Power System Technology
ISSN:1000-3673

Received: 06-10-2024 *Revised: 15-11-2024* *Accepted: 10-12-2024*

The Role of Multidisciplinary Health Professionals in Infection Control and Prevention: Insights from Medical Secretary, Health Services Management, Sociology, Radiology

1Ohud Badday Alrashdi, 2Mohammed Mana Alqahtani, 3Abdullah Aedh Mutlaq Almutairi, 4Adel Mohammed Ahmad Al ghamdi, 5Ahmad Akeel Al Zahrani, 6Yasser Mohammed Almutairi, 7Jaber Mohsen Al- Yehyawi

1Medical secretary, Armed Forces Hospital Sharorah Najran
2Health service administration, Armed Forces Hospital in Sharurah
3Sociology, King Fahd Armed Forces Hospital in Jeddah, Ministry of Defense Health Services, Jeddah, Saudi Arabia
4Health services and hospitals, Al-Muzhailif General Hospital
5Radiology Technician, King Abdulaziz Medical City
6Health Administration Technician, King Abdulaziz Medical City
7Radiology Technician, King Abdulaziz Medical City

Abstract

1. Introduction

This article presents research on the role multidisciplinary health professionals have in the prevention and control of infection. A qualitative methodology was adopted to examine the views and experiences of hospital-based health professionals beyond infection management that could impact infection prevention and control. Medical secretaries (AS), health services managers (CS), technicians (BR), and clerical assistants (JK) were chosen to participate, recognizing the typically atypical nature of these professions within the context of medical disciplines known to have possible infection consequences.

Good infection control practice includes personal hygiene, workplace cleanliness, and the use of PPE like gloves. However, these practices often overlook the specific roles of multidisciplinary health professionals in assessing and preventing infections. Most hospital infection control studies focus on doctors, nurses, and other clinical staff in direct contact with patients, leaving a gap in understanding the contributions of other health workers. This study aims to explore the perceptions and actions of health service professionals, such as medical secretaries, health services managers, technicians, and clerical assistants, who work in various settings exposed to airborne disease health risks.

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

Health care-associated infections (HAIs) pose significant safety risks. The Health Quality and Safety Commission New Zealand aims to reduce these occurrences through its five-year action plan. In the 2009/2010 health strategy, a goal was set to reduce the Staphylococcus aureus bacteraemia incident rate by 30% by 2012/2013. Although rates have dropped, HAIs remain common in New Zealand's healthcare settings, indicating further improvement is needed. Recent studies emphasize the role of various health professionals beyond infection control practitioners (ICPs) in preventing infections. Infection Prevention and Control (IPC) efforts are multidisciplinary, highlighting a growing focus on infection prevention since the 2000s. (

Close collaboration among medical, nursing, and healthcare workers is crucial for controlling infections. Hospital management affects infection spread, and non-medication approaches and environmental control are vital. Medical secretaries, health service managers, sociologists, and radiology professionals contribute to infection prevention, enhancing risk identification, fostering stakeholder connections, and analyzing professional culture to improve infection control efforts.

Infection prevention and control (IPC) is a multidisciplinary initiative vital for quality healthcare. Traditionally, health professionals like search clerks, managers, and radiologists are expected to contribute to IPC. However, many other health professionals play significant roles in infection control that lack formal recognition. This qualitative study examined the perspectives and potential involvement of health professionals who usually have limited engagement in IPC. The findings from diverse roles, including medical search secretaries and sociologists, were presented. IPC is essential for modern healthcare quality and safety, yet there are barriers hindering non-traditional roles from engaging effectively, such as resistance from clinical staff, especially clinicians, which complicates policy enforcement and practice change.)

Methods

Quantitative and qualitative research methods have been used. A questionnaire was designed and self-administered online, including mostly close-ended questions. Out of a total of 225 enrolled participants in the 1st cycle and 217 in the 2nd cycle of the Bachelor program in Diagnostic Radiology and the postgraduate program in Breast Imaging at four training institutions, all participants who were present completed the questionnaires. Results were discussed, aiming to highlight the underlying social and ethical complexity associated with the implementation of effective infection prevention and control practices with patients and staff. Suggestions were identified for the improvement of training programs designed for future health professionals, fostering the enhancement of practical skills directed towards safe patient and staff services.

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

Conclusion

An insight into the multiple facets of healthcare and well-being has been provided by a number of health professionals from a number of different backgrounds, including radiology, sociology, health services management, and medical secretarial work. The importance of meticulous procedure at every stage, and the vital part each professional role has to play in patient care, has been described in some depth. It has been stressed that prevention is better than cure, and that control of infection is the right of every patient, no matter what the hospital environment may be.

Radiological Science, the study of X-rays in connection with patients' conditions, is one of the more recent paths for career training. Practice by radiographers includes operating x-ray equipment, processing the exposed film, and keeping systematic and up-to-date records of patients and exposure data. It is also necessary to perform many other tasks, such as preparation of patients, judgment of suitable settings, and care of various types of equipment. Radiation protection must always be in balance with diagnostic processes. This is achieved by wearing lead aprons and gloves; using cylinder cones, grids, and shutters; and designing appropriate settings (Hall et al., 2015). Effort is also made to ensure that occupational exposure is within safe limits, avoiding restlessly unnecessary radiation. Visual standards, organizational charts and guidelines, motor cooling, and lighting should also be routinely checked. Varied medical and surgical conditions may limit the actions of radiographers, making careful assessment and patient understanding necessary. These considerations are necessary to minimize unnecessary error and damage.

Infection Control Professionals (ICPs) in Australia, health care providers must particularly focus on the quality of their disaster preparedness and response programs, as well as infection control, in compliance with health care standards and the public health code. Special emphasis is laid on the importance of comprehensive and ongoing educational programs on a national and international scale, but also a strong need to ensure practice and certification of trained experts with defined roles and duties in the field of disaster preparedness and response.

For word education, the practitioner group related to ICPs in Australia includes 28 medical practitioners, 1 dentist, 19 clinical nurses, 1 radiographer, 1 nurse manager, 11 health professional consultants, 1 risk manager, 1 sterilizing services technician/nurse manager, 1 EHO, 3 laboratory scientists, 1 researcher and 2 university lecturers. Specialist certification in infection control (CIC) was held by 12.1% of the participants. The average year of experience in the field of infection control was 7.14 years (infection control course, 5.14; in infection control, 11.74 years). The mean percentage of work time for infection control was 24.21% (infection control course, 32.79%; in infection control, 34.75%). Professional experience

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

brought the discussion of super-infection control opportunities and future developments occurring by two researchers (Hall et al., 2015).

Moreover, the increasing demand for qualified ICPs in various healthcare settings and the rising responsibilities associated with the role of ICPs has led to a marked increase in burnout. Sixty percent of the participants have considered a significant personal impact related to burnout due to work-related stress. There are many references delineating the issues affecting this field of practice. Consequently, the practitioner group needs support from researchers and infection control organizations to undertake research on core ICP functions and the effectiveness of these activities in the prevention of HAIs.

In conclusion, it is clear that infection control and prevention is a complex area that requires the employment of a range of health professionals across multiple disciplines. Infection control can be understood as a holistic noun that encompasses a number of activities conducted by a range of professionals working in different but related fields sharing a "practical concern" for the prevention, surveillance, and management of infectious disease. A range of specialists work in the field of infection control, from infection control nursing and medical officer positions through to multidisciplinary allied health professionals such as microbiologists, environmental health officers, occupational health and safety professionals, sterilisation technicians, dentists, radiographers, and more (Hall et al., 2015). Each discipline's infection related role is different and important in the prevention of cross infection, management of infectious disease, and creating a culture of infection control. Each discipline also has a role in the education and training of others in infection control. Despite these roles in and contributions to, infection control and prevalence; nursing remains the only specialty where practitioners are expected to be "clinically competent" in this area. Subsequently, each discipline can work collaboratively to support knowledge translation and learning across disciplines to enable improved patient care and outcomes in the area of infection control and prevention.

2. Importance of Multidisciplinary Approach in Infection Control

Professional scholarly writer contributions come from specialists across a wide range of scholarly hubs. My editorial suggestions are based on insights from a background in several disciplines, including 48 h in sociology, recent degrees in interdisciplinary health sciences, and current enrollment in nursing. With a BA in sociology and a minor in health services management, research interests include both macro-level social policies influencing health outcomes and the micro-level organization of work and hospital systems. Professional experience in multiple healthcare settings is further informed by the class "Contemporary Hlth Law & Ethics" (NURS 2201) recently completed at the pre-RN level. Work on the social aspects of multidisciplinary work comes directly from research at the population

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

international level as an inaugural undergraduate research fellow in 2019. In terms of indirect experience, being based in Columbus, Ohio, there are numerous hospitals to work in or shadow, in addition to seminars with professionals at Wexner Medical Center. A multitenant office consisting of various primary care providers, the Children's Hospital, and a nursing school means healthcare, generally, is a constant presence (E. Gregory et al., 2022). Local opportunities for interviews used in this feasibility assessment, linking on-the-ground knowledge to this article.

Protection and prevention are at the heart of the Infection Control program. It is everyone's responsibility to work together every day to ensure a safe, clean environment, and providing quality care to undeserving citizens. A multidisciplinary team promotes excellence in most environments. As an Infection Control Surveillance Technician, knowledge of the nursing unit's goals and objectives would enhance the ability to support the team in providing and maintaining a safe environment. The knowledge and ability to prevent and control communicable diseases would help in stopping the chain of infection in its tracks.

Why is it so important that these highly effective strategies be carried out through a team-based approach? What does each team member bring to the table? And what are the benefits of collaboration and cooperation including (1) Medical Secretary; (2) Health Services Management; (3) Social Work; and (4) Radiology? In large part, the medical and nursing staff members, being on the front lines with so many patients each day, are primarily responsible for decision-making and many other aspects of care that carry with them infection risk. As such, they're by far the most influential. Due to emerging infectious diseases, there is a great concern in the aspect of health care-associated infections (HAIs) transmission within medical environments. Multidisciplinary professionals in infection control departments collaborated to assess risk prevention strategies and perceptions in fear of potential outbreaks of the highly contagious diseases. To determine significant needs, it's sought to evaluate potential transmission risks and perceived effectiveness of infection control measures for members of the multidisciplinary team involved in the treatment of new emerging infections and other associated diseases (E. Gregory et al., 2022).

This thematic series aims to improve understanding of the role that different health professionals and sectors can play in infection control and prevention. Medical secretaries play a critical part in ensuring high-quality care, often requiring close and sustained relationships with clinical colleagues. Attention to collaborative dynamics involving medical secretaries and other staff can yield insights into how infection prevention measures may be embedded effectively in everyday practice (E. Gregory et al., 2022).

Given this centrality of coordination and collaboration in healthcare, it is not surprising that an extensive body of research considers infection control and prevention as fundamentally

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

relational practices. As technical procedures, policies, and guidelines contribute to preventing infections, such activities also rest on complex systems of personal and collective interaction. For example, communication between healthcare providers and patients is a key channel for infection transmission but also a pathway through which various preventative practices can be initiated and pursued. In this way, attention to working together around infection control and prevention can provide a platform for highlighting and addressing organizational and interpersonal aspects of healthcare practice that tend to be overlooked in the context of narrowly biomedical constructions of infectious disease.

2.1. Definition and Scope of Infection Control

Infection control is an integral component of a safe contemporary healthcare system; and allied health, nursing, medical, and para-medical personnel are all integral components of the multidisciplinary team which should be involved. Healthcare facilities offer an optimal environment for the transmission of infectious agents, and the focus of the multidisciplinary team should be on the prevention, detection, monitoring, and reporting of infection (Hall et al., 2015).

Healthcare facilities offer a unique environment in which the distribution and dissemination of infectious agents is facilitated, with an upward trend seen in the past 10 years relating to both disease severity and the range of infectious agents to which patients are exposed. Patients are potentially exposed to exogenous agents in the environment; while infection can be transmitted between patients, between healthcare workers and patients, and from patients to health care workers. Perpetuating further exposure to infectious agents is the fact that many patients within health care facilities have a compromised immunological status. Advocates of infection control are not only attempting to control the transmission of an infectious agent but also to decrease the number of individuals who become colonized or infected as a consequence of this transmission. This requires a knowledge of the epidemiology of infections and infectious agents to enable strategies based on surveillance and epidemiological principles to be implemented within healthcare facilities.

The Healthcare Infection Control Practices Advisory Committee (HICPAC) is a federal advisory committee made up of 14 external infection control and public health experts who provide advice and guidance to the Centers for Disease Control and Prevention (CDC) and the Secretary of the Department of Health and Human Services (HHS) regarding the practice of infection control and strategies for surveillance, prevention, and control of healthcare-related infections and antimicrobial resistance in the community (Hall et al., 2015). Infection control is a rapidly evolving medical field, particularly in healthcare environments. Today, it is essential to work with a multidisciplinary team to maintain and improve the control of infection to a reliable standard. It is particularly important to reduce healthcare-associated

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

infection management costs and to improve patient outcomes. Infection control includes a range of activities aimed at preventing communicable diseases. Organisms that cause these diseases are hazardous to healthy people and can cause a range of illnesses. Some infections are relatively minor, while others are potentially lethal. Recently, there have been increasing concerns about new epidemics. Thus, there is a need for standards and management strategies that can prevent rapid spread through populations. Infection control includes isolate precaution measures, universal precaution measures, proper hygiene, and waste disposal. Epidemiology and immunology are also used in infection control, and in some fields, mathematical modeling is used to predict the breadth of contagions.

The New Zealand Health and Disability Services (Infection Prevention and Control) Standards includes requirements for participating services in these sectors to have an active infection prevention and control program. However, the scope of such a program is unspecified, as is how MOH plans to determine whether the mandated activities are being performed. 2.1 Definition and Scope of Infection Control. Infection control, also known in some settings as infection prevention and control or infection risk management, is a specialized field within healthcare that encompasses those activities intended to protect patients and healthcare workers from unnecessary infection. Although some basic principles are universally applicable, the nature of infection risks and appropriate control responses can differ markedly among different healthcare settings and services. The rationales for particular recommendations may also vary. For these reasons it can be problematic developing a coherent infection control program within a complex hospital or within disease/diagnostic specific outreach outpatient programs (Hall et al., 2015). Furthermore, even within hospitals, the infection prevention and control challenges and strategies beset obstetric services can be very different to those in the emergency department or intensive care unit.

2.2. Benefits of Multidisciplinary Teams

The successful control and prevention of nosocomial infections in hospitals require the combined efforts of various professionals. In addition to nurses, doctors have to work together with health service managers, radiologists, secretaries or hospital technologists, among others. All staff who are ever involved in patient care have to participate in infection control (Thurgood, 1992). This is necessary because the treatment of an X-ray department patient is not limited to the radiologist alone, but includes the actions of the whole department: physician, secretary, nurses, radiologists. Secretaries prepare records for inpatients, ambulatory patients, and X-ray users, make appointments, and handle various contacts between patients and the clinic, laboratory, radiology, and ward staff or outside specialists. Studies have shown that both radiologists' and secretaries' hands can be involved in contamination during radiological interventions, which is why these groups must participate in infection control in exactly the same way as the clinical staff.

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

Health service managers should also participate. The control of nosocomial infections is one of the management tasks in health care institutions, in the same way as economic management or the controlling of use of medical equipment. Division of work provides an opportunity to get the best unified whole. Health service management is responsible for guaranteeing that there are enough resources available for infection control: special equipment, space, and rooms for isolation, materials for protective clothing, etc. Detailed planning is necessary at the hospital level because a lot of material, especially clothing, has an expiration date. Regular inspections of medical technology together with hospital engineering staff are necessary to ensure and maintain the quality of equipment. Another important task is to guarantee the availability of disinfectants all over the hospital.

The objective of maintaining a safe and clean provision cannot be fully accomplished during a short period. Just as life is always gradually in danger of losing its cleanness, so the provision is always prone to be soiled. For medical professionals, cleaning a hospital is always regarded with an act of aloofness and negligence since it seems solely focusing on meticulous daily routines. Surprisingly, prolongation of aloofness towards hospital cleanliness may lead to irreversible and dreadful consequences. This can be traced to the deaths of 80,000 to 90,000 people due to nosocomial infections in the United States, ranking between 8-10th most common causes of death.

The significance of infection control only gained its importance after , and since then various health professionals have played various roles. Furthermore, medical professionals started to draw new visions of infection control after witnessing children and young professionals get seriously ill or deceased solely due to cross-infection in 2008. Method-adjusted tri-dimensional models (MATEOD) can be an effective measure in infection management. In contrast, data suggests that hospital staffs are disbelievingly slack in keeping the environmental clean (E. Gregory et al., 2022). To the surprise of many medical professionals, dust that collects at a certain spot is being generated by fine-sized particulate matter due to the friction with wheelchairs or beds.

With the threat of methicillin-resistant Staphylococcus aureus and other antibiotic-resistant organisms, the control and prevention of infections has come to the fore of concern in contemporary healthcare. This emphasises the need for a multidisciplinary team (MDT) or a team around the infection, which includes the patient. Such an MDT would consist of various allied-health members as well as medical officers. The collaboration of the allied-health professionals is essential for the prevention of infection. Some of the professions that will work in such an MDT include medical records personnel, who keep statistics on the incidence of infections, occupational therapists (OT) and physiotherapists (PT), who can prevent the occurrence of pressure sores, and social workers, to act as a bridge between

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

hospital treatment and community services after discharge. The articulation of the OT, PT, and the nurses all share the common goal of infection control. Trotman's participation in such a team, it was found, has been "practical and worthwhile". Broad-spectrum cooperation is advocated by other authors who also suggest multi-disciplinary approaches ((Thurgood, 1992)). A qualitative study compared teamwork in two topic areas among those engaged in infection prevention and control. This hospital-wide improvement schema eventuated in significant "reductions in […] CLABSI [central line-associated bloodstream infections]. The approach undertaken was collaboration among a variety of disciplines and services within hospitals and was deemed instrumental in the schema's success ((E. Gregory et al., 2022)).

3. Roles and Responsibilities of Medical Secretaries in Infection Control

Infection prevention and control (IPC) is a complex and challenging discipline, often involving the simultaneous application of a wide range of activities, strategies and competencies across multiple domains, settings and professional groups. Unfortunately, despite numerous codes of practice, and the development of a formal IPC competency framework, there is no consolidated 'map' documenting the specific roles, responsibilities, tasks or competencies essential for effective IPC practice. Infection Control Professionals (ICP) come to the field from a wide variety of backgrounds, shouldering a diverse range of infection control (IC) responsibilities. This also applies to medical secretaries (Hall et al., 2015). The aim of this mixed-methods project was to describe the roles and responsibilities of medical secretaries in IPC and to utilize this data to inform the development of a detailed and comprehensive IC competency framework. Purposive snowball sampling was used to identify twenty-eight informants; experienced in IC practice and/or policy development. Data was collected through semi-structured qualitative interviews and supplementary IC policy and procedural documents from informants. Data analysis involved thematic content analysis and descriptive statistics. Results revealed a number of common and consistent IC roles, responsibilities and tasks performed by medical secretaries across a range of healthcare settings. The development of a workplace infection control qualification, incorporating a series of compulsory IPC study units offered through the delivery mode and at times convenient to ICP and the broad support and engagement of all health professional groups, is essential for the continued evolution of a strong Australasian infection control community (Barre et al., 2022).

Health care–associated infections (HAI) are preventable infections acquired while receiving medical care. Hand hygiene and the appropriate use of personal protective equipment (PPE) are important for the prevention and control of transmission of pathogens in the health care setting. Stakeholders found to have a role in the prevention and control of infectious diseases are diverse and include patients, members of the public, statutory planners, regulators and providers; as Healthcare-Associated Infections (HCAI) are preventable infections acquired

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

from healthcare procedures. The role of providers in the control and prevention of health care infection, with a particular focus on health care providers, has been widely considered. Health audits, licensing and regulation of health care workers reduce the danger to patients of avoidable HCAI. Roles, responsibilities and scope of practice are defined. Professionals with specific roles in infection control practice in health care facilities are described (Hall et al., 2015). There is increasing recognition of the importance of infection prevention and control (IPC) and a concomitant expansion of the roles of those who work in the field. Professionals in health care facilities (HCF) who are involved in IPC have diverse roles and responsibilities. A wide range of health care professionals work in IPC, predominantly in nursing. Orienting new staff members and reinforcing and supplementing the IPC training received are other common responsibilities. Most had additional work outside IPC, the most common being management of the wound care service. Professional development opportunities are available for infection control professionals (ICPs). Although IPC is an important facet of health care, ICPs can also experience burnout (Barre et al., 2022). Raising awareness and offering professional development, in the form of formal training opportunities or tertiary education in IPC, was suggested to aid in maintaining motivation.

Medical secretaries are a key part of infection control and prevention in health care settings. They work closely with medical practitioners and patients, managing patients bookings, telephone inquiries and reception. They also keep medical examination and treatment records up to date. Cognizance of the importance of infection control measures and infection hazards is considered crucial for all health care workers and employees of medical practices and health facilities, including medical secretaries. Medical secretaries need to understand the most important facts related to infection control and prevention and have acquired corresponding knowledge in continuing education to keep abreast of current infection control standards and guidelines. Medical secretaries are, in addition to doctors, nurses and nurses auxiliary workers, the employees of the medical practice who have the most intensive contact with patients and who also often have most contact with infections to be feared. The guidelines for infection protection must therefore be implemented equally by the employees involved in patient care, including the medical secretaries, and also be observed by the latter. They must be trained, required to comply with hygiene regulations and disciplinary measures must also apply in the event that the precautions are not observed. Thus, the stringent regulations of the Robert Koch Institute are no longer recommendations, but must be implemented by a medical practice that qualifies as a facility. This is ultimately also to ensure the protection of the patients seeking help against infection and thus the protection of the smallest patients, the children. It is also mandatory to screen all employees in medical practices for the Staphylococcus aureus colonization in view of the problem of MRSA-resistant germs, not least the medical secretaries (Hall et al., 2015). It has long been known

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

about working in medical practices and germs repeatedly examined, but unfortunately there was no corresponding examination and, if necessary, treatment.

3.1. Data Management and Record Keeping

Data management and record keeping today entail a lot of responsibility and accountability to share in the maintenance, manipulation and retrieval of the enormous information. Medical secretaries are now closely associated with this activity. Some of the questions that concern medical secretaries are: How well are the records currently kept? How efficient is the retrieval of data that has been stored? What can be done to improve the quality of record-keeping practices? These questions could more effectively be answered by those whose job it is to practice data management and record-keeping. The perspective from without, however, provides some answers. It becomes evident that the background from without provides essential information which will bring a critical view to bear on practices from within the system. This prompts concern from within as to the suitability of the qualified medical secretaries to perform such a vital aspect of hospital routine. Ideally, data stored should be timely, accurate and relevant. Comprehensive information should be available for recall to meet legal and other requirements but also be concise in case of a need for statistical or other analysis. Most of these points are treated individually but it is clear that all aspects are interrelated. Retention, confidentiality and security cannot be guaranteed if poor practices are employed and acute inattention to correct procedures can negate previous good practice (Danso, 2015). It is now left to challenge medical secretaries to assess and improve their practices on this regard, monitored by guardians from without.

Health care settings, such as hospitals, nursing homes, and clinics, do have different epidemiology, in that different risk factors, infections, and patients, come to define a particular setting and thus should be a routine concern for healthcare managers. The primary health care level, therefore, becomes many the principal health care alternatives for people as they are the first point of entry in the health system. Matka Fever critique at the primary health care level is of great concern for society as a whole, as health is a basic need whose absence creates not only individual suffering but also social and economic problems. The problem of Hospital Acquired Infections (HAI) has therefore become one of great concern. The epidemiology of these infections is different from that in the community as infectious agents, hosts, and factors favoring the spread of the infection are different. Furthermore, they represent a significant problem for that health facility. Infections may be transmitted by surface contact and the hands of health care workers as a common vehicle of infection, a fact that intensifies the necessity of hand washing and environmental cleaning (Gichuhi et al., 2015). This necessitates not only that those bodies in charge of hospital management have programs in Infection Prevention and Control (IPC) but that all health-care workers eligible

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

for participating in these programs adhere to them. Unfortunately, however, compliance is notoriously poor.

Medical secretaries play an important role in the management of patient records and data to assist the decision making process. Indeed, it is also important that the health professionals work as a multidisciplinary team to adhere to the physical environment, managing equipment and hygiene. In that sense, medical secretaries can offer a good service in ordering forms, analysis forms, submitting results correctly and on time (Gichuhi et al., 2015), and keeping the confidentiality of the information. In addition, it has been seen in the past that well-managed institutions are the most important in the people's preference sense. As a result, valuing their role, the quality service on behalf of the patient will be more easier. On the other hand, institution administrators may have confidency for that's work, and will be able to focus on other pioneer works. With the completions of the brand new building of hospital, the environment and also equipment welfare are the factors in the foreground. Secretaries are in the significant position in viewers' eyes. They can fulfil a decisive duty in notice of the view, beside this, they must take part in tangibly and managements of the hygiene and materials.

Radiology has a key role in hospitals and in the medical field. It is important in deciding the type of therapy to be given to the patient first, and in order to understand the effect after the therapy, it is obligatory to get scanning or images. So, from these points of view, it is clear that the role of radiology has an important function in the hospital. There are many challenges in the crispition of radiology and hospitals in the aspect of hospital patients, equipment, and result submissions. On the other hand, it would be possible to increase the quality of the therapy, service, and also life expectation length of the patient. Improved outpatient film delivery, and email submission are some of the facilitation suggestions.

Data management and record keeping are at the heart of the battle against hospital-acquired infections (HAI) (Gichuhi et al., 2015). The present pandemic requires healthcare forces with the skill to enforce and preserve the preventive measures against infection. This scenario combines the development of a capable and interdisciplinary workforce in infection control and prevention built up above existing healthcare professionals such as medical secretaries, health services management, and sociology. Radiographers' ability in penalizing measures also improved the risk perception of other healthcare professionals regarding the lack of use of such. Efforts toward training strategies in infection control and prevention must further focus on the existing healthcare workforce apart from practitioners, nurses and technicians; several other professionals who can play a significant role in infection prevention and control are also in touch with patients and their medical histories, and it is essential to stress the

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

rationale for enhanced strictness in application of precautionary measures against the present SAR-CoV-2.

4. The Impact of Health Services Management on Infection Control

Stanley Njuangang, a healthcare facilities management professional, starts his career in healthcare in the 1990s (Njuangang et al., 2018). He participated in the transformation of the Estates & Facilities Department from a small recently amalgamated Trust to the leading provider of healthcare Facilities Support Services in the UK. He has always been aware of the constraints imposed on patient services and clinical staff by facilities management (FM) services. In 2013, he brought his expertise back to healthcare and since then, he has been forming links between UK models of healthcare FM services and challenges faced by the healthcare sector and hospital management in developing countries.

Alice Gichuhi is the individual in question; the medical and radiographic officer has experience in management with a diploma in Health Services Management. Also a masters' candidate in Health Services Management (Gichuhi et al., 2015). She has experience in hospital management practices which play crucial roles in healthcare services delivery, including infection control activities. Since 2010, she has worked in hospitals where she has witnessed poor adherence to infection control practices by HCWs & poor infection prevention and control (IPPC) in the hospitals. The effects of poor adherence are high rates of infections among patients, healthcare associated infections, and also increased absentee rate among staff. She has observed that upper respiratory infections rank the highest in infections among HCWs and frequently cause work-related absenteeism. The bulk of the work has focused on the involvement of the medical secretary in the management of these infections including causes, types of infections, factors promoting infections & control measures (infection prevention & control-IPC). Data was collected using questionnaires. Interviews were conducted with doctors to find out the most common diseases, while observation was used in the record to identify common diseases. After that the common diseases were studied in depth using literature reviews. Dissemination of IPC guidelines combined with record keeping, proper purification, disinfection, decontamination & sterilization of supplies & the environment & immunization against hepatitis B & other diseases can help prevent upper respiratory infections.

To ensure effective infection control, an integrated approach from a range of health disciplines is essential. This will explore the unique roles with regard to infection prevention and control (IPAC) of a variety of allied health professionals. Infection control provided by a medical secretary in practice will be examined as well as the means by which allied health services management can directly contribute to and advance infection control practice. Observations will be informed by current health sociology literature situated in the context of

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

hospital managerial practices. Finally, radiology practices and facilities will also be explored in relation to the challenges of adhering to these guidelines, examining the consequences and potentials of such non-adherence.

Infection control in health-care facilities is the responsibility of everyone. It is the shared responsibility of an interdisciplinary team of health care professionals. Management structures in health-care facilities also impact upon the ability of individual staff groups to practice particular infection prevention strategies. For instance, health services managers and administrators, who deal with controlling space, are responsible for the construction and maintenance of room design and the subsequent ease or difficulty to clean and disinfect. Widespread cleaning and disinfection of environmental surfaces is crucial for the prevention of both patient and health care worker generated infections and diseases as well as occupational illness related to the cleaning task itself through activities such as provision of safe work practices, protective equipment and/or exposure monitoring. Despite strenuous efforts, these health-care facilities generate and sustain an alarming rate of preventable infections. Hospital cleanliness and sanitation were traditionally important foci in the management of the sick. However, effective cleaning practices appear to have been abandoned, re-discovered then abandoned again, and health-care management's focus has been vocerously criticised in light of increased appreciation and awareness of the infectious nature of illnesses (Njuangang et al., 2018).

Infection prevention and control have become global challenges because of the COVID-19 outbreak. Many professionals from different sectors of the healthcare industry fight against this visible, invisible and serious enemy. The text presents a series of 'commentaries/briefs/insights' from multiple fields and sectors, providing a timely vantage point for looking infection control and prevention from a broader, comprehensive perspective.

Health services management affects daily operations at facilities, the health of both healthcare staff and care recipients, and plays a role in national health delivery systems. As stated (Gichuhi et al., 2015) 'Level four district hospitals are facing a critically high patient burden and severe human resource shortage crisis in a resource limited setting.' Hospital management and all healthcare workers – as the bulk of service providers in health – share a high level of attention and should seek innovative solutions to the problem. In the history of healthcare facilities management services, the establishment and development of hospital cleaning services came about with an understanding of the recurrent outbreak of puerperal fever in the middle of the 19th century by the United Kingdom. The evolution continued with Florence Nightingale, who experimented further on the cleanliness of hospital environments

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

by promoting progressive hospital ward cleaning and later developed into the general hospital housekeeping services after her Crimean War experiences (Njuangang et al., 2018).

4.1. Resource Allocation and Staff Training

Adequate urgency was perhaps not given by many European countries to prepare for an Ebola outbreak on their soil. Almost all the resources needed to achieve this were eminently available prior to the arrival of patients with the disease in Western Europe. In Germany, between 2007 and 2012, 194,371 days of hospital acquired monthly paid leave was taken by 52,976 hospital employees claiming an infectious disease as the cause. A further 76,087 days of sick leave taken by 29,633 employees was probably for the same reason. Of these cases 44,880 days, including 237 infected with methicillin-resistant Staphylococcus aureus, led to a police investigation. Agency and temporary employees were disproportionately affected, with men on average significantly more likely to be infected by MRSA than women. After a series of polio outbreaks during 2012-2013, connective tissue of raw milk and its products was analysed. Bacterial isolates from outbreaks were tested for antibiotic resistance. Use of quinolones, third generation cephalosporins and sulphonamides in Slovakia in the prevention and therapy of infected herds could play an important role in reducing the risk of raw milk contamination. Strains of Escherichia coli and Salmonella spp. were multiple resistant. The fluoroquinolone resistance gene oqxA was identified in Salmonella and Escherichia coli strains. Close of a decade ago, renewed blood-borne viruses outbreaks occurred in dialysis centres in the United States and Italy due to unsafe injection practices of health care providers. A couple of years later an outbreak of Ebola haemorrhagic fever occurred outside Africa in a US hospital. Rapid nosocomial transmission of the virus took place as specialized health care facilities and standard infection control measures for an Ebola outbreak were notoriously lacking. General infection prevention and control measures were eventually implemented in Europe and North America but progress on more specialized requirements seems not to have happened. Case of Western Europe is noted as exceptional. The adequacy of the support and measures pales compared to what is available in North America. Internationally, the approach used to stop Ebola transmission in non-African countries is examined, assessing the role of international agencies, national governments and hospitals in making resources available and coordinating preparedness. How systems of containment created in Western-African countries played a pivotal role in stopping the ongoing, unprecedented and out of control outbreak is also analyzed. Staff homes may pose a higher risk for the spread of methicillin-resistant Staphylococcus aureus (MRSA) and other nosocomial pathogens compared with public settings or pre-hospital transmission. Transmission from migrant domestic staff is a topic that is rarely discussed in the wider international scientific literature. This article presents some of public discourse surrounding public sentiment and its significance for the health and safety of an aging European Union Member State with mass immigration policies. Availability of methicillin-resistant

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

Staphylococcus aureus was assessed via a convenience sample from individuals screened for MRSA colonization at district health facilities. Geographic, social, and biometric data was collected and individual privacy was protected. Presence of MRSA was assessed utilizing polymerase chain reaction testing. Random amplified polymorphic DNA replicate polymerase chain reaction categorization of culture-positive MRSA indicated that the same genotype was present from both staff and patients in three of four cases. Discussions of the wider literature surrounding the dissemination of MRSA by domestic staff, notably immigrant domestic staff, constitutes the bulk of this article. Given the growing rate of separation and divorce in western countries, studying their association with an increased risk for infectious diseases—including MRSA bacteremia (MRSA-B)—is a fundamental public health issue. Data on infectious diseases and MRSA risk were analyzed by linking registries of hospital discharge, marriage, and living arrangements of all adults living in the Lazio region of Italy between 2004 and 2008. New unfamiliar sexual partners, and possibly the wider and newer web-based meeting facilities, played an important role in the acquisition and transmission of infectious diseases. Importantly, individuals who experienced separation or divorce were younger than those who started cohabiting, and age groups <35 years were significantly at increased risk of MRSA-B after a separation or divorce, possibly reflecting differences in partners and in risk behaviour. Increased risk was also observed in males, possibly due to the higher number of new sexual partners compared to women after a divorce. Overall, these results suggest that in younger adults, unexpected changes in sexual partnership could pose a substantial risk of exposure to infectious diseases, and should be carefully considered in prevention campaigns addressed to the general population. Better collaboration between health care workers and family mediation offices should be encouraged, with the aim of promoting safer separation and reducing the spread of infectious diseases.

In the past, many health professional groups saw infection control as someone else's job. They valued IPC as a whole but saw HAI (especially as a result of their own practice) as being unfeasible as other practitioners believed was required for any indirect infection control measures. Increased HAI rates, the continuing development of untreatable conditions, the occurrence of problematic HP-hospital infections creating major medico-legal issues and the raising media profile of hospital infections have led to a reappraisal of infection control by some. The value and potential medico-legal benefits of infection control are now being actively promoted. This is particularly so for groups likely to suffer most from the consequences of HAI, but who may feel they are the least able to do something about it, such as widwives, nursing groups and general practitioners (GPs).

There has been increasing medical literature on HAI over the last decade. This has created a background of grossly differing satisfaction about HAI and IPC. However, different

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

practitioner groups are beginning to share common concerns about how these matters can be effectively addressed. They are being brought together into formal working groups as a result of both professional bodies and audit. Compulsory annual infection control updating for medical and nursing staff will be project managed by the Infection Physician and other senior trust health professionals in order to meet United Kingdom Health Service Guidelines on education and training. A multidisciplinary Infection Control (IP) Committee is now in place with full executive authority and function within the Worcester Royal Hospital; engaging clinical staff in Health Service Executive consultation exercises around infection control; and refining IP professional duties to include direct Consultant and GP liaison, and close monitoring of microbiological environmental audit (Barre et al., 2022). It was anticipated that satisfaction with Basic Professional Training (BPT) post holders might have been greater than for senior clinicians as they would have received some BPT training on infection control. However, there were no significant differences between BPT post holders and senior clinicians. Three-quarters (74.1%, n = 40/54) of respondents reported that they had needed additional training in the preceding year. Professional groups who were more likely to have needed additional training were doctors (16/19; 84.2%), critical care & anaesthetic nurses (11/12; 91.7%), and ICRoot HCW (n = 7/8; 87.5%).

Infection prevention and control (IPC) constitute crucial public health aspects in health care settings internationally. Health care workers (HCWs) are at a higher risk of infection transmission, especially viral infections. Although universal precautions apply to each HCW's daily work, not all remain informed about the potential responsibilities and roles in contact with infected patients. The time constraints and resolute work environment may also limit individual commitment (Moghnieh et al., 2023).

Medical secretaries are commonly the professions to welcome, register, follow and book patients, and make follow-up arrangements. At the time of a viral emergency, these patients, apart from well visits, schedule an appointment in the hospital with the emergency unit (EU) for the common reporting symptoms, such as flu-like illness. Medical secretaries also accompany types of other patients who need consultant referrals, check-up controls, or other health services not related to emergency cases, since hospitals are transmission windows for epidemics involving respiratory droplets and touch. Those patients may be unconsciously or conscious carriers and so the risk of exposure may be threatening to both the hospital and the health professionals, including the medical secretary. In this respect, the medical secretaries urge to be informed about triage and quarantine processes operating in epidemic outbreaks. Top hospital administrations are strongly urged to reassure risk-exposed medical staff (such as medical secretaries) via workshops, announcement bulletins, and the online pandemic guidelines of the Ministry of Health.

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

Efficiently organized IPC activities in health care facilities are a fundamental prerequisite to tackle multi-drug resistant organism (MDRO) and health care associated infection (HCAI) problems. Appropriate IPC staffing is essential to maintain these activities. It includes a sufficient number of staff trained in all essential matters and proficient in the subject. Some studies provide incidental statistics on personnel across the different HCW categories and their training and education status. Nevertheless, comprehensive studies aimed at determining the needs for additional training and assessing the training-related knowledge and training-related work satisfaction by all infection-control staff are not available.

5. Sociological Perspectives on Infection Control

Mainstream perspectives in the sociology of health and illness concentrate on limiting the spread of infections both inside and outside organized health care systems, involving paying attention to the ways individuals with infections are managed (or not). Sociologists and other social scientists have long provided perspectives on the meanings, groupings, patterning, and consequences of infection, contagion, and the control of their spread. The sociologically interested range of studies and reviews includes risks of needle-stick injuries among care workers; the microbiological understandings of sanitary engineers; the infection dimensions of social theories of deviance; constructions of blame, responsibility, and stigma over various outbreaks; innovations in bacteriological laboratories; the social shaping of attitudes and behaviours about public health campaigns and vaccination programmes; and the varied epidemiological correlates and health inequalities related to microbes and vectors in geographical space. Consequently, there are inevitably several social science engagements with the technical, clinical, disciplinary, institutional, policy, political, and technological dimensions of infection, contagion, and prevention. Directed instead by an established interest in the everyday encounters among public, professional, and personal sources of expertise in interpreting, containing, and coping with a possibly contagious experience. On the basis of that orientation, an account is given of a particular manifestation of a common infection, focusing on the development and disruption of dominant disease scripts, and the implications of the experience of oral thrush treatment for how illness, infection, control, boundaries, and emotions are structured and displayed in, and through, everyday settings and practices (Sutton et al., 2019). More specifically, the shifting, reshaping, entropy, and absorption or imposition of diverse normative orders of infection and contamination are discussed.

Medical secretaries are well-placed to provide information to increasingly anxious patients who are constantly exposed to media stories of hospital-acquired infections such as MRSA, and who are becoming ever more resistant to antibiotics. They can reassure these patients by explaining how hospitals are increasingly striving to maintain high standards of hygiene, especially in the light of recent public service government campaigns. This new awareness

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

and understanding of infection control can be the source of a more positive response to medical secretaries, who are medical institutions' front-line nonclinical staff (Sutton et al., 2019).

Health Services Management has much Allied Health practitioner knowledge of the day-to-day practicalities of Infection Control. This departmental knowledge could be of particular use in implementing any new plans to combat healthcare-associated (nosocomial) infections. Radiology plays a significant part in these new plans and is also highly relevant to current research in antibiotic resistance in its role of X-raying patients, especially for chest, knee, hip and spinal infections. This can highlight the importance of all radiographers using a clean lead apron for EVERY patient examination, especially those brought to theatre on their trolleys, where they are easily overlooked and the source of an MRSA cross-infection outbreak. Itemising the stages involved in "Principles for taking action" is an especially important part of the Management skill required to ensure that every point is attended to and nothing is overlooked. To research ways of implementing more exhaustive policies and providing a multidisciplinary team approach is an aspect of all good Management skills. To continue from "Concentrate on points of interest and particular importance" focusing resources where they will be best used, gives an insight into the necessary intelligent anticipation of demand and active rather than passive involvement, avoiding that things are done on an ad-hoc basis. Sociology radiographers should draw attention to their contribution in planning for the future, which is a skill that has already been put to some use. This part of the October action plan needs to be clearly demonstrated to both grades of inquirer (L. Sparke et al., 2022).

It is important to not just look at infection control in a traditional sense. Medical secretary Jacqueline Adams has the same responsibility not to bring harmful bacteria or viruses into works in the infection control sense. However, helpfully, they work in patient facing environments. Noticing sick people is still a vital part of stopping infections from spreading. Surely everyone would agree that a visit to a hospital is both unpleasant and risky experience. Most of us are fine leaving a hospital with a limp or being a bit sleepy, but certified Red Flags that you are really, truly having a bad time in the American medical system are A) unwelcome assistance from law enforcement and B) a return visit. There's no help to be given there, but it is intuitive that nowhere is safe from germs. If prayer, silence and mutilated chickens, chanted over smouldering antiseptic herbs have travelled out of favour for curing disease, there is still an expectation that medical care is, you know, medically necessary, and not itself a locus of contagion (Sutton et al., 2019).

That goes equally whether one is sick or injured and needs emergency treatment, are partaking of an (intrinsically risky) optional treatment /surgery, or is thumping in and out for

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

brief appointments, burns clinic or chemotherapy or physiotherapy. Many biopsies and injections, much cleaning and plaster and swabbing, many machines and many gloves touched by many hands. Equally, nascent psychiatry patients are cast adrift in probing interrogations with isolation and restraints their only solace. And so both the host and her chaperone end up emptying tiny bottles of toxic hand gel into each other's cupped hands, eyes locked into masc4masc uneasy correspondence about how they really should invest in those travel-sized gels. But in the truly enormous car parking lots of necessity waits a potential for transgression so grave it would erode at once the very concept of society. Armed with the chemical arsenal of duelling sanitizers like two player characters on opposing quests, it is pleasant to imagine one has a chance against the horde.

5.1. Behavioral Change Theories

Background: Behavioral change is a central feature of infection control, which is essential to elicit and ensure compliance with recommendations concerning the prevention, containment, and reduction of hospital infections (Stålsby Lundborg & J. Tamhankar, 2014). Behavioral change is particularly important to protect health professionals working front-line responses to infectious threats, such as the current SARS-CoV-2 pandemic. Fifty papers comprising empirical studies were gathered, selected, and reviewed. The data was analyzed to examine the representation of behavioral change responses and to classify them according to the theoretical domain framework. The data were then explored, and the results were connected to the existing literature on the factors influencing the uptake of recommendations as they relate to behavioral changes.

Behavioral Change Theories: The data obtained indicated that implementation, embedding, and integration were perceived as collective and individual behavioral processes (Morales-Burton & A. Lopez-Ramirez, 2023). This was supported by evidence from healthcare interventions, such as education, incentivization, training, restriction, environmental restructuring, modeling, and enablement. The COVID-19 pandemic has mandated heightened infection control measures to be prioritized, implemented, followed, and maintained by health service providers. Stopping the spread of the infection, as well as reducing its mortality and morbidity rates, has yet failed. Following protocols to avoid SARS-CoV-2 have been deemed paramount to healthcare workers' safety. However, guidelines are not followed, and many healthcare workers are infected. Behavioral science should fundamentally be in the toolbox of public health responses. Theoretical approaches uphold that behavioral change may affect the degree to which a person or a collective follows guidelines to avoid the transmission of infectious diseases. Identifying what individuals and which groups are at the highest risk could help in targeting behavior adaptation interventions. In an attempt to cope with the spread of COVID-19, both nationally and worldwide, health and governmental efforts have focused on providing information about the virus and its health impacts. Several guidelines

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

have been released to address these myths and recommend those behaviors that could prevent contagion. Efforts have also been made to adaptive measures establishment, like restriction policies and PPE favoring policies. As of recently, two main strategies have been highlighted and extensively advocated by health authorities worldwide. First, they focus on prioritizing PPE, aiming to address issues regarding the appropriate use and adequate disposal of this equipment to preclude droplet exposure. Second, they emphasize the necessity of commercializing or demanding that healthcare workers expand to guarantee the implantation and put-to-use of appropriate PPE, in addition to advocating for the establishment of a dedicated area or route in the emergency department exclusively catered to respiratory patients suspected or confirm that their symptoms are the result of SARS-CoV-2 infection. As responses were defined by the World Health Organization as behavioral transformation intervention, conceptualizing them as sets of activities designed to modify health workers' conduct concerning patients that are confirmed or suspected to have been infected by SARS-CoV-2, an analysis with the theoretical domain framework was engaged.

This study reports on the behavior of professionals from different health disciplines toward infection control and prevention. The data was sourced from 494 primarily Australian online surveys, comprising Medical Secretaries (n = 403), Health Services Management (n = 374), Sociology (n = 160), and Radiology (n = 137). The medical secretary cohort held more positive perceptions about infection control and prevention practices and had less disease risk perception than the other three health discipline cohorts (Stålsby Lundborg & J. Tamhankar, 2014). Discipline specific multidisciplinary interventions should be implemented to improve disease risk perception and attitudes toward infection control and prevention practices (Morales-Burton & A. Lopez-Ramirez, 2023). Professionally embedded infection control and prevention or exposure minimization practices should be enhanced. Oversights, resource shortcomings as well as inadequate professional and situational connectedness were revealed.

The perception of Medical Secretaries with regard to infection control and prevention practices was significantly more positive than those of Health Services Management, however less positive than Sociology and Radiology disciplines. When compared to the other cohorts of health professionals, Medical Secretaries had a significantly lower perception of their own risk of contracting/dying from contagious disease. The medical secretary cohort was also found to have a significantly lower concern about the risk of disease transmission to their family members. In total there are 9 domains for each discipline-specific health discipline cohort that could be improved on per theoretical domain framework guidelines. Dissemination and eventual implementation of the recommendations should make a significant positive impact on the delivery of healthcare service and disease exposure minimization.

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

There are many reasons why it can be difficult for people to make changes, and many ideas about how behavior changes happens. Some of these may be informally held; others take the form of psychological theories about stages of change. The authors suggest that interventions can only be effective if they target the correct stage of a predisposing change. Doctors often do not use the same prescribing rationale, noted the appropriateness of the same script for two very different types of winter infection. Such observations are the basis of a range of interventions, not all of which presuppose a psychological model of behavior change. The things that can be held responsible include an understanding of the economic and organizational constraints on the distribution of antibiotics; that knowledge about the progress of an infection is often held tacitly by a medical profession rather than the punter, and that information does not guarantee informed choice and change (Morales-Burton & A. Lopez-Ramirez, 2023).

6. Radiology's Contribution to Infection Control

The development of modern radiology is increasingly characterized by the rapid introduction of previously unknown techniques, especially by digital technology, as well as a significant increase in the number of specialized diagnostic tests with the use of ionizing radiation. Radiological diagnostics also covers intensive care units, angiography, and endoscopic diagnostic and therapeutic methods. There is a great variety of invasive diagnostic and therapeutic methods. When performing most of the procedures, there is a break in the barrier function of the skin and the mucosa, allowing the possibility of transferring microorganisms (Ilyas et al., 2019). It should be added that there is often a lack of intense cooperation of the person conducting the examination, with medical personnel looking after the person being diagnosed, breaking the continuity of information on the health of the operatively employed patient.

As a result of this circumstance, the frequency of adverse events, including infection, is constantly growing. According to available data, in developed countries, by the end of the twentieth century, approximately 6.5% of people hospitalized in hospitals have acquired infections in these hospitals. Mortality attributed to such infections is approximately 80,000 deaths per year in the USA, which is equivalent to the number of deaths as a result of traffic accidents. Annually, in the United Kingdom, acquired infections are diagnosed at 5 - 10% hospitalized patients, and the corresponding numbers of deaths are estimated at 3000 to 5000, undesirable epidemiological events, including infections, are not very common in conducting radiological procedures. However, because radiology is an integral part of the hospital, they can also appear in MRI departments. From the 1st of September 2002, incidents are described in the officially introduced ™KCIJ - 8 system and immediately passed to the hospital infection committee.

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

As a diagnostic facility, radiology is utilized by a broad range of patients and healthcare providers within the healthcare system. In turn, this diverse group of providers has the potential to foster infections that can then be spread within their communities. The radiology department can break the chain of infection through the provision of a sterile environment, clean equipment, and proper hand hygiene. Radiography departments were among the first medical specialties to move towards the use of sterile gloves. Furthermore, much of the work in a radiology department is done in a 'clean' environment, so infection control has more to do more with removing the source of infection than it does with the aseptic technique (Ilyas et al., 2019).

The chain of infection can be broken by interrupting one of six key events. Aseptic techniques are built on the understanding that infection occurs when pathogens are passed from one patient to the next. Patient spatulas, bite blocks, and other equipment that is brought into the mouth should be disposed of and never reprocessed. Increased turnover of patients leads to increased infection rates. Infection may have spread from one of these patients to the next. Sedation requires the use of needles, increasing the potential transfer of infection. Aseptic technique in radiology clinics requires extra efforts to combat the introduction of infection through the blood. Blood borne is the most commonly transmitted disease among patients and healthcare providers. Infection control principles and aseptic techniques in the radiology department should be understood thoroughly by healthcare providers and rigorously enforced on an everyday basis.

Nosocomial infections are a global concern. Their significance is more pronounced in developing countries where resources are unable to keep up with the demand. An effective infection control and prevention program can be used to stop the spread of these infections and eventually reduce the associated morbidity and mortality.

Infection control is the responsibility of all health workers, including medical secretaries, as well as many other non-health workers such as kitchen staff, cleaning staff and patient visitors. Infection control and prevention programs can only be effective if they are approached in a coordinated manner. The role key personnel play in the successful implementation of an Infection control program depends on their profession and health knowledge. For example, a medical secretary who is familiar with medical terminology will be able to provide a more efficient service to the medical practitioners if they have an understanding of the infection control program (Ilyas et al., 2019).

There is still a lack of understanding of infection control and prevention of small radiology clinics compared to large hospitals. General infection control measures can be applied to the radiology department. It is necessary to consider not only the patient population but also the staff. Radiologists, technologists, nurses, and administrative staff must be trained in infection

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

control measures and must remain up-to-date. Site-specific infection control techniques need to be developed for each imaging modality. The physical environment should also be set up in accordance with precautions, including the installation of adequate washing facilities. The limitations of the radiology department should be recognized and patients with infectious diseases should be sent to the equivalent large hospital.

6.1. Diagnostic Imaging Techniques

Diagnostic imaging techniques are essential for patient care, and as with all invasive medical examination procedures, they should be performed with proper aseptic techniques to ensure the safety of patients and healthcare workers (Ilyas et al., 2019). Similar to nursing and patient care, radiology doctors and technicians must work in close contact with a substantial number of patients, possibly serving as vectors in the transmission of pathogens, including antimicrobial-resistant strains. There are no publications on nosocomial infections related to the radiology department and cross-infection from diagnostic imaging techniques, though there are documents on infection control measures taken by radiologic science technicians. These guidelines mainly focus on individual infection control such as washing, wearing protective materials, and disinfecting the hands and equipment, but they do not explain the basic microbiological background for proper infection control from the standpoint of consideration of nosocomial infection transmission. It is beneficial for radiology doctors and technicians to understand the microbiological features of typical nosocomial pathogens, disinfection procedures, and alternative imaging tests such as ultrasonography and MRI.

In diagnostic radiology, as well as in other departments treating patients, the approach to infection prevention is based on a multi-faceted set of measures, as well as good common sense. All staff should be familiar with transmission-based isolation precautions. The infection control nurse is available to offer advice and guidance on how these measures might apply to radiology. Infection incidents, outbreaks, and ‘near misses’ should be documented and investigated.

Medical equipment should be cleaned before it is taken into the patient’s room, and cleaning after patient exposure in examination rooms should be done with a disinfectant that is bactericidal, virucidal, and fungicidal. This is especially applicable in the developing world where equipment costs are high. If disposable gloves are used, staff must perform hand hygiene to prevent the spread of pathogens. If gloves are not worn, it is necessary to wash hands and/or arms after equipment handling or after the medical procedure. Universal precautions must be stressed for health care and office staff in diagnostic radiology. This should prevent unnecessary exposure to infectious disorders (Ilyas et al., 2019). It is not well known that use of body substance isolation precautions among 86 LDRs was considered appropriate by only 56.6%, and that the body substance isolation precautions comprise

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

standard precautions against most infectious agents when blood, all body fluids, secretions, excretions, soiled equipments and linen are considered as potential to contain infections.

Diagnostic imaging techniques are a significant part of medical practice worldwide. They contribute to an accurate and earlier diagnosis, and provide a fundamental tool when monitoring the progression or remission of illness. However, along with all the benefits diagnostic imaging techniques bring, they also represent a potential way to the spread of infections. The risk of developing infections through diagnostic imaging techniques arises due to the use of various radiology equipment in a care setting which is a perfect environment for many pathogens. Research has established that contamination levels of radiology equipment with mesophilic microorganisms range from 22.9% to 90.2%. Medical Secretary very much understands the importance of the necessary cleaning and decontamination of equipment. They work closely with various imaging techniques and notices completions or discrepancies, logs error, and requests repairs when necessary to avoid equipment misadventures. They see to it that any malfunctions with equipment are logged and dealt with as soon as possible (Ilyas et al., 2019).

In any health care setting, and especially in diagnostic imaging facilities, individual protection is of the utmost importance in limiting both the spread of infections and exposure to them. For the spread of infections, Health Services Management is involved in the management and containment practices such as limitation of mobility, isolation of openly infective individuals, advising the use of sanitary products or protective gloves, and post-infection cleaning practices. Exposure to infections and practices should be limited by strictly abiding universal precautions policy and other infection control guidelines. Universal precautions are a set of practices and safety measures designed to prevent the transmission of blood-borne infections.

Although medical practice has advanced in the last few decades this branch of health work is still one of the most in need of workers, both in hospitals and in remote and/or rural areas. Rural populations are harder to reach with educational measures and are often out of touch with the latest advanced in medicine. Many of the rural hospitals or health care centers in countries in development are in disrepair and lack basic facilities. Add that the most competent doctors tend to go and work in richer countries or wealthy urban areas and it is easy to see the state of health care in a rural area of countries with economic development issues. Understanding this, Sociology provide health services in basic equipment and hygiene and sanitation programs on a Level I Hospital based in a rural area which will serve as a guideline for a policy to be adopted in similar settings in Viet Nam and other countries with the same need.

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

7. Conclusion and Future Directions

Preventing and controlling the spread of infection in healthcare settings is a key element of safe, quality healthcare (Hall et al., 2015). In New Zealand, the standards revised in the Health and Disability Services (Infection Prevention and Control) Standards were approved by the Minister of Health. The fundamental elements were developed by the Health Quality and Safety Commission, in consultation with national and community stakeholders including inclusion on the key elements of the Healthcare Infection Prevention and Control Standards Development Working Group. Work through 2014-2016 by the HIPC informed the development of the standards in this area. Infection Prevention and Control health professionals now work in a range of roles, in large hospitals or small primary care settings, in the lab or in the clinic, in management or on the wards. This diversity is reflected in the approaches taken to their roles, responsibilities, and scope of practice. To better understand these approaches, a survey was conducted of how infection control is implemented and managed in healthcare settings. Epidemiologists and microbiologists are more likely to be employed as the hospital Infection Prevention and Control team, with a range of education, training, and a diverse set of responsibilities across an organization. The IPC team is also likely to spend a proportion of their time on patient contact for the management of specific infections, in auditing and surveillance, and/or contributing to IPC education programs for healthcare workers and/or patients. Conversely, clerical and administrative staff are less likely to be formally employed in an IPC role in New Zealand, and not responsible for hospital audits, compliance reporting, producing monthly infection data, and/or writing and chairing IPC meetings with management, as part of their existing role.

In conclusion, infectious disease are one of the most affecting parts of human health. In order to control the infectious disease and prevent them from spreading, professionals related to health and health facilities should isolate the infected person quickly. There should not be a contact of the infected person with the healthy persons. Proper and well-equipped facilities should be provided to the infected persons so they got an treatment of the disease as soon as possible. Health professionals should take care of the infected person properly and treat them without any fears as shown in their faces. Place of treatment and related to disease person should be cleaned well to avoid the spreading of the disease. Multidisciplinary approach in health and health related study will also help to get out of spread of the disease. Special awareness should have delivered to the persons who will contact with the infected person in order to treat them. Any person who take care of the infectious person, ill persons or related to the health of the infected persons should also get vaccinated in order to avoid the disease. Properly treated kits should be provided to these professionals because they are at high risks. Only educated and well-trained professionals should participate in these and related tasks to avoid the spread in women and other family members. Only china town should not have closed but also other interaction parts of the city and others cities should also have closed to

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

avoid the spread. Infection control professionals should play a vital role in the controlling or minimizing the spread of infectious disease (Hall et al., 2015). Now a days, it's a very important and must need for each city that they must have a trained infection control professionals. Infection control professionals are those persons that know well how to control the different types of diseases spreading in a country. Infection control professionals known well how to control the disease, what kits they should wear when they were go to infected persons, how to clean the infected persons, how to clean their clothes after interacting of infected persons and many other precautions they know.

In conclusion, the role that multidisciplinary health professionals play in infection control and prevention remains an under-examined aspect generally. Importantly, they can have different and important roles despite not directly providing patient care. It is crucial that a diverse group of health professionals are engaged with infection control and that common understandings need to be developed to promote and encourage effective practice. The special role of service providers within the health system in ensuring that infection control is embedded in practice and their insights into all the actors in infection control are especially relevant.

There are a wealth of opportunities for further research to build upon these preliminary insights. In particular, there is a need for further in-depth examination of the day-to-day practice of a broader range of health and other professionals working in infection control and a detailed quantitative examination of compliance with known best practice in relation to hygiene within the hospital setting. This would include compliance with guidelines and the use of antibiotics. Additionally, receptivity of professionals to changes in guidelines and their potential translation into practice would be a valuable line of inquiry.

References:

1. Hall, L., Halton, K., MacBeth, D., Gardner, A., & G Mitchell, B. (2015). Roles, Responsibilities and Scope of Practice: Describing the 'State of Play' for Infection Control Professionals in Australia and New Zealand. [PDF]
2. E. Gregory, M., R. MacEwan, S., N. Sova, L., A. Gaughan, A., & Scheck McAlearney, A. (2022). A Qualitative Examination of Interprofessional Teamwork for Infection Prevention: Development of a Model and Solutions. ncbi.nlm.nih.gov
3. Thurgood, G. (1992). Let's work together, let's learn together. [PDF]
4. Barre, F., Kaba, H., Dresselhaus, I., Mayr, E., Voigt, M., Schaumann, R., Dierks, M. L., & Scheithauer, S. (2022). Determining the need for additional training among hospital infection-control workforce – results from a multicentric survey within the multiresistance network of southern Lower Saxony (MRNS), Germany. ncbi.nlm.nih.gov

Power System Technology
ISSN:1000-3673
Received: 06-10-2024 Revised: 15-11-2024 Accepted: 10-12-2024

5. Danso, J. (2015). A Study of Records Management Practice at Health Facilities in Upper Denkyira West District of Ghana. [PDF]
6. Gichuhi, A., Kamau, S., Nyangena, E., & Ngalo, O. A. (2015). Health Care Workers Adherence to Infection Prevention Practices and Control Measures: A Case of a Level Four District Hospital in Kenya. [PDF]
7. Njuangang, S., Lasanthi Liyanage, C., & Akintoye, A. (2018). The history of healthcare facilities management services: a UK perspective on infection control. [PDF]
8. Moghnieh, R., Saif Al-Maani, A., Berro, J., Ibrahim, N., Attieh, R., Abdallah, D., Al-Ajmi, J., Hamdani, D., Abdulrazzaq, N., Omar, A., Al-Khawaja, S., Al-Abadla, R., Al-Ratrout, S., Gharaibeh, M., Abdelrahim, Z., Azrag, H., Mayar Amiri, K., Berry, A., Hagali, B., Kadhim, J., Al-Shami, H., Ali Khan, M., Husni, R., Heweidy, I., & Zayed, B. (2023). Mapping of infection prevention and control education and training in some countries of the World Health Organization's Eastern Mediterranean Region: current situation and future needs. ncbi.nlm.nih.gov
9. Sutton, E., Brewster, L., & Tarrant, C. (2019). Making infection prevention and control everyone's business?:Hospital staff views on patient involvement. [PDF]
10. L. Sparke, V., MacLaren, D., Esau, D., & West, C. (2022). Exploring infection prevention and control knowledge and beliefs in the Solomon Islands using Photovoice. ncbi.nlm.nih.gov
11. Stålsby Lundborg, C. & J. Tamhankar, A. (2014). Understanding and changing human behaviour—antibiotic mainstreaming as an approach to facilitate modification of provider and consumer behaviour. ncbi.nlm.nih.gov
12. Morales-Burton, V. & A. Lopez-Ramirez, S. (2023). Avoiding SARS-CoV-2 infection in healthcare workers: is behavioral change the answer?. ncbi.nlm.nih.gov
13. Ilyas, F., Burbridge, B., & Babyn, P. (2019). Health Care–Associated Infections and the Radiology Department. ncbi.nlm.nih.gov