Enhancing education on antimicrobial resistance (AMR) in medical schools across Europe

Antimicrobial resistance (AMR) is a major threat to global health; without effective antimicrobials, common infections we can effectively treat would once again become fatal, and procedures such as cancer chemotherapy, diabetes management, major surgery, or organ transplantation would put patients at risk.

In the EU, AMR is annually responsible for an estimated 33,000 deaths and more than €1.5bn in healthcare costs and productivity losses.[1] The burden of antibiotic-resistant infections in Europe is comparable to that of HIV/AIDS, influenza, and tuberculosis combined.[2] If no effective action is taken, AMR could cause 390,000 deaths per year in Europe by 2050.[3]

Antimicrobial resistance is a natural process, but the misuse and overuse of antimicrobials is dangerously accelerating its development.[4] Studies have shown a strong correlation between levels of antibiotic use and levels of resistance.[5] It is therefore crucial to address inappropriate use and overuse of antibiotics to slow down the development of AMR.[6]

Antibiotics can enter the environment throughout their life cycle, during production, use/excretion, and disposal. Inappropriately prescribed antibiotics can then pollute the environment exert selective pressure that increases the prevalence of resistance and can act as a driver for the development of new resistance in pathogenic bacteria.[7]

According to the OECD, up to 50% of antimicrobials used in human healthcare may be inappropriate, and inappropriate prescription of antimicrobials due to cognitive biases contribute to this.[8] [9] Education is therefore key to influencing prescribing behaviour and optimising antimicrobial use in the healthcare sector.[10]

Medical students are the future of the medical profession. Educating them about rational prescribing practices should be a key component of any comprehensive strategy to tackle AMR. There is therefore a crucial need to develop medical curricula that comprehensively address the core principles of antimicrobial stewardship.[11]

The Global Action Plan on AMR highlights the importance of education to ensure proper understanding and awareness among professionals while the EU One

Health Action Plan against AMR states that the EU should support Member States in improving professional understanding of AMR and support more informed clinical decision-making and appropriate prescribing. [12] [13]

Several studies have identified lack of confidence and knowledge gaps on antibiotic prescribing among medical students and have pointed out a need for further education.[10] But whilst many AMR-related initiatives have been targeting hospitals and medical doctors, very few have been aiming at medical students despite gaps in medical curricula.[6]

HCWH Europe's latest initiative aims to enhance AMR education in medical schools across Europe, seeking to increase awareness on AMR among future medical doctors, reduce inappropriate antibiotic prescriptions, and reduce antibiotics in the environment and exposure to AMR by:

- Identifying gaps in AMR education in Europe through a survey targeting 4th-year to 6th-year medical students
- Identifying best practice implemented in medical schools through a series of interviews with university professors

HCWH Europe will later publish a report bringing together these results and providing recommendations for medical schools that will be disseminated to our members and wider network.

References

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