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Applying Medicines in Children: A Thorough Investigation of the Prevalence of Neonatal Hospital

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Abstract

Therefore, it is imperative to better understand current usage patterns, especially in high-risk groups, including neonates and children. A point prevalence study (PPS) was conducted at his three pediatric tertiary care hospitals in Punjab using the World Health Organization (WHO) methodology. Antibiotic use is documented according to the WHO-Aware classification. Of a total of 1576 neonates and children, 1506 antibiotics were prescribed on the day of the survey (prevalence = antibiotics prescribed per patient. Most antibiotics were prescribed in the medical ward (75%), followed by the surgical ward (12.8%). Additionally, 56% of antibiotics were prescribed prophylactically and most antibiotics (92.3%) were administered parentally. The three most common indications for antibiotics were respiratory infections (34.8%), gastrointestinal infections (15.8%), and prevention of medical problems (14.3%). The three most commonly prescribed antibiotics were ceftriaxone (25.8%), amikacin (9.2%), and vancomycin (7.9%). Overall, were from the Access group. Antibiotic use in hospitalized neonates and children was very high in this study. In context, urgent action is required.

Keywords: Point prevalence survey; Hospitals; Children; Antibiotics; Pakistan; AWaRe classification

Introduction

Despite significant advances in medicine, treating infections remains a challenge due to the emergence of antibiotic resistance (AMR). AMR is not only considered a global health threat, but also poses a threat to food security and economic development. Deaths were reported worldwide, among which bacterial AMR played a role, while 1.27 million deaths were directly attributed to her AMR [1]. The highest number of deaths was reported from sub-Saharan Africa and South Asia. AMR is a particular problem in low- and middle-income countries (LMICs). However, data describing his AMR-induced economic losses and mortality in these countries are sparse. For example, 64% of cases of TB with extensive drug resistance (XDR) were recently identified [2].

Newborns and children are at relatively high risk of bacterial infections due to fragile physiological systems, increased exposure to bacteria, and lack of adequate immunity. In Pakistan, her elevated AMR rate in this population Concerned [3]. Antibiotics are one of the most commonly prescribed classes of drugs for children and neonates and are responsible for her high rate of neonatal deaths from AMR worldwide. It is caused by misuse and overdose of antibiotics. Overall, hospital settings, especially among low- and middle-income countries, are highly vulnerable to neonatal and pediatric AMR due to unnecessary antibiotic prescribing. This has to be addressed in the future [4].

Concerns about the rising rate of AMR and its impact have initiated the World Health Organization's (WHO) Global Action Plan on AMR. The global action plan emphasized the need to raise awareness, education and knowledge through monitoring AMR and optimizing antibiotic use. Following this, Pakistan formulated its National Action Plan (NAP) on AMR in 2017 to strengthen all activities related to AMR [5]. This includes national awareness-raising, integrated AMR monitoring, and estimating the economic cost of AMR. In 2018, a new antimicrobial point coverage (PPS) survey tool was developed by WHO to estimate the prevalence of antimicrobial use, especially in low- and middle-income countries. PPS studies have proven to be a robust and effective method for obtaining baseline information about antibiotic prescribing in hospitalized patients over a specified period of time and for guiding future quality improvement programs [6].

In addition, WHO also recommends its AWARE (Access, Watch and Reserve) classification of antibiotics as a monitoring tool for future quality improvement programs in antimicrobial control activities, especially those related to monitoring and storing antibiotics. WHO's goal is that at least 60% of the antibiotics prescribed and used come from access groups. Consolidation of national AMR surveillance, responsibility, accountability, and monitoring of antibiotic use, and development and implementation of Antimicrobial Control Programs (ASPs), in collaboration with global antimicrobial resistance, is a situational analysis of AMR in Pakistan. However, challenges have been identified in his NAP implementation in Pakistan. Inadequate prescribing of antibiotics by prescribing physicians, lack of antibiotic surveillance studies, and availability of antibiotics without a valid prescription are key factors behind the inappropriate use of antibiotics in Pakistan It is believed that [7].

Therefore, it is important to fully evaluate current antibiotic prescribing and administration, especially at the hospital level in Pakistan, in order to formulate an appropriate ASP. His PPS in Pakistan has recently been conducted mainly in adults, as have his PPS and other studies in neonates and children, but both of these PPS studies in the country are pediatric tertiary [8]. Not practiced in medical hospitals. Therefore, the aim of this current study was to provide future directions, such as implementing PPS in a pediatric tertiary care hospital in Punjab, Pakistan and establishing an ASP in this important group of related. This is important because if antibiotic prescribing issues arise in these tertiary hospitals, without similar expertise and support, the same will be repeated in other hospitals in this province and across Pakistan [9].

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Discussion

We believe that this result will help establish pediatric ASF nationwide. It is based on results and other recent studies. Of concern, almost all hospitalized children and neonates in our study were prescribed antibiotics as in the study. Her 94.6% of children have received at least one of her antibiotics. Moreover, a previous study in primary and secondary care hospitals in Punjab found that nearly 97% of newborns and children were prescribed antibiotics. These include South Africa (49.7% of children surveyed), India (61.5% of children surveyed) and China (66.1%). Our results of an average of are similar to previous studies conducted to treat neonates and children in 16 primary and secondary care hospitals in Punjab. A recent cross-country study conducted in both high-income and lower-middle-income countries found lower rates of antibiotic prescriptions per neonatal patient compared with our study. As a result, this will need to be addressed in the future to reduce her AMR rate in the country's future [10].

Another issue is the high utilization of the parenteral route for administration of antibiotics in our studies of over 90%. This is because parenteral administration can cause adverse effects such as pain at the injection site, phlebitis, and local and systemic infections. Additionally, this route can result in longer hospital stays and increased costs. In contrast, a European study reported that less than two-thirds of children were prescribed antibiotics by the parenteral route, whereas a higher proportion was found in China.

Our study showed that her three-quarters of antibiotics were prescribed in the medical department, followed by the surgical department and the intensive care unit. These findings are similar to previous studies in India where most children admitted to the medical department were prescribed antibiotics. In contrast, another study from Turkey documented higher antibiotic use in pediatric intensive care units compared to medical and surgical wards. These discrepancies should be evaluated more carefully as they may indicate inappropriate prescribing with higher use in the medical sector.

Conclusions

Antibiotic use was significantly higher among hospitalized neonates and children in our study. Has been prescribed to This is a concern because it can lead to longer hospital stays and higher costs while AMR increases. The expansion of prophylactic use of antibiotics in medical conditions and surgical procedures is also a concern and requires urgent action as part of all quality improvement programmes. The other immediate goal is to have no outage date/time in the patient's record. Finally, there is a high prescribing rate of antibiotics from the WHO 'watch' category. All of these areas should be prioritized in future quality improvement programs, which he will monitor, starting with three third-level hospitals under study.

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