

## Low Adherence to Prophylactic Antibiotics and Surgical Site Infection

Dear Editor,

One of the main goals in healthcare settings is to reduce operative delays and improve medication adherence. Operating theatre efficiency has become a marker of the quality of surgical care, and any inefficiencies such as in preoperative low medication adherence may lead to surgical complications.<sup>[1]</sup> Postoperative complications such as Surgical Site Infection (SSI) are considered major contributors to healthcare costs and poor outcomes.<sup>[2]</sup> This can result in postoperative infections, increased morbidity, longer hospital stays, and increased mortality rates. Although there are variations in clinical practice,<sup>[3]</sup> it has been proven that efficient use of prophylactic antibiotics plays a major role in the prevention of surgical site infections and antimicrobial resistance.<sup>[4]</sup> The selection of prophylactic antibiotic agents should be considered following microbiology guidelines, the type of surgery, costs, and availability. The WHO guidelines stated that preoperative oral antibiotics should be prescribed to reduce the risk of surgical site infection in patients undergoing elective colorectal surgery, while antimicrobial sealants should not be used after surgical site skin preparation, and antimicrobial wound irrigation before closure should not be performed for SSI prevention.<sup>[5]</sup> Various approaches may improve adherence to antibiotic prophylaxis guidelines to decrease surgical site infection. These include conducting quality improvement projects and audits, arranging teaching to increase awareness of the team members for administering indicated antibiotics, supporting health care settings, establishing appropriate protocols to influence team members' communication with microbiology, and ensuring local guidance is up-to-date. In other words, in order to engage clinical team members to comply with guideline implementation, it is crucial to improve the awareness of the healthcare professionals and encourage them to translate practice into a standardized protocol that coordinates responsibilities among multidisciplinary professionals to reduce hospital costs and improve postoperative patient outcomes.<sup>[5]</sup> In conclusion, further research is recommended to evaluate the percentage of low adherence to prophylactic antibiotics prescription and the possible causes behind it. In addition, an update of certain microbiology guidelines can be considered to address this critical issue for the development of healthcare practice and the improvement of patient care and outcomes.

### Financial support and sponsorship

Nil.

### Conflicts of interest

Nothing to declare.

**Nader Aghakhani<sup>1</sup>, Michael El Boghdady<sup>2,3</sup>**

<sup>1</sup>Clinical Research Institute, Urmia University of Medical Sciences, Urmia, Iran, <sup>2</sup>General Surgery Department, Croydon University Hospital, England, CR7 7YE, UK, <sup>3</sup>St Georges University of London, England

### Address for correspondence:

Dr. Nader Aghakhani,  
Clinical Research Institute, Urmia University of Medical Sciences,  
Campus Nazlu, 11 KM Road Sero, Urmia, West Azerbaijan, 575611-5111,  
Iran.  
E-mail: nader1453@umsu.ac.ir

### References

1. Norby K, Kainth K, Ganzel R, Wagner JA, Lam CH. Medication adherence and operating room efficiency for a surgical subspecialty. *Fed Pract* 2017;34:16-9.
2. Rosario MO, Peña AC, Ampil IDE. Adherence to surgical antimicrobial prophylaxis guidelines in a tertiary private medical center. *Phil J Microbiol Infect Dis* 2010;39:51-8.
3. El Boghdady M, Ewalds-Kvist BM, Zhao S *et al*. Post-operative antibiotics for cutaneous abscess after incision and drainage: Variations in clinical practice. *Access Microbiol* 2022;4. doi: 10.1099/acmi.0.0004414.
4. Alexander JW, Solomkin JS, Edwards MJ. Updated recommendations for control of surgical site infections. *Ann Surg* 2011;253:1082-93.
5. Dy SM, Garg PP, Nyberg D, Dawson PB, Pronovost PJ, Morlock L, *et al*. Are critical pathways effective for reducing postoperative length of stay. *Med Care* 2003;41:637-48.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 license, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

### Access this article online

#### Quick Response Code:



**Website:**  
www.ijnmrjournal.net

**DOI:**  
10.4103/ijnmr.ijnmr\_121\_21

**How to cite this article:** Aghakhani N, El Boghdady M. Low adherence to prophylactic antibiotics and surgical site infection. *Iran J Nurs Midwifery Res* 2023;28:222.

**Submitted:** 03-Apr-2021. **Revised:** 13-Nov-2022.

**Accepted:** 16-Nov-2022. **Published:** 14-Apr-2023.

©2023 Iranian Journal of Nursing and Midwifery Research | Published by Wolters Kluwer - Medknow