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Evaluation of the potency of some antibiotic formulations in the Egyptian market

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Interest in searching and developing new antimicrobial agents to combat microbial resistance has been growing recently. Therefore, a greater attention has been paid to both screening and evaluation methods of antibiotics activity. The present study aimed to evaluate the potency of some antibiotics containing pharmaceutical products of some Egyptian market companies using microbiological assay based on agar diffusion method and using standard strains in order to determine their therapeutic efficacy and bioactivity. These antibiotics such as gentamicin, ciprofloxacin, doxycycline, amoxicillin and ceftriaxone were purchased from local pharmacies and evaluated in the current study and compared with authentic biological standard. The results of this study showed the relative potency of gentamicin was 41.4%-48% and 28%-41% for ciprofloxacin. While for doxycycline relative potency was 26%-72.6% and 16%-88% for Amoxicillin. As well as ceftriaxone potency was ranged between 48%-97.4%. One product of ceftriaxone, two products from gentamicin and two from amoxicillin were estimated to be within the acceptable range of bioequivalence (80%-120%), while the other products showed unacceptable relative potency. A complaint reporting system about quality and effectiveness problems needs to be considered as a priority source of such information to inform decision-makers.