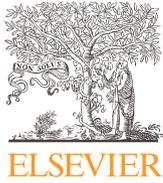




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Major Article

Examining the inclusion of patients and their family members in infection prevention and control policies and guidelines across Bangladesh, Indonesia, and South Korea



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Key Words:

Patient involvement
Health care–associated infections
Infection control and prevention strategies
Hand hygiene
Family caregiver
Caring culture

Background: Although familial involvement during inpatient care is not uncommon in western countries, the types of caring activities that family members in Asian countries provide are significantly different. These activities may place the family member at risk from a health care–associated infection. This study aimed to examine whether the role of patients' families has been accounted for in the infection prevention and control (IPC) guidelines and policy, using examples from Bangladesh (low-income country), Indonesia (middle-income country), and South Korea (high-income country).

Methods: The World Health Organization website and Institutional Repository for Information Sharing, Centers for Disease Control and Prevention website, Australian Government Web Archive, Open Grey, Grey Matters, World Bank, and advanced Google search, as well as the Health Department/Ministry of Health websites for each target country and 4 western countries (Australia, Canada, England, and the United States) were searched. Other databases, such as Embase, Medline, CINAHL, Global Health, ProQuest databases, Google scholar, Web of Science, and Scopus were also searched. This was to review the reflection of the cultural influence in IPC policies/guidelines by reviewing those from the global organizations, which are often used as a blueprint for policy development, as well as those from western countries, which hold different cultures in care arrangement. Search was conducted with attention to the key areas: definition and role of carer in the acute health care facility, involvement of patients/family members in IPC activities, patient and family member hand hygiene, and IPC education.

Results: Ninety-two articles were identified based on the criteria for the study. Only 6 acknowledged that care is provided to hospitalized patients by their family members, and only 1 recommended that family members receive the same level of training as health care workers on IPC precautions. Other guides recommended the provision of information on IPC measures as means of patient involvement in the IPC program. Recognition of family caregivers or inclusion of them in the IPC strategies was not included in the target countries' guidelines.

Conclusions: Although health care workers are the primary actors when it comes to providing care in acute health care settings, it is important to expand the IPC guides by considering the role of other caregivers. Policies and guidelines should reflect the cultural influence over healthcare. This is especially true when cultural values strongly influence over healthcare arrangements and the healthcare accommodates these cultural influences in the practice. Further work needs to be undertaken on the level of training/education provided to family members in Bangladesh, Indonesia, and South Korea.

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Caring for a sick family member while staying with them at the bedside is a norm in many Asian countries such as Bangladesh,^{1–3}

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Indonesia,^{4,5} South Korea,^{6–8} Taiwan,^{9,10} Vietnam,¹¹ India,^{12,13} and China.^{14–16} This principal is deeply rooted in social values and beliefs that value filial piety and interdependency within family members.^{10,11,16,17} This approach to care transcends all socioeconomic statuses, for example, Bangladesh (low-income country), Indonesia (middle-income country), and South Korea (high-income country).¹⁷ In many Asian countries, such as Korea, Indonesia,

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Bangladesh, China and Taiwan, decisions about the treatment for a sick family member are often made within a family, led by the oldest man in the family or the eldest son.^{6,16,18–20} Community perspectives toward hospitalization is also influenced by these social and cultural values. Looking after a hospitalized family member is considered to be part of the families' responsibility, which often includes the extended family or anyone in an extended relationship.^{3,6,18} This is in comparison to western countries where ability to care for oneself is considered as a strength, and therefore making decisions about one's own medical treatment is a natural process for most individuals.^{19,21}

Although emotional support accounts for most familial involvement in the western health care setting, more physical assistance with daily living activities are the common norm in Asian countries. Research undertaken with family caregivers in Bangladesh by Islam et al¹ highlighted constant physical contacts between family members and patients, their surrounding environment, as well as with other patients and carers in the same space. They identified that the patients' families are responsible for: feeding (including through a nasogastric tube), administering medications, cleaning the patient, making beds, repositioning, taking swabs, giving oxygen and urinary catheter care, etc. Similar involvement of patients' family caregivers in the direct care has also been reported from Vietnam,¹¹ Korea,^{6,22,23} India,¹² Indonesia,^{5,18,24} and China.^{9,10,14,15} The concern here is that these patient care activities are no different from the care activities that are associated with the contamination of health care workers (HCW) hands during the patient care.²⁵ Given the types of activities that patients' families are involved with and the length of time that they are present in the hospital wards, it could be theorized that these persons are at increased risk of health care–associated infection (HAI), and may also be responsible for contributing to the spread. While there has been very little in the way of research on this issue, one study reporting the causes of Middle East respiratory syndrome (MERS) in Korea^{26,27} indicated that family members of patients were responsible for some patient care and this was reported as one of the contributing factors of the wide spread of MERS outbreak in 2015.

When it comes to promoting patient safety and reducing the risk of transmission from HAI, it is a requirement that HCW comply with the World Health Organization (WHO) 5 Moments of Hand Hygiene and other infection prevention and control (IPC) strategies.^{25,28–31} However, when it comes to the promotion of IPC principles to patients and family members, there has not been as much emphasis to date. Given the types of activities family members may be involved with and the length of time they may spend in the hospital, there may be a need to review these guidelines. Of concern also is the fact that from the few studies conducted, it appears that the knowledge about HAI and IPC strategies such as hand hygiene among family members of patients is limited.^{1,29,32}

The literature suggests that IPC guidelines utilised in many Asian countries have been based on those established in the United States, United Kingdom, Canada, or Australia, as well as by global organizations such as WHO and the Centers for Disease Control and Prevention (CDC).^{33–37} Considering the magnitude of cultural influence over health care delivery and the important role of family carers for Asian countries,^{3,6,24,38} this study aimed to examine whether the role of patients' families has been accounted for in the IPC guidelines and policies used in Asian countries. This study focused on 3 Asian countries, namely Bangladesh, Indonesia, and South Korea.

METHODS

Search strategy

Between August 2018 and January 2019, 4 search strategies were used to locate relevant guidelines and policies for this study with attention to the following key areas: definition and role of carer in

the acute health care facility, involvement of patients/family members in IPC activities, patient and family member hand hygiene, and IPC education. First, the overarching relevant policies and guidelines from WHO and CDC were located, as they are often used as a blueprint in many countries for policy and guideline development. The IPC³⁹ and Institutional Repository for Information Sharing (IRIS)⁴⁰ located within the WHO websites were searched using a subject search with the key words “infection control.” A total of 128 articles were found of which 28 were selected in accordance with the focus areas and selected language, that is, English. Articles in Bangladeshi, Indonesian, or Korean were not available on the IRIS. Available languages given in the IRIS were Arabic, Chinese, English, French, Russian, Spanish, German, and Portuguese. As for the CDC guidelines, the “Guideline Library” from the CDC website was used to locate relevant guidelines. Second, policies and guidelines from 4 western countries (United States, United Kingdom, Canada, and Australia) were searched so that comparisons could be made with the 3 target countries. A grey literature search was undertaken over 2 months, November and December 2018, using the Australian Government Web Archive, Open Grey, Grey Matters, World Bank, and advanced Google search. A specific search of the Health Department/Ministry of Health websites for each target country was also conducted between December 2018 and January 2019. Third, key personal contacts in each of the target countries were consulted to ensure that nothing was missed in our search. Key personal contacts in selected countries includes currently practicing health care professionals in acute care facilities, an IPC professional, and a senior researcher in the IPC field. Google translator was also used to translate the documents. The translated documents were then reviewed for accuracy by the key personal contacts in the selected countries, as well as by 2 of the authors who are native in Korean and Indonesian, respectively. The first author was responsible for the search, translation, and reviewing policies in Korean. Finally, using the same search terms that were adopted for the grey literature search (outlined later), a key word search was undertaken using databases related to the field of public health, health policy, communicable diseases, health care, nursing and allied health, and social science: Embase, Medline, CINAHL, Global Health, Proquest databases, Google Scholar, Web of Science, and Scopus to look for relevant recommendations and information regarding family caregivers' involvement in the IPC strategies in the published peer review journals.

Key words used for search

A list of semantically related key words were grouped into 6 categories: 1) ‘healthcare associated infection,’ ‘healthcare acquired infection,’ ‘hospital infection,’ ‘nosocomial infection,’ ‘health care-associated infection,’ ‘communicable diseases;’ 2) ‘infection control,’ ‘infection prevention and control,’ ‘disease prevention and control,’ ‘environmental health,’ ‘hand hygiene;’ 3) ‘patient participation,’ ‘patient centred program,’ ‘patient empowerment;’ 4) ‘family carer,’ ‘role of family carer;’ 5) ‘health service,’ ‘health service management,’ ‘medical service,’ ‘food service,’ ‘food service and nutrition,’ ‘healthcare design;’ 6) ‘patient safety.’ Key words from each category were combined using Boolean operators, for example AND/OR/*, as well as proximity operators such as ‘ADJn,’ ‘Wn,’ and ‘Nn’ based on the search platform. Results from the search then were refined using ‘AND’ with ‘healthcare facility*,’ ‘hospital*,’ ‘acute care,’ and the 3 target country names.

Inclusion and exclusion criteria

We limited our search to guidelines/policies that had been developed since the year 2000, with the most recent version selected in the situation when various versions were available. National

guidelines were selected over individual facilities from high-income countries when multiple guidelines were available. Guidelines from individual facilities were reviewed when no national guidelines were available. We limited the search to guidelines targeted at acute health care facilities, and therefore excluded dental, mental health, and general/community practices.

COLLECTION AND ANALYSIS

All guidelines and policies found were first screened for eligibility using the predefined criteria. Title, table of contents, and summary or abstract (when available) were further assessed with the key areas of research in mind. Selected guidelines and policies were then grouped by organization/country and relevant area. Within the grouped guidelines and policies, information about HAI, hand hygiene, IPC including patient and their family education, hospital environmental care especially patient care environment, definition/role of carer in the hospital, patient engagement, and patient safety were extracted for further review. During the review, special attention was given to roles of patients and their family members in the IPC program, and how policies and guidelines reflect the local context and its associated risk (Table 1).

RESULTS

Ninety-two articles including 55 guidelines, 2 policies, 5 journal articles, and 10 reports, as well as 19 patient information brochures from hospital websites were included for the review based on the inclusion criteria for the study. Policies and guidelines around HAI or IPC could not be located for Bangladesh and Indonesia despite further discussion with in-country partners for this study. One national guideline from Korea was retrieved for the review.

Hand hygiene only for HCWs

In most of the WHO^{48,56,65} and CDC^{71,73,75,78} guidelines, information regarding the promotion of hand hygiene is clearly targeted only at HCWs. Patients families are addressed as a passive observer of hand hygiene rather than active participants. Although partnerships with the patient and their family in hand hygiene strategies are addressed, as well as patient empowerment programs, the ultimate purpose is to increase hand hygiene compliance among HCWs through patient empowerment.¹²⁵ This perspectives toward HCWs being the primary actors in the acute care facility is reflected throughout the guidelines from WHO,^{42,46,48,49,53,54,56,58,65} CDC,^{71,77} United Kingdom,^{106,110,111} and Canada,^{25,99,101-103} and it was noted in the pilot study performed in Bangladesh prior to the implementation of the WHO hand hygiene guideline.⁵⁶ Bangladesh was one of the pilot sites for the implementation of the WHO hand hygiene guideline. Despite the in-depth involvement of family caregivers in the inpatient care,^{1,32} hand hygiene compliance was only studied among HCWs in relation to the hand hygiene resources and infrastructural elements such as availability of sinks or alcohol-based handrub. Although overcrowding as well as cultural sensitivities were reported as barriers of hand hygiene implementation strategy, details of cultural consideration such as family carers in the hospital were not provided.

Consideration of the caring culture

Consideration of cultural and religious factors when implementing hand hygiene strategies is recommended in the WHO hand hygiene guideline.^{42,56} However, the focus is around the act of hand hygiene or factors influencing compliance based on the religious and/or cultural beliefs. Acceptance or reluctance of hand hygiene behavior

among HCWs based on the religious and cultural beliefs were discussed to identify possible barriers in implementing a hand hygiene program so that the hand hygiene could be implemented successfully rather than to develop culturally grounded guidelines in accordance with local culture. No guidelines and policies from the target countries addressed the cultural influence in the health care settings.

Definition of carer

In the WHO guideline for health care settings in medium-low resource countries,⁴⁵ carers refer to anyone regardless of their relationship who accompany a patient to a hospital and assist a patient with basic care in the hospital. A similar definition was used in 1 of the CDC guidelines.⁷⁷ The concept of carer is found to be different in Australia,^{93,126} the United States,⁹⁸ Canada,¹⁰⁵ and United Kingdom.¹¹¹ In the acute care facilities in those countries, patients may have family or visitors, but not carers. The concept of carer appears in the residential care or home environment for people who support and care for family members or friends who require constant supports because of their disability, mental health, or chronic conditions. The carer in western document is different from the “private carers” in hospitals in Asian countries who are hired and paid by patients or their family to assist patients’ in activities of daily living when a family member of a patient is not available. Considering the in-depth involvement of family carers in the care, the definition of carer from the western countries could not embrace the role of carers in the target countries. Despite the care activities family members and privately hired carers perform, their roles or responsibility could not be located in any guidelines from Bangladesh,^{32,116,127} Indonesia,^{36,118,119} and South Korea.^{35,121,122}

IPC strategies for family carers not considered

The recommendations from Korea³⁵ for patients and visitors about when and how to perform hand hygiene are mostly aligned with those from the WHO^{49,56} and the CDC,^{71,96} but no further precautions or recommendations are provided for patients’ families or private carers. Patients and their family were discussed in the WHO^{48,49,56,58,60} and CDC^{77,80,81} guidelines when empowerment and partnership program with patients were discussed. These programs could not be located in the guidelines from Korea. No mention of patients or family caregivers in the hand hygiene program except in the visitor information was noted. Although patient information for hospital admission is available from some Korean hospitals, active participation in the form of asking HCWs about hand hygiene or by performing hand hygiene is not included.^{123,128,129} In contrast, patient empowerment in hand hygiene is clearly described in the patient information from the United States⁹⁵⁻⁹⁷ Canada,¹⁰⁰ and United Kingdom.^{114,115} The information regarding HAI guides patients to be assertive in asking HCWs and visitors to clean their hands, as well as patients’ own hand hygiene.

IPC after MERS

The Guidelines for Healthcare Associated Infections³⁵ is the first comprehensive government-wide measure developed and introduced to deal with HAI since the outbreak of 2015 MERS in Korea. However, there is no mention made about the roles of family members or privately hired carers who are primarily responsible for bedside care for patients in the acute care facility while staying with patients or inclusion of them in the IPC program. Therefore, the HCWs remain the target population for the IPC program, leaving the family caregiver under the radar.

Table 1
Guidelines and policies selected for the review

| Organization/country | Relevant areas | | | | | | | | Type of documentation | Title of policy or guideline |
|--|----------------|----|-----|----|----|----|----|--------|--|---|
| | HAI | HH | IPC | PE | PS | Cr | FM | Env | | |
| World Health Organization | | x | x | | | | | | Guideline | Core components for infection prevention and control programmes: assessment tools for IPC programmes 2011 ⁴¹ |
| | | x | x | | | | | x | Guideline | Core components for effective infection prevention and control programmes: new WHO evidence-based recommendations (guidelines article) 2017 ⁴² |
| | | | | x | | | | | Guideline | Core components for infection prevention and control programmes: report of the second meeting informal network on infection prevention and control in health care 2009 ⁴³ |
| | | x | x | | | | | x | Guideline | Epidemic-prone & pandemic-prone acute respiratory diseases: infection prevention & control in health-care facilities, summary guidance 2007 ⁴⁴ |
| | | | | | | x | | x | Guideline | Essential environmental health standards in health care 2008 ⁴⁵ |
| | | x | | | | | | | Guideline | A guide to the implementation of the WHO multimodal hand hygiene Improvement strategy 2009 ⁴⁶ |
| | | x | x | | | | | | Guideline | Guidelines for the prevention and control of carbapenem-resistant Enterobacteriaceae, <i>Acinetobacter baumannii</i> and <i>Pseudomonas aeruginosa</i> in healthcare facilities 2017 ⁴⁷ |
| | | | | x | x | | x | | Guideline | Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level 2016 ⁴⁸ |
| | | | x | | x | | | | Guideline | Hand hygiene promotion in health care: tips for patients 2013 ⁴⁹ |
| | | x | x | x | | | | | Guideline | Infections and infectious diseases: a manual for nurses and midwives in the WHO European region 2001 ⁵⁰ |
| | | | | x | x | | x | | Guideline | Infection prevention and control during health care for probable or confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection 2015 ⁵¹ |
| | | | | x | | | | x | Guideline | Natural ventilation for infection control in health-care settings 2009 ⁵² |
| | | | x | x | | | x | x | Guideline | Practical guidelines for infection control in health care facilities 2004 ⁵³ |
| | | x | | | | | | | Guideline | Prevention of hospital-acquired infections: a practical guide 2nd edition 2002 ⁵⁴ |
| | | | | | | | | x | Guideline | Safe management of wastes from health-care activities, second edition 2014 ⁵⁵ |
| | | x | x | x | x | | x | | Guideline | WHO guidelines on hand hygiene in health care: first global patient safety challenge-clean care is safer care 2009 ⁵⁶ |
| | | x | x | x | | | | | Guideline | Improving infection prevention and control at the health facility: interim practical manual supporting implementation of the WHO guidelines on core components of infection prevention and control programmes ⁵⁷ |
| | | | | | x | | | | Web information | Tips for implementing a successful patient participation programme ⁵⁸ |
| | | | | | x | x | | | Journal | The WHO World Alliance for patient safety: towards the years of living less dangerously 2006 ⁵⁹ |
| | | x | x | | x | x | | | Report | A year of living less dangerously: progress report 2005 ⁶⁰ |
| | | x | | | | | | | Report | Antimicrobial resistance in the Asia Pacific region: a development agenda 2017 ⁶¹ |
| | | | x | x | | | | | Report | Global action plan on antimicrobial resistance 2015 ⁶² |
| | | | | | | | | | Report | Global antimicrobial resistance surveillance system (GLASS) report: early implementation 2016-2017 ⁶³ |
| | x | x | | | x | | | Report | Global patient safety challenge 2005-2006 ⁶⁴ | |
| | x | x | x | | | | | Report | Healthcare without avoidable infections: the critical role of infection prevention and control ⁶⁵ | |
| | x | | x | | | | | Report | Monitoring global progress on addressing antimicrobial resistance: analysis report of the second round of results of AMR country self-assessment survey 2018 ⁶⁶ | |
| | x | x | x | | | | | Report | Report on the burden of endemic health care-associated infection worldwide: clean care is safer care 2011 ⁶⁷ | |
| | x | | x | | | | | Report | Worldwide country situation analysis: response to antimicrobial resistance 2015 ⁶⁸ | |
| Centers for Disease Control and Prevention | | | | | | | | x | Guideline | Guidelines for disinfection and sterilization in healthcare facilities ⁶⁹ |
| | | | x | | | | | x | Guideline | Guidelines for environmental infection control in healthcare facilities 2003 ⁷⁰ |
| | | x | | | | | | | Guideline | Guidelines for hand hygiene in healthcare settings 2002 ⁷¹ |
| | | x | x | | | | | | Guideline | Guideline for the prevention and control of norovirus: gastroenteritis outbreaks in healthcare settings 2011 ⁷² |

(continued)

Table 1 (Continued)

| Organization/country | Relevant areas | | | | | | | | Type of documentation | Title of policy or guideline |
|----------------------|----------------|----|-----|----|----|----|----|-----------|---|---|
| | HAI | HH | IPC | PE | PS | Cr | FM | Env | | |
| Australia | | | x | | | | | x | Guideline | Guidelines for preventing health-care-associated pneumonia 2003 ⁷³ |
| | | | x | | | | | | Guideline | Guidelines for preventing transmission of mycobacterium tuberculosis in health-care settings, 2005 ⁷⁴ |
| | | | x | | | | | | Guideline | Interim guidance for infection control within healthcare settings when caring for confirmed cases, probable cases, and case under investigation for infection with novel influenza A viruses associated with severe disease ⁷⁵ |
| | | x | x | x | | x | x | | Guideline | Interim infection prevention and control recommendations for hospitalised MERS (Middle East respiratory syndrome coronavirus) 2015 ⁷⁶ |
| | | x | x | x | | x | x | | Guideline | 2007 guideline for isolation precautions: preventing transmission of infectious agents in health care settings ⁷⁷ |
| | | | | x | | | | x | Guideline | Management of multidrug-resistant organisms in healthcare settings, 2006 ⁷⁸ |
| | | | | x | | | | | Guideline | Prevention strategies for seasonal influenza in healthcare setting ⁷⁹ |
| | | x | x | x | | | | | Webpage information | Clean hands count for patients ⁸⁰ |
| | | x | x | x | | | | | Webpage information | Patient safety: what you can do to be a safe patient ⁸¹ |
| | | x | x | x | | | | | Webpage information | Preventing infections in cancer patients. Information for patient and caregivers ⁸² |
| | | x | x | x | | | | x | Guideline | Australian guidelines for the prevention and control of infection in healthcare 2010 ²⁸ |
| | | | x | | | | | x | Guideline | Australasian health facility guidelines: part D- infection prevention and control 2016 ⁸³ |
| | | | | | | | | x | Guideline | Guidelines for bringing occasional food to patients ⁸⁴ |
| | | x | x | x | | | | x | Guideline | Infection prevention and control practice handbook 2016 ³¹ |
| | | x | x | x | | | | x | Guideline | 5 Moments for hand hygiene 2018 ⁸⁵ |
| United States | | x | x | x | | | | x | Guideline | National safety and quality health service standards: guide for hospitals 2017 ⁸⁶ |
| | | x | x | x | | | | x | Guideline | Recommendations for the control of CPE: a guide for acute care health facilities 2017 ⁸⁷ |
| | | | x | | | x | | | Guideline | Standard 3 preventing and controlling healthcare associated infections 2012 ⁸⁸ |
| | | x | x | | | | | x | Information | Food from home: visitors providing food to patients ⁸⁹ |
| | | x | x | | | | | x | Information | Healthcare associated infections consumer factsheet ⁹⁰ |
| | | | | | | | | | Information | Healthcare associated infection: vancomycin resistant enterococci (VRE) consumer factsheet ⁹¹ |
| | | | x | | | | | | Information | Information for patients being screened for carbapenemase-producing Enterobacteriaceae (CPE) ⁹² |
| | | | x | | | | | x | Policy | Infection prevention and control policy 2017 ³⁰ |
| | | | x | x | | | | | Webpage information | About carer ⁹³ |
| | | | x | x | | | | | Guideline | A compendium of strategies to prevent healthcare-associated infections in acute care hospitals: 2014 updates ⁹⁴ |
| Canada | | | | x | | | | | Guideline | Guide to patient and family engagement in hospital quality and safety ⁹⁵ |
| | | x | | x | | | | x | Information | For our patients and their visitors: help prevent infections ⁹⁶ |
| | | | | x | | | | | Webpage information | Guide to patient and family engagement in hospital quality and safety ⁹⁷ |
| | | x | | x | | | | x | Webpage information | National family caregiver support program ⁹⁸ |
| | | x | x | x | | | | x | Guideline | Best practice for hand hygiene in all health care settings, 4th edition 2014 ⁹⁹ |
| | | x | x | x | | | | x | Guideline | Engaging patients in patient safety, 2018 ¹⁰⁰ |
| | | x | x | x | | x | | x | Guideline | Hand hygiene practice in healthcare settings 2012 ²⁵ |
| United Kingdom | | | | | | | | | Guideline | Infection prevention and control (IPAC) program standard 2016 ¹⁰¹ |
| | | | | | | | | | Guideline | IPAC Canada practice recommendations hand hygiene in health care settings 2017 ¹⁰² |
| | | x | | x | | | | | Guideline | Routine practice and additional precautions for preventing the transmission of infection in healthcare settings 2016 ¹⁰³ |
| | | | | | | x | | | Information | Your guide to bringing in food and beverages for hospital patients ¹⁰⁴ |
| | | | | | | | x | | Webpage information | Carer facts ¹⁰⁵ |
| | | | | | | | | | Guideline | Infection prevention and control 2014 ¹⁰⁶ |
| | | | | | | | | | Guideline | Patient experience in adult NHS services: improving the experience of care for people using adult NHS services ¹⁰⁷ |
| | | x | x | x | | | | | Guideline | The health and social care act 2008, code of practice on the prevention and control of infections and related guidance, DoH ¹⁰⁸ |
| | | | x | | x | | | Guideline | The safe management of food brought into hospital settings for individual patient consumption guidance ¹⁰⁹ | |

(continued)

Table 1 (Continued)

| Organization/country | Relevant areas | | | | | | | | Type of documentation | Title of policy or guideline |
|----------------------|----------------|----|-----|----|----|----|----|-----|-----------------------|--|
| | HAI | HH | IPC | PE | PS | Cr | FM | Env | | |
| | x | | x | x | | | | | Guideline | Winning ways working together to reduce healthcare associated infection in England 2003 ¹¹⁰ |
| | | | x | x | | | | x | Guideline | Healthcare-associated infections: prevention and control 2011 NICE ¹¹¹ |
| | | | | | x | | | | Information | Bringing food into hospital ¹¹² |
| | | | x | | | | | | Information | Information for people visiting, or receiving treatment in, NHS hospitals on the prevention and control of healthcare-associated infections 2011, NHS ¹¹³ |
| | | x | | x | | | | | Journal | epic 3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England 2014 ¹¹⁴ |
| | | | | x | | x | | x | Policy | Standard infection control procedures and policy (including hand hygiene) NHS ¹¹⁵ |
| Bangladesh | | | x | | | | | | Guideline | National guidelines for tuberculosis infection control ¹¹⁶ |
| | | x | x | | | | | | Information | JCIA Handbook ¹¹⁷ |
| | | x | x | x | | | | x | Journal | Healthcare worker and family caregiver hand hygiene in Bangladeshi healthcare facilities: results from the Bangladesh National hygiene baseline survey ³² |
| Indonesia | | | x | | | | | x | Guideline | APSID Guidelines for environmental cleaning and decontamination ¹¹⁸ |
| | | | x | | | | | | Guideline | The APSIC guidelines for the prevention of surgical site infections ³⁶ |
| | | | x | | | | | | Guideline | Tuberculosis guidelines, Republic of Indonesia 2016 ¹¹⁹ |
| | | x | x | | | | | | Journal | Preventing nosocomial infections: improving compliance with standard precautions in an Indonesian teaching hospital ¹²⁰ |
| South Korea | x | x | x | | | | | | Book | Infection control and prevention in healthcare facilities ¹²¹ |
| | | x | x | | | | | | Guideline | Standard guidelines for preventing healthcare associated infections ³⁵ |
| | | | | x | | x | | | Journal | Development of staffing levels for nursing personnel to provide inpatients with integrated nursing care ³² |
| | x | | x | | | | | x | Report | Comprehensive measures to prevent and manage healthcare associated infections ¹²² |
| | | x | | | | | | | Webpage information | Patient information for hospital admission ¹²³ |
| | | x | | x | | | | | Webpage information | Patient information for hospital stay ¹²⁴ |

Cr, definition of carer; Env, patient care environmental; FM, family involvement; HAI, health care-associated infection; HH, hand hygiene; IPC, infection prevention and control; PE, patient empowerment; PS, patient safety.

Inclusion of family caregivers in IPC

The level of inclusion of family caregivers in the IPC program varies across guidelines. The recommendation from the WHO⁵¹ suggests the same level of training of family caregivers on IPC strategies in the setting where the care provision is done by family members. Other guidelines from the WHO^{48,56} and CDC⁷⁷ advise there should be tailored IPC training for caregivers based on the care activities they perform in the health care. These guidelines also acknowledged the care provision by family caregivers. Provision of information on HAI or hand hygiene to family caregivers are proposed as a means of patient involvement in the IPC program in other guidelines,^{53,77,115} stating family caregivers in the guidelines. Although the provision of information on hand hygiene to patients and their family members was briefly mentioned in the guideline from 1 of target countries, tailored IPC strategy that was recommended by the WHO and CDC earlier for the family caregivers could not be found.³⁵

Other items to consider in IPC

In terms of sources of HAI risks from outside hospital, a search was conducted to review whether guidelines were available for items brought into hospitals by family members or visitors. Information could not be located in the IPC guidelines, but most hospital websites have patient information for admission containing information about what to bring and what not to bring to the hospital. For example, soap, towel, slippers, toothpaste, tooth brush, and a blanket for carers

were advised to bring for admission in Korean hospitals,^{124,128,130,131} and similar information was found in Bangladesh hospitals. It is stated that 1 carer can stay with a patient, but that the number of visitors at a time is limited in both countries. No policies or guidelines could be located stating patient family members staying with patients during admission. Other items from outside of hospital was food. Most western countries have similar guidelines on the food brought into the hospital in relation to food poisoning.^{84,89,104,112} Although guidelines about food brought into the hospital could not be found for Bangladesh, most Bangladeshi hospitals have information about outside food brought into the hospital. However, no information regarding a food restriction policy from home to the hospital was found in Korean and Indonesian hospitals.

DISCUSSION

Caring for a sick family member in a hospital may indicate different care activities between Asian and western countries. Types of direct care activities that family members provide to their patients in acute care facility in Asian countries are similar to those provided by HCWs in western countries. Despite having some level of involvement in patient care, of the 92 documents found only 6^{45,48,56,77,115,124} acknowledged the care provided to hospitalized patients by family members in acute care facilities. None of the policies and guidelines from the selected focus countries noted the care provision by family members and/or private carers, and none of them promoted the involvement of family members and/or private carers

in the IPC precautions. Only one⁵¹ that was from the IPC guidance during the MERS outbreak in Korea stated the need for the same level of training on IPC measures for family members as HCWs in the event of care being provided to patients by family members. Most recommendations for patients and their families' involvement in the IPC strategies were through the provision of information on IPC.

General IPC or HAI guidelines or policies from the target countries were limited, whereas disease-specific infection control guidelines are available, for example, tuberculosis, dengue, chikungunya, or MERS. It was clearly outlined in the Korean guideline that there had not been any national guidelines about HAI prior to the MERS outbreak.³⁵ Because the importance of including patients' families in IPC measures was addressed in the WHO recommendation in the response to MERS, we reviewed the newly developed guideline from Korea with attention to the role of family members in the care and IPC program. Despite the emphasis on the HAI risks of family members and private carers during MERS outbreak,^{27,132–134} neither the WHO recommendations nor the roles of family members or private carers who provide physical care to patients while staying next to patients were documented in the guideline. Without recognition of caring roles of family members and/or private carers in the guideline/policy, family carers could not be included in the IPC strategies, posing a risk of HAI transmission.¹³⁵

Since the recent episode of MERS in Korea, HAI risk associated with the involvement of patients' family members or private carers has been addressed in a number of studies, many of which suggest a need for health care system reform in relation to reducing the familial involvement in the inpatient care.^{7,27} In fact, an "integrated nursing and care service," which began as a pilot project in July 2013, has been converted into a health insurance business since MERS in 2015, and its legal basis was established by the new regulation on the integrated nursing and care service in the hospital setting revised in December 2015.^{132,134} There are 2 major changes noted with the new system.^{7,23,132,136,137} First, family caregivers and privately hired carers are not to stay in the hospital for patients who meet the criteria for the new system: eligible patients and selected wards. This is to reduce the risk of overcrowding conditions in the patient room so that risk of HAI decreases accordingly. Therefore, nurses are to provide total care including assisting patient's activities of daily living, which were previously assisted by either family members of patients or private carers. However, owing to the combination of inadequate nursing staffing level and fundamental societal values operating within the society, total elimination of caregivers has not yet been achieved. Second, most hospitals including tertiary hospitals limit the number of carers to 1 person to stay with a patient, but still allow patients' carers to stay and assist with basic care. Therefore, the situation in relation to residing family carers remains the status quo.

From this review, we found that the guidelines from Bangladesh,^{32,116,127} Indonesia,^{36,118,119} and South Korea^{35,121,122} were not culturally grounded in regard to IPC guidelines and policy in acute care facilities. In fact, the contents in the guidelines were very similar to those in the WHO, CDC, Canada, Australia, and United Kingdom, except that they lacked the references to the use of patient empowerment and engagement in hand hygiene. Cultural awareness or culturally competent health care were found in the guidelines from countries such as the United States^{138,139} and Australia.^{140,141} The WHO⁵⁶ promotes the cultural consideration in the implementation strategies for hand hygiene. However, their recommendations seem to be formulated based on the assumption that the basic patient care is provided by HCWs in the hospital setting. Therefore, the focus of cultural consideration in the guidelines is about handwashing practices among HCWs rather than cultural influence over health care arrangements for various carers. It is important to consider direct patient care involvement of various carers as much as HCWs,

patient room arrangement accommodating the alternate carers to stay and care for patients, and customs or culture that may influence the perception toward hand hygiene among the public, except HCWs. Alternate arrangement of care provision other than by HCWs are not considered in this guideline, but it was noted in 6 documents^{45,48,51,56,77,115} out of 92 listed. None of the guidelines used in the target countries point out the cultural consideration to the care involvement of family members.

There are significant gaps between description of care activities performed by patient carers in the guidelines and findings from research studies. Although high nurse-to-patient ratio and various arrangements for carers to stay in the hospital, such as a spare mattress and hospital rules, could be enough evidence of these familial carers' involvement in the inpatient care, these involvements in care are not documented in the policies or guidelines. Uncertainty in care responsibility of patient carers because of the absence of role clarity may lead to supervision and education issues. Furthermore, it may have negative implications to patient safety. Besides patient empowerment and patient engagement in the hand hygiene program, guidelines about items brought into the hospitals by patient family members or visitors are absent from Korea and Indonesia. When reviewing patient information from western countries, patients and their family members are described as a 2-separate group. For example, patients are advised to ask their family or visitors to wash their hands every time they enter the room. However, in the patient information from Korean hospitals, patients and their carers are not separately described. Patients and their family members are treated as a group, so asking questions to wash hands between them may be considered an unnecessary procedure. In fact, there is no information stating patients to ask their visitors or family carers to wash hands in the documents from the target countries. More allowance of items brought into the hospital, such as blankets for cares and food, could be understood from this perspective.

CONCLUSIONS

IPC guidelines and policies are found to be quite similar regardless of cultural differences in countries. It may be because many countries have developed their guidelines and policies with reference to the large public organizations, such as the WHO and CDC. However, when cultural values strongly influence the ways of care being delivered and the health care accommodates these cultural influences in the practice, policy and guidelines should reflect this difference. From the review, significant gaps were identified between actual practices and guidelines in the 3 selected Asian countries. Although they followed the evidence-based practice developed by global organizations, adaptation without consideration of cultural influences in health care may lead to adverse outcomes in health, that is, HAI. Findings from this review highlight the importance of developing in-depth understanding of cultural influence in health care delivery in which cultural values and belief are different from other parts of the world. Currently, limited guidelines are available in the HAI in these countries, and major gaps were identified between actual practice and guidelines. We acknowledge that our findings could not be representative of the entire Asian countries. We had to use a convenience sampling method due to limited access to obtain policies and guidelines that can only be retrieved from personal contacts. Further studies should be followed to explore guidelines and policies available in countries that share a similar culture.

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