Ahn, & Cho, 2005). In the past, some nursing researchers focused on analyzing research methods or themes of articles published by the top 10 nursing journals in terms of impact factors based on the quotation index or ranking of the journals (Mantzoukas, 2009). Furthermore, some studies focused on analyzing the international trend of articles published by the top 42 nursing journals registered in the Social Sciences Citation Index (Dougherty, Lin, McKenna, & Seers, 2004). Although infection control activities have become more elaborate and its importance has been emphasized since the introduction of infection control in South Korea in the 1990s, studies regarding infection control through literature review and analysis have not yet been conducted thoroughly. To expand the body of knowledge in nursing, literature reviews and analysis of existing published research articles that examine existing types and trends of nursing research are as important as developing a new nursing theory or methodology, which will provide a solid foundation for nursing knowledge and direction for future nursing research (Shin et al.; Suh et al., 2007). Through the comprehensive literature review related to infection control, nursing disciplines will be able to understand the degree and area of researchers' concerns on infection control.

The purpose of this study was to analyze and understand the characteristics and trend of studies regarding infection control through the comprehensive review of studies published in South Korean nursing journals from January 1970 to December 2011 to provide a direction for future studies on infection control. The detailed purposes of the study are to (a) analyze the overall characteristics of studies regarding infection control published in Korean nursing journals by year, (b) analyze quantitative research characteristics of infection control studies published in Korean nursing journals by year, (c) analyze qualitative research characteristics of infection control studies published in Korean nursing journals by year, (d) develop intervention strategies for future infection control in South Korea, and (e) propose a direction for future infection control studies based on the findings.

Methods

Study design

This research was a descriptive study analyzing the characteristics and research trends in infection control studies published in Korean nursing journals using the analysis framework developed by the researcher.

Setting and sample

In total, 177 articles published between January 1970 and December 2011 were obtained from the various nursing journal databases such as *Journal of Korean Academy of Nursing (JKAN)*, the *Journal of Academic Division of Korean Society of Nursing Science*, and nursing journals registered in the Korea Citation Index of National Research Foundation. Nursing journals registered in the Korea Citation Index of National Research Foundation are *JKAN*, *The Korean Journal of Fundamentals of Nursing*, *Korean Journal of Adult Nursing*, *Korean Journal of Women Health Nursing*, *Journal of Korean Academy of Psychiatric and Mental Health Nursing*, *Journal of Biological Nursing Science*, *Journal of Korean Academy of Community Health Nursing*, *Journal of Korean Academy of Nursing Administration*, *Journal of Korean Gerontological Nursing*, *Journal of Korean Public Health Nursing*, *The Journal of Korean Academic Society of Nursing Education*, *Journal of Korean Clinical Nursing Research*, *Korean Journal of Occupational Health Nursing*, and *Asian Nursing Research*.

Analysis tool

An analytical framework, developed by the researchers to analyze the characteristics of infection control studies after reviewing previous studies of article analysis (Choi et al., 2000; Shin et al., 2010; Sohng et al., 2008) was followed. The analytical framework consisted of three parts: (a) general characteristics of the study, (b) quantitative research, and (c) qualitative research. General characteristics included the type of manuscripts, type of research, ethical considerations, and sample sizes by year. To analyze characteristics of infection control studies, author, correspondent author, research theme related to infection control, and research subjects were included. Analysis of quantitative research included research design, conceptual framework, criteria for sample size, reliability and validity of instrument, instrument source, data collection method, and data analysis method. In particular, when the key words were related to knowledge, practice, and attitude of infection control, additional analysis was performed on those key words. Qualitative research included research design, description of philosophical underpinning, training of researchers, data collection methods, and reliability and validity analysis of research findings.

Data collection

Data collection and analysis was performed from April to June 2012. Inclusion criteria of this study were (a) both English and Korean language publications, (b) research studies identifying issues related to infection control, (c) research articles published in the *JKAN*, *Journals of Academic Division of Korean Society of Nursing Science* and nursing journals registered in the Korea Citation Index of National Research Foundation and (d) articles published between January 1970 and December 2011.

Subject articles were selected through KoreaMed and journal database searches on the website of subject academic societies by researchers. Search terms included "hospital infection", "urinary tract infection", "pneumonia", "surgical wound infection", "intravenous catheter infection", "disinfection and sterilization", "hand hygiene (hand washing)", "asepsis", "standard precautions and isolation", "infection control by department", "environmental management", "HCWs infection control", and "infection control measures for pathogens: Methicillin Resistant *Staphylococcus aureus* (MRSA), Vancomycin Resistant *Enterococci* (VRE), Acquired Immune Deficiency Syndrome (AIDS), influenza, and human papilloma virus (HPV)". Search terms were selected based on the table from the *APIC textbook of infection control and epidemiology* (Association for Professionals in Infection Control and Epidemiology, 2009), *Textbook of Infection Control* (Korean Association for Infection Control, 2012), and *Infection control and prevention in healthcare facilities* (Korean Society for Nosocomial Infection Control, 2011).

Manual search was conducted with the two researchers to include articles which could have been missed from the initial search with key words and to exclude articles found through the database search that included key words, but not clearly meeting the inclusion criteria. The articles that met the inclusion criteria were again analyzed individually by each researcher. The selected infection control articles were primarily analyzed by each researcher according to the analytical framework developed by the researchers of this research. The results of the primary analysis were cross-reviewed by the researchers and corrections were made for insufficient or unclear parts after re-reviewing the original articles (Cohen's Kappa = .9).

Data analysis

The collected data was analyzed using SPSS version 20.0 for windows (SPSS Inc., Chicago, IL, USA). General characteristics of subject articles were analyzed using frequency and percentage.

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