

Abstract

Background

Antimicrobial resistance (AMR) is rising at an alarming rate with antibiotic resistance (ABR) making a major contribution. Inadequate serum concentration as a result of non-adherence to prescribed antibiotics enhances resistance. Non adherence will result in using antibiotic left overs which are used inappropriately. Adherence to antibiotics in primary care is not adequately addressed in Sri Lanka. Knowledge on adherence rates and factors associated with adherence is important in planning strategies to improve adherence to antibiotic prescriptions in patients presenting to primary care. This study was designed to fulfill the understanding of this area of utmost importance.

Objectives

To assess the adherence to oral antibiotic prescriptions among adults presenting to primary care and to assess the factors associated with adherence. The study was further extended to find out the intention to use leftover antibiotics (LOAB) in the non-adherent group

Methodology

This was a cross sectional study with a follow up. Adult patients who were prescribed on oral antibiotics at three selected Out Patients Departments (OPD) of Gampaha district of Sri Lanka were recruited for the study. Details of the antibiotic regimens were obtained from the OPD prescription. Initial in person interview with an interviewer administered questionnaire was used to collect data on sociodemographics, patient beliefs, illness related, therapy related and health system related information. Adherence to antibiotic prescription was measured using patient self-reported adherence supplemented by remaining pill count obtained through a telephone interview at the due completion of the antibiotic therapy. Intention to use LOAB in future illnesses by the non-adherent group was determined from patient reported ways of intention to handle antibiotic left overs. SPSS 21 was used in data analysis. Factors associated with adherence were identified

through a bivariate analysis and logistics regression models. The statistical significance was considered as $p \leq 0.05$.

Results

Out of 518 patients 407 were included in the final analysis. The mean age of the sample was 43.4 +/- 15.8 years and 59.2% were females. Adherence to antibiotic prescription was 45.5%. Female gender ($p = 0.029$, OR = 1.86) and awareness on the current antibiotic prescription ($p = 0.000$, OR = 6.37) were positively associated with adherence. Adherence was inversely proportionate to increasing daily dosage frequency ($p = 0.001$). Patient's belief, that they can stop medicine once they feel better ($p = 0.000$), fast improvement of symptoms with medication ($p = 0.000$), interference to lifestyle by the antibiotic dosage schedule ($p = 0.000$) and using LOAB in the past ($p = 0.000$,) were factors negatively associated with adherence. Out of the non-adherent patients 20.3% had the intention to use LOAB in the future.

Conclusions

Adherence to oral antibiotic prescriptions was poor among the study population. Female gender and being aware on the current prescription enhanced adherence. Increasing dosage frequency, complex dosage schedules, patient belief on stopping medication when they feel better and self-medication with LOAB reduced adherence. A Significant proportion of the non-adherent patients had the intention to use LOAB in the future.

Recommendations

Increasing public awareness on the importance of adherence to antibiotic prescriptions, encouraging primary care prescribers on patient education on antibiotic prescription and administration and using less frequent dosing schedules were recommended.

Key words: Antibiotic resistance, adherence, associated factors, primary care, adults, left over antibiotics