

Determination of Microbial Contamination of Commercially Available Generic and Branded Oral Antibiotic Suspensions in Galle, Sri Lanka

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Antimicrobials are widely used for the control and management of various infectious diseases. Oral liquid pharmaceuticals are one of the most suitable dosage forms for paediatric usage. Upon opening, these pharmaceuticals are susceptible to contamination. The product quality and stability are degraded by microbial contamination. Thus, the aim of this study was to investigate the microbial contamination of commercially available generic and branded oral antibiotic suspensions in Galle, Sri Lanka during their consumption period. Branded and generic products of amoxicillin with clavulanate, clarithromycin, and azithromycin oral suspensions were selected and manufacturers' advice was followed when preparing the suspension. One millilitre of the sample was evaluated for each product. Samples were diluted at 1:10 in each sterile Mueller Hinton Agar (MHA). The sample aliquot was transferred to MHA and spread evenly using L shaped glass spreader. The antimicrobial property of each sample was eliminated using neutralizing agents (0.1 M Ammonium hydroxide) and these samples were incubated at 35 ± 2 °C for 16-18 hours in an incubator at the faculty. Then, colonies were recovered from each plate and enumerated them. The arithmetic means count was used for calculating the total viable count of the test sample and they were analysed at the opening. The procedure repeated after 7th, 14th, 21th, and 28th days. Minute levels of microbial contamination of the suspensions were observed. The contamination percentages were 0%, 14%, 14%, 64%, and 73% corresponding to 7, 14, 21, and 28 days after opening. None of the samples exceed the level 10^3 CFU ml⁻¹, which meets the USP microbial limit. Oral antibiotic suspensions can be contaminated when kept for more than 7 days after reconstitution, even though they have preservatives. Adequate physicochemical properties and microbial quality of oral antibiotic suspension can be preserved through meticulous handling and storage practices

Keywords: Contamination, Microbial, Suspensions, Quality