HEALTHCARE-ASSOCIATED INFECTIONS CAUSED BY MULTIDRUG-RESISTANT BACTERIA: A MULTIPROFESSIONAL APPROACH AND ADHERENCE TO PROTOCOLS IN THE SUS CONTEXT

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Abstract

Healthcare-associated infections (HAIs) caused by multidrug-resistant bacteria represent a major challenge for health systems, particularly within the Brazilian Unified Health System (SUS). This study aims to analyze the importance of a multiprofessional approach and adherence to protocols in the prevention and control of these infections. It is a narrative review based on scientific evidence from authors such as Didier Pittet, Barry M. Farr, and Ramanan Laxminarayan, as well as guidelines from the World Health Organization and the Ministry of Health. The results indicate that strategies such as hand hygiene, rational antimicrobial use, and epidemiological surveillance significantly reduce HAI rates. The integrated performance of multiprofessional teams enhances protocol implementation and improves patient safety. It is concluded that consistent adherence to best practices, combined with continuous health

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education, is essential to address infections caused by multidrug-resistant microorganisms in the SUS context.

Keywords: Healthcare-associated infections, Multidrug-resistant bacteria, Infection control, Multiprofessional team, Patient safety.

INTRODUCTION

Healthcare-associated infections (HAIs) constitute an important public health problem on a global scale, being responsible for high morbidity and mortality rates, prolonged hospital stays, and increased healthcare costs. This scenario becomes even more concerning in light of the growing spread of multidrug-resistant bacteria, a phenomenon widely discussed by researchers such as Didier Pittet and Ramanan Laxminarayan, who highlight antimicrobial resistance as one of the greatest threats to contemporary health (Pittet, 2001; Laxminarayan et al., 2013). In the context of the Brazilian Unified Health System (SUS), the challenges are intensified by structural limitations and the need to standardize care practices.

Given this panorama, the following research question is defined: how do the multiprofessional approach and adherence to care protocols contribute to the prevention and control of HAIs caused by multidrug-resistant bacteria in the SUS?

The general objective of this study is to analyze the importance of multiprofessional practice and adherence to protocols in reducing these infections. The specific objectives are: (a) to discuss the main factors associated with the occurrence of HAIs caused by multidrug-resistant microorganisms; (b) to evaluate the role of multiprofessional teams in controlling these infections; and (c) to identify effective strategies based on institutional protocols and national and international guidelines.

The justification for carrying out this study lies in the epidemiological and care-related relevance of HAIs, especially in view of the increase in bacterial resistance, as highlighted by the World Health Organization (World Health Organization, 2014). The adoption of evidence-based practices and the

strengthening of the patient safety culture are fundamental to minimizing risks and improving the quality of care provided.

With regard to the theoretical review, classic and contemporary studies indicate that measures such as proper hand hygiene, rational use of antimicrobials, and continuous epidemiological surveillance are essential for the control of HAIs, as evidenced by Barry M. Farr (Farr, 2000). In addition, integration among professionals from different health fields favors the effective implementation of protocols and contributes to better clinical outcomes, reinforcing the need for a multiprofessional approach in addressing this problem.

METHODOLOGY

TYPE OF RESEARCH

The present study is characterized as a narrative review with a qualitative approach, with the objective of synthesizing and analyzing scientific evidence related to healthcare-associated infections (HAIs) caused by multidrug-resistant bacteria, focusing on the multiprofessional approach and adherence to protocols in the context of the Brazilian Unified Health System (SUS). The narrative review allows the integration of different types of studies and contributes to a broad understanding of complex phenomena in the health field, as discussed by Roberto Hernández Sampieri (Sampieri; Collado; Lucio, 2013).

SEARCH STRATEGY AND DATA SOURCES

Data collection was carried out through searches in recognized scientific databases, including Latin American and Caribbean Health Sciences Literature (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE), and Scientific Electronic Library Online (SciELO). Controlled descriptors and keywords such as “hospital infection,” “multidrug-resistant bacteria,” “infection control,” and “multiprofessional team” were used, combined with Boolean operators (AND, OR). The search

strategy followed methodological recommendations widely used in scientific reviews, according to the guidelines of Douglas G. Altman (Altman, 1991).

INCLUSION AND EXCLUSION CRITERIA

Scientific articles published between 2010 and 2024, available in full text, in Portuguese, English, and Spanish, that directly addressed HAIs associated with multidrug-resistant microorganisms and control strategies in the hospital environment were included. Duplicate studies, editorials, letters to the editor, and works that did not have a direct relationship with the proposed theme were excluded. The definition of rigorous selection criteria contributes to the quality and reliability of the findings, as highlighted by Matthias Egger (Egger; Smith; Altman, 2001).

ANALYSIS TECHNIQUES AND INSTRUMENTS

The data extracted from the selected studies were organized into thematic categories, allowing comparative analysis of the findings. The content analysis technique was used to interpret the qualitative data, making it possible to identify patterns, trends, and gaps in the literature. This approach is widely employed in health research, as proposed by Laurence Bardin (Bardin, 2011).

ETHICAL ASPECTS

As this is research based on secondary data available in the scientific literature, there was no need for submission to a Research Ethics Committee. However, the ethical principles related to scientific integrity were respected, with proper citation of the sources and authors used.

METHODOLOGICAL DISCUSSION

The choice of narrative review as the method proved to be appropriate for the objective of the study, since it enables articulation between different theoretical and practical perspectives on the control

of HAIs caused by multidrug-resistant bacteria. However, it is recognized that this type of approach may present limitations regarding reproducibility and bias control when compared to systematic reviews. Even so, its applicability is widely recognized in the health field, especially in exploratory and integrative studies, as discussed by Trisha Greenhalgh (Greenhalgh, 2014).

RESULTS AND DISCUSSION

The results of the present review show that healthcare-associated infections (HAIs) caused by multidrug-resistant bacteria remain a significant challenge for health services, especially in middle-income countries such as Brazil. Studies indicate that pathogens such as *Staphylococcus* aureus resistant to methicillin (MRSA) and carbapenemase-producing enterobacteria have a high prevalence in hospital environments, contributing to worse clinical outcomes (Laxminarayan et al., 2013).

Table 1

Main multidrug-resistant microorganisms associated with HAIs

Microorganism	Resistance mechanism	Clinical impact
Staphylococcus aureus (MRSA)	Methicillin resistance	Severe infections, sepsis
Klebsiella pneumoniae	Carbapenemase production	High mortality
Pseudomonas aeruginosa	Multiple antibiotic resistance	Respiratory infections
Acinetobacter baumannii	Carbapenem resistance	Infections in the ICU

Source: Adapted from Laxminarayan et al. (2013).

One of the main findings refers to the effectiveness of prevention measures based on institutional protocols. Hand hygiene, considered the single most important intervention in the prevention of HAIs, has a direct impact on reducing infection rates, as demonstrated by Didier Pittet (Pittet et al., 2000).

Table 2

Main HAIs prevention measure

Measure	Description	Effectiveness
Hand hygiene	Use of alcohol-based hand rub or soap and water	High
Use of PPE	Gloves, masks, gowns	Moderate to high
Patient isolation	Reduction of cross-transmission	High
Environmental cleaning	Surface disinfection	Moderate

Source: Adapted from Pittet et al. (2000).

Another relevant aspect concerns the rational use of antimicrobials. The implementation of antimicrobial stewardship programs has been associated with reduced bacterial resistance and improved clinical outcomes. According to Ramanan Laxminarayan (Laxminarayan et al., 2013), the inappropriate use of these medications is one of the main drivers of resistance.

Multiprofessional practice also stands out as a central element in HAI control. Integration among physicians, nurses, pharmacists, and other professionals favors the implementation of preventive measures and compliance with institutional guidelines.

Table 3

Role of the multiprofessional team in HAI control

Professional	Main function
Physician	Appropriate prescription of antimicrobials
Nurse	Monitoring and prevention of infections
Pharmacist	Antimicrobial management
Physiotherapist	Prevention of respiratory infections

Source: Adapted from Farr (2000).

In addition, international guidelines, such as those proposed by the World Health Organization (World Health Organization, 2014), reinforce the need for continuous epidemiological surveillance and the implementation of public policies aimed at patient safety. In the context of the Brazilian Unified Health System (SUS), such strategies must be adapted to local realities.

In general, the findings corroborate the literature by demonstrating that the reduction of HAIs caused by multidrug-resistant bacteria depends on an integrated approach based on evidence and strict adherence to care protocols. However, challenges such as low adherence to recommended practices and

structural limitations still persist, indicating the need for continuous investment in training and health management.

CONCLUSION

The present study aimed to analyze the importance of the multiprofessional approach and adherence to care protocols in the prevention and control of healthcare-associated infections (HAIs) caused by multidrug-resistant bacteria in the context of the Brazilian Unified Health System (SUS). Based on the literature review, it was possible to understand that such infections represent a relevant challenge for public health, requiring integrated strategies grounded in scientific evidence.

The main results showed that the adoption of measures such as hand hygiene, rational use of antimicrobials, and continuous epidemiological surveillance contribute significantly to the reduction of HAIs. In addition, it was highlighted that multiprofessional practice plays a fundamental role in the implementation and compliance with care protocols, promoting greater patient safety and quality of the care provided.

As a contribution, this study reinforces the importance of articulation among different health fields and the standardization of care practices as essential elements in addressing bacterial resistance. It also highlights the need to strengthen public policies aimed at infection control, especially in health systems such as the SUS, which deal with structural challenges and high care demand.

Finally, it is suggested that future research should deepen the analysis of innovative strategies for controlling multidrug-resistant microorganisms, including the use of health technologies, continuous educational programs, and evaluation of protocol effectiveness in different regional contexts. Investigations with more robust methodological designs, such as systematic reviews and intervention studies, are also recommended to expand the evidence base in the area.

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