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Clinical Pharmacology and  
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**Faculty of Medicine, University of Colombo**

**And**

**Professor Rezvi Sheriff Auditorium  
Clinical Medicine Academic and Research Center (ClinMARC)  
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the patients principally through effective counseling and identified hospital pharmacies as the key locus. Lack of pharmacists and large number of patients at the hospital pharmacies were recognized as major set backs affecting their quality of counseling. Issues with dosage forms, availability and quality of medicines supplied to the hospital pharmacies were recognized as important factors affecting effectiveness of AEMs. Many expressed similar views in relation to the need for patient education, physical resources, relationship with doctors, community awareness and training for community pharmacists/dispensers to facilitate optimal patient care. Separate pharmacist and/or separate pharmacy counter for children with epilepsy, awareness programmes in clinics, information leaflets, video displays on drug awareness at clinics/pharmacies and involvement of family members and others such as public health staff (public health midwife) and school teachers were voiced as way forwards in achieving effectiveness of AEMs in children.

**Conclusions:** This study highlights the issues faced by pharmacists in carrying out their responsibilities and identifies their valuable role in overcoming these issues to achieve the effectiveness of AEMs in children.

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### Outpatient quinolone consumption in Colombo

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**Introduction and objectives:** Overuse and irrational use of quinolones are key drivers of resistance. It is quoted that for "Every 1% increase in ciprofloxacin use, there would be an immediate increase of 1.3% in the number of community-acquired ciprofloxacin-resistant isolates and an additional 0.97% one month later". Fluoroquinolone resistance and extended spectrum beta-lactamase-production in Enterobacteriaceae, is known to be high in Southeast Asia. Furthermore resistance to fluoroquinolones escalates the threat of treatment failure and death in patients with Multidrug Resistance tuberculosis. It is therefore important to understand the true nature of their use. No such data is available in Sri Lanka. Objective of this study was to describe the utilization pattern of quinolones in outpatient settings in Colombo district.

**Method:** From a large community based prescription survey carried out in a representative sample of public sector and private hospital outpatient departments, retail and Rajya Osusala pharmacies(ROS) in Colombo district for a period of one year in 2012-2013, details of prescriptions containing an oral quinolone were extracted and analysed as per WHO methodology for community based surveillance studies. Utilization volume of quinolones was quantified using Defined Daily Doses (DDD) and utilization pattern was analyzed in terms of monthly trend, gender, age, setting and type of quinolone.

**Results:** Of the 22,279 prescriptions containing an antibacterial agent, 2824 (12.7%) had a quinolone amounting to 16,324 DDDs. The volume was highest in ROS (34.5%) followed by private hospital OPD(29.9%), retail(28.8%) and public hospital OPD pharmacies (6.8%). Ciprofloxacin (47.4%) followed by levofloxacin (37.2%) accounted for about 84.6% of quinolones dispensed. Nalidixic acid was the least dispensed quinolone throughout the year with an average of 12.4 DDDs/ month. Ofloxacin (2.7%) and moxifloxacin (2.8%) utilization was low. A preponderance of males was observed in all except for nalidixic acid. Age wise it is important to note that there were prescriptions for ciprofloxacin (11) and levofloxacin (3) in children <4years although not recommended.

**Conclusions:** Utilization of quinolones for community acquired infection appears to be high in the Colombo district demanding urgent remedial actions. Its use in public sector was less possibly due to restrictions imposed on outpatient prescribing of quinolones.