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European Dental Students' Association

Antimicrobial Resistance (AMR) in Dentistry

European Dental Students' Association

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European Dental Students' Association
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1. Introduction

Antimicrobial resistance (AMR) seriously threatens public health systems worldwide and is one of the leading causes of global health concerns. In particular, AMR has been identified as one of the top 10 global threats to public health by the World Health Organization (WHO). 4.95 million deaths worldwide in 2019 were attributed to bacterial antimicrobial resistance (AMR). An ECDC study estimates that infections brought on by resistant bacteria claim the lives of 35,000 people annually in the European Union and the European Economic Area (EU/EEA).

The burden that HIV/AIDS, tuberculosis, and influenza have combined to inflict on the European population is comparable. Dentists write ten per cent of all antibiotic prescriptions for humans. Antimicrobial resistance (AMR) arises when microorganisms such as viruses, bacteria, fungi, and parasites remain viable in their hosts despite treatment with antibiotics. The expanding global phenomenon of antimicrobial resistance (AMR) has been expedited by the misuse and abuse of antibiotics in dentistry and human and veterinary medicine. To continue using current antibiotics and to better understand resistance mechanisms, comprehension of these mechanisms is essential. Children who are impoverished or have restricted access to critical services are more vulnerable.

AMR hinders the 2030 Agenda for Sustainable Development's advancement for these and many other reasons. Reducing the amount of unnecessary antibiotics prescribed is essential to minimise the emergence of antimicrobial-resistant bacteria, as dentists prescribe many antibiotics in their daily practice.

2. Purpose

To address this public health concern, those involved in providing patient-centred care, including educational institutions and healthcare organizations, should furnish all the necessary evidence-based information and provide dental practitioners with guidance on a more optimal antimicrobial prescription. The purpose of this policy is to encourage dentistry students and young dentists to take a more conservative antibiotic prescription, prevent infection, and prevent antibiotics from being misused. The emergence and spread of drug resistance are far outpacing the rate at which new drugs are capable of treating such infections.

3. Scope

This policy applies to the broader EDSA community to raise awareness of AMR in dentistry and develop and implement strategies regarding antibiotic overuse and misuse in dental practice and education. This policy protects public health worldwide and ensures that the new line of dentists is in line with the WHO, FDI, CED, and European Commission statements.

4. Policy Statement

EDSA requests that dental schools and aspiring dentists do the following:

- Promote greater comprehension of resistance via instruction, dialogue, and training.
- Encourage dentistry's best use of antibiotics and its incorporation into National Action Plans.
- Use a programmatic approach to address AMR and implement antibiotic resistance education.
- Determine which ailments and "at risk" populations require antibiotics following dental procedures.
- Encourage the responsible use of antibiotics.
- Enhance the prevention of infections and combine AMR and antibiotic use surveillance.
- Infection prevention, biosecurity protocols, and control techniques are crucial in managing all infectious microorganisms since they lessen the need for antibiotics and are essential components of good clinical practice.
- Vaccination-based immunization is an affordable public health measure with established financial advantages.
- New methods and instruments for treating and preventing infectious diseases, enhancing diagnosis, and halting the spread of AMR can be developed through research, development, and innovation.
- Accurate and timely condition diagnosis.
- Verify that their understanding of AMR is current.
- Provide educational materials on antimicrobial resistance, prescribing, and stewardship that are appropriate for dentists and dental teams at all stages of their careers.
- Promote and support research about AMR and students' implications on research projects.
- Give patients the information they need to understand AMR and the proper use of antibiotics.

5. Roles and Responsibilities

The EDSA Delegates, Board of Directors and Officers, Supervisory Board, and members are all responsible for raising awareness of the organization's policy on AMR and reviewing it when needed to ensure up-to-date information.

Educational institutions are accountable for antibiotic stewardship, infection prevention control, and research development to tackle this issue.

Dental students and young dentists should follow evidence-based guidelines regarding antibiotic prescription and aim to prevent rather than manage diseases. Dentists, as "first-line" doctors, should inform patients about possible risks regarding antimicrobial drug misuse.

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6. Definitions

ANTIMICROBIALS

A group of agents that consists of antiprotozoals, antivirals, antifungals, and antibiotics. They either destroy or stop the growth of microorganisms. They are essential for human and animal infection prevention and treatment and are used in everyday medicine.

ANTIMICROBIAL RESISTANCE (AMR):

It is the capacity of microbes—like bacteria—to develop a heightened resistance to an antibiotic to which they were previously vulnerable. Genetic mutation and natural selection lead to AMR. Such a mutation then confers resistance. Human factors that contribute to the spread of resistant microorganisms in the food chain or healthcare settings, such as the improper use of antibiotics in human and veterinary medicine, worsen this natural selection process. As a result, antimicrobials become less and eventually useless over time.

ONE HEALTH

It is a term used to describe an idea acknowledging the connection between human and animal health, that diseases can spread from humans to animals and vice versa, and the need to treat both. The One Health approach also includes the environment since it serves as a potential source of novel, resistant microorganisms and a further link between humans and animals. Due to its widespread usage in the EU and the 2016 United Nations Political Declaration on AMR, this term is well-known worldwide.

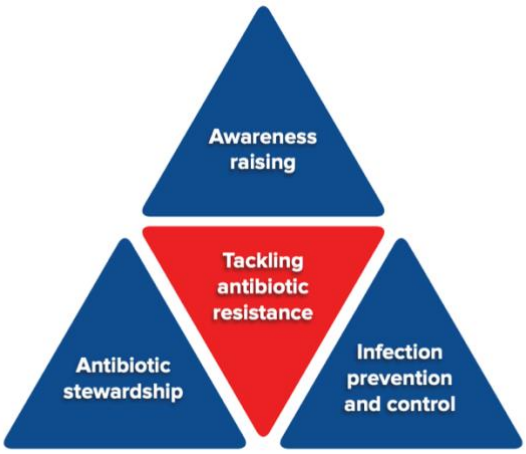

Fig.1.: The essential role of the dental team in reducing antibiotic resistance – FDI White paper

7. Related Documents

This Policy should be read in conjunction with:

- Wendy Thompson, David Williams, Céline Pulcini, Susie Sanderson, Philippe Calfon, Mahesh Verma, The essential role of the dental team in reducing antibiotic resistance, FDI White Paper (2020)
- A European One Health Action Plan against Antimicrobial Resistance (AMR), European Commission (2017)

8. Contact

Any queries regarding this policy should be directed to the EDSA Policy Officer.

9. Policy Review

This policy will be reviewed by EDSA every year.

10. References

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2. Antimicrobial resistance (no date a) World Health Organization. Available at: https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance
3. NHS choices. Available at: https://www.england.nhs.uk/ourwork/prevention/antimicrobial-resistance-amr/ (Accessed: 15 March 2024).
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