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LETTER TO THE EDITOR
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Antimicrobial usage and the pediatrics population: a need for the implementation of antimicrobial stewardship programs in Turkey

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Dear Editor,

Antimicrobials are the most widely used medications in pediatrics, with some reports indicating that between 37% and 61% of the hospitalized pediatrics population receive antibiotics. It is reported that between 20% and 50% of the antimicrobial prescriptions are inappropriate, and pediatric patients often receive a wide-spectrum antimicrobial for viral infections longer than required (1). Infectious diseases are one of the most common causes of emergency treatment in the pediatric population. More than 5 million children under the age of five die every year worldwide, with pneumonia, diarrhea, malaria, and other neonatal causes (2). Antimicrobials are the cornerstones of the treatment of bacterial infections, and children obtain such drugs more often than any other type of drugs (3). However, the inappropriate and prolonged use of antimicrobials in children induces resistance and adverse drug reactions (1, 3). There is a high percentage of inadequate antimicrobial prescriptions reported in the pediatric population around the globe (1).

Turkey acts as a major travel center between eastern Europe and western Asia, and the total population of Turkey is 84,339,067 (4). According to the Turkish statistical center, the estimated population of children aged between 0 and 17 was 22,800,000 (27.5% of the total population) in 2019 (5). According to a recent report, Turkey has the highest level of antimicrobial resistance and is seven times higher than the lowest rates among its member countries (6). The available information about antimicrobial usage in the pediatric population in Turkey and around the world is scarce (3, 6). Pediatric antimicrobial stewardship programs (ASPs) have a direct important effect on antimicrobial use, resistance, and healthcare costs in both inpatient and outpatient settings. Turkey has two major ASPs set up by the Ministry of Health; the first is targeted at hospitals and the second in the community (6). However, overconsumption, inappropriate usage, and resistance pattern of antimicrobials have been documented in previous studies (3, 6). Therefore, hospital- and community-level ASPs still need revision and improvement in Turkey (6).

According to the Infectious Diseases Society of America recommendations, ASPs should improve appropriate antimicrobial usage; reduce resistance issues, adverse drug reactions, and healthcare costs; and ultimately increase patient safety (1). More efforts are urgently required to establish pediatric ASPs, in particular, to enhance periodic surveillance studies about antimicrobial usage and resistance trends. The lack of updated information leads to greater obstacles for pediatricians in their everyday practice relative to physicians who treat adult patients. Collaborative efforts and exchange of knowledge between healthcare professionals are crucial for better patient safety and the healthcare system (6). Timely actions are needed for Turkey to update its policies and draw up an ambitious action plan to reverse the current trend.

In conclusion, there is a need for the proper implementation of ASPs and antimicrobial standard treatment guidelines in all areas of healthcare institutions, restrictive antibiotic pre-

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scribing approaches or systemic institutional-based programs to promote the appropriate use of antimicrobials, increasing the number, resources and ongoing education for pediatricians, and periodic surveillance studies using hospital pharmacy data are the important interventions to combat against inappropriate antimicrobial usage, resistance, and malprescription practices.

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References

1. Donà D, Barbieri E, Daverio M, et al. Implementation and impact of pediatric antimicrobial stewardship programs: a systematic scoping review. Antimicrob Resist Infect Control 2020; 9: 3. [Crossref]
2. The United Nations Children's Fund (UNICEF). Under-five mortality.2019. Available from: https://data.unicef.org/topic/child-survival/under-five-mortality/.
3. Ergül AB, Gökçek İ, Çelik T, Torun Y. Assessment of inappropriate antibiotic use in pediatric patients: Point-prevalence study. Turk Arch Pediatr 2018; 53: 17-23. [Crossref]
4. Worldometer. Population of Turkey (2020 and historical). 2020. Available from: https://www.worldometers.info/world-population/turkey-population/.
5. TURKSTAT. Turkish Statistical Institute: Statistics on Child. 2019. Available from: https://www.marketscreener.com/news/TURKSTAT-Turkish-Statistical-Institute-Statistics-on-Child--30426590/.
6. Isler B, Keske Ş, Aksoy M, et al. Antibiotic overconsumption and resistance in Turkey. Clin Microbiol Infect 2019; 25: 651-3. [Crossref]