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Use and appropriateness of antibioticsin general medical units of a tertiary care institution

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Abstract: (319 words)

INTRODUCTION: Antibiotics are widely used worldwide and their inappropriate prescription leads to emergence of multi-drug resistant organisms, increased morbidity and mortality. Rational use of antibiotics is the key to reducing the development of resistant organisms.

OBJECTIVES: To ascertain the use and appropriateness of antibiotics used in medical wards at a selected tertiary care institution using available national guidelines.

METHODS: A descriptive cross sectional study was carried out on the patients prescribed antibiotics in three general medical units. A random sample of patient records (n=543) over a period of 4 months was analyzed. The regimes were assessed for concordance with the guidelines of Sri Lanka Medical Association (SLMA) and the Health Sector Development Programme (HSDP).

RESULTS: The commonest indications to prescribe antibiotics were lower respiratory tract infections (LRTI) (n=235,43%), urinary tract infections (UTI) (n=60,11%) and infective exacerbation of bronchial asthma (n= 45, 8.3%).The commonest first antibiotic prescribed for LRTI was co-amoxiclav (n=98, 41.7%)which was given in combination in18/98 (18.36%) of episodes, while ciprofloxacin was the first choice in 46.6% of UTIs.For LRTIs the prescribed antibiotics showed a greater concordance with HSDP guidelines (n=157, 66.8%) compared to SLMA guidelines (n=99, 42.1%).The concordance with SLMA guidelines for lower UTIs was only 11.8% (n=4) while that for pyelonephritis was 38.5% (n=10).Co-amoxiclav was the first antibiotic prescribed for infective exacerbation of bronchial asthma in 48.9% (n=22) for which there were no separate guideline in either the SLMA or HSDP. The antibiotic use in LRTI was incorrect due to inappropriate dose and route of the drug (n=20,8.5%), wrong choice of the drug (n=13,5.5%) and wrong combination of drugs (n=13,5.5%)according to the HSDP guidelines.No statistically significant difference was found between individual unit practices.

CONCLUSION: Antibiotic prescriptions need to be improved to optimize use and reduce development of resistance. Development and effective implementation of a National Antibiotic Policywould be a major step in ensuring appropriate use of antibiotics.