



KNOWLEDGE AND PERCEPTION OF RESIDENT DOCTORS ON ANTIBIOTIC STEWARDSHIP PROGRAM. HOW ARE WE EDUCATING OUR FUTURE PRESCRIBERS?

Microbiology

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ABSTRACT

Crisis of antibiotic resistance is ascribed to the misuse of antibiotics. Comprehensive efforts are needed to minimize the pace of resistance¹. A cross sectional study was conducted among resident doctors in a tertiary care teaching hospital in south India by distributing a validated questionnaire about the knowledge and perception of antibiotic stewardship. Almost all residents are willing to have more education about antibiotic prescribing practices. Oral antibiotics are mostly misused than parenteral. Irrational prescription occurs usually in fever cases followed by cough and gastro enteritis. Most of the resident doctors feel that emerging antibiotic resistance as a national problem. Physicians prefer prospective audit with feedback over formulary restriction as formulary restriction limits physicians autonomy and the approval time may be time consuming.

KEYWORDS

Antibiotic stewardship, formulary restriction, antibiotic resistance

INTRODUCTION

Over the last 10 years the increasing profile of HCAs, rising multidrug resistance and a diminishing pipeline of new antimicrobials have propelled the management of HCAs into the forefront of the media and the political and public arena.²⁻⁵

Antimicrobial stewardship is the systematic effort to educate and persuade prescribers of antimicrobials to follow evidence-based prescribing, in order to stem antibiotic overuse, and thus antimicrobial resistance. It is a multifaceted approach (including policies, guidelines, surveillance, prevalence reports, education and audit of practice) that healthcare organizations have adopted to optimize prescribing.⁶

Evidence from a study suggests that between 2000 and 2015, antibiotic consumption increased from 3.2 to 6.5 billion DDDs (103%)⁷. As per the Million Death Study (MDS) diseases of infectious origin such as pneumonia and diarrhoea accounted for around 50% (0.67 million of 1.34 million) of all deaths in children aged less than 5 years in India⁸. However, inappropriate use of antibiotics cannot be ruled out. The sub-optimal prescribing decision process has led to widespread inappropriate use of antibiotics, with some studies estimating 25% –68% of hospital antibiotic prescribing to be suboptimal.^{9,10}

To address this gap in knowledge and to support prescribers in their efforts to treat patients effectively, antimicrobial stewardship programmes need to advocate a multidisciplinary culture of shared knowledge in which all healthcare workers involved in antibiotic management understand and support the principles of prudent antibiotic prescribing.

AIM AND OBJECTIVE

To assess the knowledge and perception of resident doctors about the antibiotic stewardship program to reduce the emergence of antibiotic resistance.

METHODOLOGY

A cross sectional study was conducted by distributing a validated structured questionnaire about the knowledge and perception of resident doctors on antibiotic stewardship. 140 questionnaires were distributed among which 100 resident doctors responded. Among responders 72 were from broad specialty and 28 were from super

specialty (Fig 1). Age of the resident doctors varied from 26 – 35 yrs. Questionnaire consisted of 14 multiple choice questions and 6 questions based on 5 point likert scale. Data was analysed on minitab statistical software.

Study period : One month (Jan 2020).

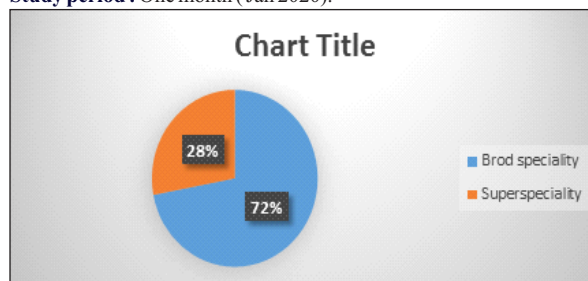


Fig 1 showing percentage of broad and super specialty residents

RESULTS:

The response rate was 71% (100/140). Most students (94%) have correctly answered the definition of antimicrobial stewardship. Some (69%) doctors are aware of AWARE list of antibiotics. Almost all (100%) students feel that implementation of antibiotic policy and (96%) stringent hospital infection control practices is an effective tool to reduce antibiotic resistance. Most students are (92%) aware of benefits of antibiotic stewardship. Only few (62%) are aware of the causes for drying antibiotic pipeline.

Nearly (52%) feel that antibiotic resistance as a national problem and (43%) feel that it's a problem only during clinical practice. Majority (81%) prefer prospective audit and feedback than formulary restriction. (74%) have correctly answered about the definition of antibiotic cycling. (100%) feel that oral form of antibiotics are mostly misused than parenteral and (77%) opine that antibiotics are mostly misused in fever cases. (88%) doctors prescribe based on their previous experience followed by guidelines (12%). (21%) have attended lectures/ workshops in the past 12 months. (79%) gain knowledge through informal education in clinical work place. Almost all feel that deficient training, absence of institutional antibiotic policy and lack of regular surveillance are the predisposing factors for antibiotic misuse.

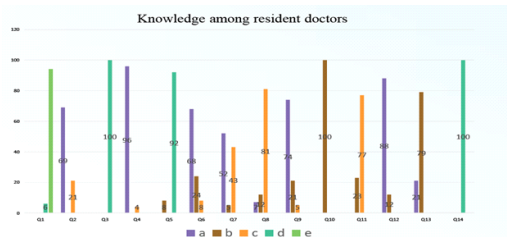


Fig 2 depicting the knowledge about antibiotic stewardship among resident doctors

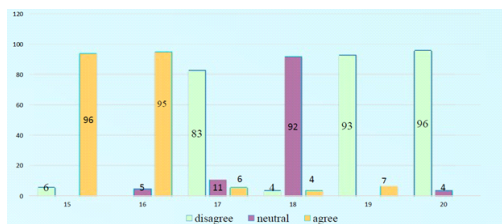


Fig 3 depicting the perception of resident doctors

Most (94%) agree that overdosing is a common practice for faster recovery. Majority (95%) would like to have more education on the appropriate use of antibiotics. Almost (83%) disagree that their unit should be exempt as our prescribing is carefully considered and of high quality. Most doctors (92%) remain undecided that antibiotic restriction infringes on their clinical autonomy as it varies in different situations. (93%) agree that infectious diseases department are in the best position to advise on antibiotic choices. Almost all (96%) feel that requesting antibiotic approval is time-consuming, detracting from time for other clinical duties.

CONCLUSION:

Education of resident doctors is a key component of antibiotic stewardship program. Passive measures are modestly effective for increasing prescribers knowledge whereas education involving active techniques is more effective for changing prescriber's behaviour. Oral form of antibiotics are mostly misused usually prescribed in fever cases followed by cough. Implementation of antibiotic policy and stringent hospital infection control practices helps in reducing antibiotic resistance.

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