Substandard antibacterial agents in the formal and informal medicine outlets in Ghana: Still myth or reality?

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The use of substandard or poor quality antibacterial agents contributes to treatment failures and emergence of antibacterial resistance. Unfortunately, unregulated sale and dispensing of antibacterial agents, especially, in the informal sector through street vending, play a major role in these phenomena. Thus, poor quality antibacterial agents are in circulation with consequent treatment failures and development of resistant strains of pathogens. This study, therefore sought to establish the chemical quality of antibacterial agents in the formal and informal supply chain of selected sites in Ghana, understand why consumers use supplies from informal outlets, and design strategies for improved drug supply management for effective control of antibacterial resistance. Interviews and field observations were carried out to collect data on behaviour and attitudes associated with the use and misuse of antibacterial agents obtained from informal sources and dispensed for use in Ghana. High-throughput LC-MS/MS technique was used to determine the presence and levels of 14 most popular antibacterial active ingredients in 348 pharmaceutical dosage forms acquired from 25 formal (hospitals/health centres, pharmacies, licensed chemical shops) and 10 informal (street vendors) suppliers in Ghana. The first port of call for antibiotic consumers was 'self-treatment' with drugs acquired from informal suppliers due to convenience and affordability. The levels of active pharmaceutical ingredients determined were substandard in majority of samples from both formal and informal supply outlets. Higher proportion of products from informal supplies were substandard, with 91% of street vendor samples containing <90% API, out of which 58% contained <50% API. Hence, it can be concluded that substandard antibacterial agents in health delivery systems in Ghana is a reality. An improved and coordinated regulatory action through continuous monitoring and enforcement should fortify other efforts to control antibacterial resistance in Ghana.

Biography

Samuel Oppong Bekoe completed his PhD in Pharmaceutical Sciences from the University of Copenhagen, Denmark. He has worked as a Senior Lecturer of Pharmaceutical Chemistry at the Department of Pharmaceutical Chemistry since August 2016 and as a Lecturer since August 2005 at the Faculty of Pharmacy and Pharmaceutical Sciences, KNUST. He has 13 publications in reputed journals and a book chapter.

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