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# PPI PROGRAM FOR TREATING ANTIMICROBIAL RESISTANCE

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**ABSTRACT**

*The problem of antimicrobial resistance is a big thing in health services both in hospitals and in the community. The purpose of organizing the PPI program is to be able to find findings and reduce the possibility of infections that occur in groups of patients, employees, medical and non-medical personnel, permanent staff, part-time staff and volunteers, students and other hospital consumers.*

## Introduction

Infectious diseases are one of the main things in the decline in performance and productivity. This triggers an increase in hospital spending on medical expenses. The problem of antimicrobial resistance is a big thing in health services both in hospitals and in the community. This state of resistance is difficult to treat with empirical antibiotics, hence the term "superbug" (Unemo & Shafer, 2011). Recently there has been an increase in multidrug-resistant bacteria, this causes infections that do not give a good outcome to the administration of some antibiotics. Health authorities have described antibiotic resistance. More broadly antimicrobial resistance (AMR) is declared a public health emergency caused by widespread antibiotic abuse, which has not been matched by the development of new, equally productive antibiotics (Lesho & Laguio-Vila, 2019).

In accordance with the regulations regarding the Guidelines for Infection Prevention and Control (PPI) in handling infections in health facilities, an integrated local approach is needed in accordance with the surrounding conditions, both hospitals and the community. In its implementation, the handling of infectious diseases includes the need for rational and wise use of antibiotics to control antimicrobial resistance. PPI activities are carried out to prevent, minimize exposure to infection both in the community, visitors to officers and patients in health facilities. PPI activities include planning, implementation and evaluation activities that are directed and structured in accordance with regulations (Weeks et al., 2017)

### Metode research

Identification methods in high risk areas, the existence of clear regulations and good internal coordination flows (Reefke & Sundaram, 2017).

The focus areas in the hospital PPI program include: leadership and organizational structure, human resources and infrastructure, PPI programs and clear goals, medical equipment including single use tools, infectious and B3 waste, nutrition services, building construction risks, transmission of infection and quality improvement and education programs (Mejjad et al., 2021)

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health facilities, surveillance of the risk of infection in hospitals, investigation of outbreaks or out breaks, increasing supervision on the use of antimicrobials, conducting periodic risk assessments, determining target of reducing infection risk, infection risk review and always conducting periodic monitoring and evaluation of the PPI program (Mudjianto et al., 2018). Supervision of the use of antimicrobials is closely related to the handling of antibiotic resistance which is currently an issue in the world of health and education.

Prescription antibiotics are used to treat a number of different bacterial infections. But in reality antibiotics are also consistently prescribed without adequate clinical indications, for example, to treat viral infections (Craig et al., 2010). This situation is one of the causes of antibiotic resistance. Antibiotic resistance occurs when germs such as bacteria and fungi develop the ability to overpower the drugs designed to kill them. That means the germs are not killed and continue to grow. Infections caused by such antibiotic-resistant bacteria are difficult and sometimes impossible to treat. In most cases, antibiotic-resistant infections require longer hospital stays, more frequent doctor visits, more follow-up and more expensive alternatives. Antibiotic resistance doesn't mean the body has become resistant to antibiotics but bacteria have become resistant to antibiotics. designed to control infection (Brookes-Howell et al., 2012).

Antibiotic resistance has the potential to affect humans at every stage of life, including the healthcare, veterinary and agricultural industries. Antibiotic resistance makes it one of the most pressing public health problems in the world. Each year in the United States at least 2.8 million people are infected with bacteria or fungi that are resistant to antibiotics. At the same time more than 35,000 people died as a result. No one can completely avoid the risk of resistant infection, but some people are at greater risk than others (e.g. people with chronic diseases). If antibiotics lose their effectiveness, then we lose the ability to treat infections and control public health threats (Frieri et al., 2017). Many medical advances depend on the ability to fight infection using antibiotics, including joint replacements, organ transplants, cancer therapy, and treatment of chronic diseases such as diabetes, asthma, and rheumatoid arthritis as well as other medical measures.

The emergence of infections that are resistant to various antibiotics has led to a debate about the practice of prescribing doctors about the rational administration of antibiotics in the treatment of various diseases, including infectious diseases themselves (Allerberger et al., 2016). It also gives serious consideration to the recommended indications and length of time for antibiotic therapy in the clinical field as well as its widespread use in animal husbandry and other non-therapeutic purposes (Okocha et al., 2018). Although antimicrobial resistance is a consequence of patient overuse of antibiotics, the contribution of routine antibiotic use in animal agriculture to this emerging public health crisis is often overlooked. According to the CDC, the use of agricultural antibiotics is responsible for approximately 20% of resistant infections in humans (Makary et al., 2018)

The widespread use of antibiotics is driving the evolution of resistance. It has been clear since the introduction of antibiotics into clinical practice that the development of new antibiotics can never keep pace with the emergence of resistance (Li & Webster, 2018). Each introduction of an antibiotic is followed, relatively quickly, by documented resistance to that antibiotic. Thus, the main way to reduce antibiotic resistance is to promote the judicious use of antibiotics. One area of great importance is in the health care

setting, where among the infected patients here many are immunocompromised.

However, we cannot forget other important arenas that use antimicrobials in large quantities, such as the agricultural industry. In particular, the use of antimicrobials in agriculture not only exerts evolutionary pressure to promote the development of resistance, but also provides links in the chain of resistance gene transmission through dispersal to groundwater, as well as through human consumption (Biohaz Et Al., 2021). This is a concern that needs to be seriously considered regarding the relationship between routine use of antibiotics in animals and the decreased effectiveness of antibiotics in treating human infections.

Misuse of antibiotics is believed to be the main cause associated with the high number of resistant pathogenic and commensal bacteria worldwide. Both the dose and how to use it. Misuse of antibiotics is believed to be the main cause associated with the high administration of antibiotics contributing to the selection of resistant strains.

**Results and Discussion**

use of antibiotics. The challenges of implementing PPRA include: lack of funding, lack of internal hospital team support for the PPRA program, not yet optimal clinical management, lack of socialization of activities and workload overload and lack of infrastructure (Gulbs et al., 2018)

Evaluation of the implementation of PPRA surveillance still shows the inappropriate use of antibiotics (Hadi et al., 2013). However, several centers have shown improvements in the quality of antimicrobial prescriptions after the implementation of the program (). So that guidelines for rational use of antibiotics need to be improved and evaluated periodically to prevent resistance.

**Conclusion**

PPI work programs in hospitals include: hand hygiene or hand hygiene, cleanliness of the environmental area of health facilities, surveillance of the risk of infection in hospitals, investigation of outbreaks or out breaks, increasing supervision on the use of antimicrobials, conducting periodic risk assessments, determining target infection risk reduction, infection risk review and always carry out periodic monitoring and evaluation of the program.

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