

DELPHI PROCESS TO DEVELOP GUIDELINE FOR RATIONAL USE OF ANTIBIOTICS IN SURGERY : AN EXPERIENCE IN A LOW-INCOME COUNTRY

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Abstract number: ESCP22WS-1069

Background and objectives

Most clinical guidelines are developed by high-income countries institutions with little consideration given to either the evidence base for interventions in low-and middle-income countries, or the specific challenges low-and middle-income countries' health systems may face in implementing recommendations. In our previous studies, we noticed a misuse and overuse of antibiotics, and a poor match with the bacteria in concern. The aim of this study was to develop, based on the results of antimicrobial susceptibility of bacteria isolated in surgical site infections, and antibiotics available, a guideline for the rational use of antibiotics in surgery in order to improve the quality of antibiotic prophylaxis, antibiotherapy and reduce the rate of antimicrobial resistance in Benin. The study is a part of the project named "MULTidisciplinary STRategy for Prevention and Infection Control" (MUST-PIC).

Design

The modified Delphi method was used to establish consensus in experts based on data collected in six Benin hospitals, partners of MUST-PIC project. The process under the supervision of pharmacists and specialists in antibiotic therapy was about 3 steps:

- content of the questionnaire: written by 3 PhD students which included eleven statements about antibiotic prophylaxis and antibiotherapy in obstetric and digestive surgeries based on the results of bacterial sensitivity in the six hospitals partners of the project, antibiotic availability,
- recruitment of the experts : national and international experts, healthcare professionals of the six hospitals and scientific partners of MUST-PIC project were identified including microbiologists, pharmacists, surgeons, gynaecologists, hygienists, and infectiologists from Benin and Belgium involved in a research collaboration,
- validation of the guidelines: the members of the experts' panel rated each statement with 5-point Likert scale (*5=strongly agree, 4= agree, 3=Disagree, 2= strongly disagree, 1= No opinion*), to indicate their level of agreement with each statement, and provide comments via an online survey. Respondents received feedback on their responses.

The median response value and interquartile ranges were calculated per statement. Consensus was made when interquartile was > 3 in at least 80% of experts.

Results

From the 21 potential experts contacted, 14 healthcare professionals of surgical wards and scientists involved in infection prevention and control program consented to participate, and rated the statements on the questionnaire. After the first Delphi round, the panel endorsed all statements (consensus $> 90\%$) and provide comments to improve the guide. Based on their comments, a new reformulated version of the guide were sent to the experts for agreement. A report summing up the results has been forwarded to the panel.

Conclusion

The validation of the contents based on experts' consensus has been an essential approach to improve the practices of surgical antimicrobial prophylaxis in hospitals in Benin, as valuable feedback has been provided by the multidisciplinary team. This consensus guideline will help to standardize the use of antibiotics in surgical wards, and can help to reduce the occurrence of antimicrobial resistance.

Acknowledgements

We thank the "Académie de Recherche et d'Enseignement Supérieur" (ARES) for funding this work in the frame of MUST PIC project.

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