

doi: 10.5455/2319-2003.ijbcp20141031

**Letter to the Editor****Impact of media: self-medication and the rising problem of antimicrobial resistance**

Sir,

Antimicrobial agents (AMAs) are one of the most commonly used as well as misused drugs. Antimicrobial resistance is an important growing global health issue which needs urgent addressal.

Self-medication involves the use of medicinal products by the patient to treat self-recognized disorders, symptoms, recurrent diseases, or minor health problems.<sup>1,2</sup> Medicines for self-medication are often called over the counter (OTC) drugs, which are available without a doctor's prescription through pharmacies, mostly in the developing countries. Self-medication particularly with antibiotics has been widely reported, leading the World Health Organization to call attention to its dangers as a cause of antimicrobial resistance.<sup>3,4</sup>

Readily available information about the various medicines through advertisements using various forms of media like newspapers, radio, TV, internet etc., plays a major factor for the rising trends of self-medication practices. Printed promotional material in the form of attractive drug promotional literature (product information leaflets), package inserts, etc., is another important source of information.

Literate patients wish to play a greater role in the maintenance of their own health and think themselves to be competent to manage (uncomplicated) chronic and recurrent illnesses (not merely short-term symptoms) after self-made medical diagnosis and with only occasional professional advice. They are unwilling to submit to the inconvenience of visiting a doctor due to lack of time, lack of patience and quick relief expectations, belief of efficacy of antibiotics in minor illnesses, exorbitant consultation fees by the physicians, fear of interventions and blood investigations, and due to easy access to not only information regarding the drugs but also, to the drugs OTC without a prescription.<sup>5</sup>

The advertising brochures, through which they seek information, are at most times inaccurate and of poor educational value.<sup>6,7</sup> They are full of unsubstantiated claims regarding the safety or efficacy, and those claims are also therapeutically irrelevant. Important information regarding adverse drug reactions, contraindications, or drug interactions is usually missing. Reference citations are given to earn credibility, but it is difficult to trust them due to ambiguous presentation, poor quality, and

questionable retrievability.<sup>8</sup> The problems associated with self-medication are masked diagnoses, use of excessive drug dosage leading to toxicity, prolonged or inadequate duration of use, drug interactions, poly pharmacy, super infection, and antimicrobial resistance. Bacterial resistance is due to such indiscriminate use of antibiotics in the wrong dose and duration, thus precipitating the emergence of multiple resistant organisms that would be difficult to treat and thus causing increased morbidity.<sup>9</sup>

In a developing country with scarce government and individual resources, self-medication, if done responsibly could be a cornerstone of healthcare provision and health policy. It will help reduce the pressure on the overburdened scarce medical services where health care personnel are insufficient.

However, it would be safe, if the people who are using such OTC medications, have sufficient knowledge about their dose, time of intake, side effect on overdose, as well as ways of monitoring these side effects, possible interactions with other drugs, duration of the course of the drugs and when professional intervention is needed.

Research at the molecular level to decode the cause of growing bacterial resistance against most of the once known highly efficacious and potent AMAs is carried out in worldwide labs. All this research would be futile if literate patients continue to use unreliable media sources to choose their therapy options without consulting well-trained physicians.

Restricting sales of antimicrobials with medical prescriptions only, efficient surveillance of antimicrobial usage and resistance, using celebrity endorsements for spreading awareness on the misuse of antibiotics, effective use of mass media such as television, newspapers, and internet for providing reliable, authentic, and complete knowledge about the drugs and for improving awareness about adverse consequences of antimicrobial usage, are a few solutions to curb this global problem at the community level.<sup>10</sup>

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**doi:** 10.5455/2319-2003.ijbcp20141031

**Cite this article as:** Mahajan MM, Dudhgaonkar S. Impact of media: self-medication and the rising problem of antimicrobial resistance. *Int J Basic Clin Pharmacol* 2014;3:921-2.