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Evaluation of the antimicrobial effect of expired oral antibiotics *in vitro*

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Introduction: Despite significant risks, as well as non-clinical importance due to loss of potency, stiff penalties against administration of expired antibiotics are still not appropriately enforced by health policy makers in many developing countries, possibly because of little evidence to support that expired medications are hazardous

Objective: To investigate the effect of expiration dates on *in vitro* bacteriostatic potentials of different oral antibiotics. The potency of five antibiotics, both expired and unexpired, Azithromycin, Clarithromycin, Levofloxacin, Cloxacillin and Tetracycline were investigated, based on the antimicrobial potentials. The investigation was done by challenging local isolates of different concentrations of *Staphylococcus aureus* bacteria; using Disc diffusion technique.

Results & Discussion: Although the expired antibiotics potency was less than that of the control ones, it was found that the microorganisms challenged with these antibiotics were evaluated as susceptible (According to NCCLS), as the diameter of inhibition zone lies within the susceptible range

Recommendation: If the antibiotic is needed and the patient is not able to replace the expired antibiotic, there is no evidence that it is unsafe to take the medication in most cases. Guidelines for storage of essential medicine should be followed with antibiotics. Public health policies based on national guidelines should include monitoring of the quality control of the expired antibiotic

Biography

Kawthar Alghasham is a PharmB student in UWA and Master of infectious diseases. Her expertise includes drug information, drug utilization review, medication therapy management and geriatrics in Almoosa Hospital. She focuses in cost effective medication management programs in a medical group setting, including target drug programs for providers and individual patient consults to minimize out-of-pocket medication expenses.

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