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Emergence and spread of antibiotic resistance: problems in the South Keywords: resistance, antibiotics, resource-poor countries

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The emergence and spread of antibiotic resistance is a major public health threat. Recent literature abounds with descriptions of multi-resistant and even total antibiotic-resistant bacteria, the number of which is increasing in both industrialised and developing countries.

On a global scale, the main cause of this emergence of resistance is the uncritical use of antibiotics.

In resource-limited countries, other more specific socio-economic and behavioural factors contribute to the exacerbation of antibiotic resistance. These include: i) certain frequent societal practices such as self-medication; ii) a deficient medical system with insufficiently trained prescribers and poorly performing diagnostic tools; iii) and an uncontrolled drug supply system with over-the-counter, inadequately stored, counterfeit and/or out-of-date antibiotics.

The situation is alarming in these resource-limited countries where poor hygiene conditions facilitate the transmission of bacterial infections at the human, animal and environmental levels.

In these countries, infectious diseases, poverty and malnutrition are endemic. Diarrhoea, respiratory infections, bacterial meningitis and other infectious diseases have indeed increased the non-rational consumption of antibiotics for both symptomatic treatment and prophylaxis. The use of the latest generation of antibiotics in the animal sector also contributes to the situation.

In this context of emerging antibiotic resistance, urgent interventions are needed, including (i) the prevention of infections through the promotion of individual, collective and environmental hygiene; (ii) the securing of the drug sector in general and antibiotics in particular by undertaking drastic reforms aimed at rigorously controlling the marketing of antibiotics, regulating their dispensing to the population and even proceeding with the sanctuary of broad-spectrum antibiotics in hospital structures; (iii) prevention of the transmission of resistance, which will consist of screening colonised or infected patients and staff to reduce the transmission of resistant micro-organisms from one person to another and also the wider spread through health care facilities; (iv) surveillance of resistance at the biological level, which is essential to know the extent of the problem and to serve to update the lists of essential medicines and national treatment guidelines, and also to evaluate the effects of the various treatment strategies put in place.

All of these intervention strategies, to be effective, must be integrated and target decisionmakers, prescribers and users simultaneously.