

## The impact of irrational practices: A wake up call

Sir,

Irrational prescribing is prevalent across nations, hospitals and in healthcare setups, which is not only a growing concern in developing countries, but is also a global menace.<sup>[1]</sup> This retrospective study was undertaken with the aim of analyzing overall prevalent irrational practices and their impact.

Our study included 92 randomly selected prescriptions from allopathic registered medical practitioners between September 2011 and October 2012. These were analyzed for content and format. The number of non-sponsored CMEs (Continuing Medical Education) to the fully sponsored CMEs by pharmaceutical companies was compared. We also confirmed the irrational upward trend in some surgical procedures conducted in 20 bedded nursing homes. Rise in expensive tests, such as, magnetic resonance imaging (MRI) and computed tomography (CT) scan ordered were also noted.

WHO, in its document 'Rational Medicine Use,' states that by their estimates half of all the medicines prescribed/dispensed/sold are inappropriate. This overuse/misuse/under use of medicine is 'Irrational'. WHO definition of 'rational use of medicine' can be put forth in a simplified form as five rights - the right drugs in right doses by right route of administration at the right time to the right patient.<sup>[2]</sup>

It very clearly emerges from our study that 'pathological prescribing' has overtaken the most needed rational prescribing.<sup>[3]</sup> The medications and mode of treatment chosen are not as per the clinical condition of the patient. These prescriptions have too many medicines with no clear instructions to the patient for taking these medicines. Legible identity of patient is missing. Irrational practices not only increase the cost of prescription, but also lead to unnecessary drainage of already limited resources in a country like India.

We found in our study that irrationality in prescriptions is a common and rampant feature. Standard format was missing in most of the prescriptions. In more than 60% of the prescriptions antibiotics were prescribed without any valid indication and for duration lesser than that recommended. As put forth in Table 1, antibiotics are a class of drugs

that are irrationally prescribed in more than one way. Antibiotics frequently find their way in a prescription of viral diarrhea where simple fluid replacement works better. Prolonged use of antibiotics postoperatively, routine use of newer/advanced generation antibiotics, and a fixed dose combination, such as, ciprofloxacin with tinidazole for diarrhea or other quinolones for pharyngitis lead to a casual attitude in the diagnosis and increase both the costs and side effects. Also inadequate doses and duration for which antibiotics are prescribed or the tendency of patients to discontinue soon after getting relief leads to adverse effects. Sharma R *et al.* stated that these practices lead to worrisome emergence of multi drug resistant (MDR) strains of gram-negative bacteria and MDR tuberculosis, a serious health problem, which calls for judicious use of antibiotics in hospitals.<sup>[4]</sup> Only an intensive teaching of the principles of the use of antibiotics and awareness of the magnitude of the problem by practicing physicians can fight this threat.

It was observed that fanciful vitamins, tonics, anti-oxidants, and minerals, were unnecessarily prescribed in 58% of the prescriptions and were essentially put in prescriptions to increase the cost of prescription, to get a favor in return from the pharmaceutical companies. Steroids were irrationally given in 75% of the prescriptions studied.

A random audit of 250 prescriptions of stroke patients referred to the Neurology Department of a premier institute concluded that 48% of the prescriptions had useless and expensive neuroprotective drugs, this study supported our result. Another study also conducted at the same institute was in tandem with our results, which linked increased incidence of breast cancer to the inappropriate use of oral contraceptives. Irrational use of oral contraceptives for postponement of menstruation is a common practice. Similarly, 'morning-after pill' introduced for emergency contraception is misused by young women to counter

**Table 1: Irrationality and its extent**

Type of irrationality	Proportion (%)
Use of drugs-antibiotics, steroids, vitamins, antioxidants, OCPs, and neuroprotective drugs	60-75
Surgical procedures-hysterectomy, Cesarean, cholecystectomy, appendicectomy, angioplasty and vertebroplasty	70-80
Draining of resources-wasteful expenses on non-essential drugs	68
Influence of pharmaceutical industry-receiving grants/favors, charging speaking fee, and authoring biased CPGs	58-82

OCPs=Oral contraceptive pills, CPGs=Clinical practice guidelines

unprotected sex. Repeated self-medication of morning-after pill and long-term intake of oral contraceptives are not safe. It was observed that breast cancer was 9.5 times more common in women with a history of long-term use of oral contraceptive pills (OCP).<sup>[5]</sup>

As per the records, an alarming 100% rise in surgical procedures like appendectomies, Cesarean deliveries, hysterectomies, and cholecystectomies was observed in private hospitals in a span of five years. The noted rise in the frequency of expensive investigations such as CT scan and MRI along with routine blood and urine tests, is a cause of concern [Figure 1].

During our period of study we found that 90% of the CMEs conducted were fully sponsored by the pharmaceutical companies, to get favor from the physicians, compared to only 10% of CMEs that were held to have a case discussion or a talk on the current trends in treatment, by eminent doctors [Table 1].

The influences of industry also play a major role in irrational use of drugs. A study estimated that 87% of practitioners who author 'clinical practice guidelines' (CPGs) succumb to the pervasiveness of pharmaceutical industry and churn out literature on 'drug information' which is heavily in favor of drug companies. They vigorously campaign for their products and influence physicians to author CPGs by providing grants for research and other perks to extract benefits. It has also been found that physician groups charge consultant fee and speaking fee from companies.<sup>[6]</sup>

Besides pharmaceutical industry influences, misinformation in society, an overburdened healthcare setup, crowded Outpatient Departments (OPDs), inadequate and substandard supply of medicines, poor laboratory backup, and shortage of staff, of staff are the routine day-to-day issues that narrow the options and choices leading to these unintentional irrational practices. The overworked health personnel often update themselves by biased information provided to them by medical representatives.

At times patients demand a prescription of their choice and the physicians bow to the pressure tactics of the patients and provide a prescription as per the patient's status and requirement. Some patients feel that there is a *pill for every ill* and practitioners go with their ideation, instead of educating their patients.

Irrational prescribing is unethical and has greatly reduced the standard of drug therapy, leading to widespread health hazards such as increased incidence of adverse effects, drug interactions and emergence of drug resistance, especially in antimicrobial therapy.



Figure 1: Print media reports

Such practices are not only a financial burden on individuals and families, but they also reduce the availability of essential drugs in healthcare centers.

It can be concluded that laxity in the implementation of regulations, inadequate training of medical students "the future prescribers" and paucity of an experienced and dedicated faculty, have compounded the problem. It is clear that irrational practices exist and need to be addressed and can only be uprooted by strict vigilance, global monitoring, a pharmaceutical policy, implementation of national strategy, and following the 'WHO guide'<sup>[7]</sup> to good prescribing. Promotion of rational therapeutics is the only way to provide affordable and optimal health to one and all.

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## REFERENCES

1. The Pursuits of Responsible Use of Medicines Sharing and Learning from Country Experience. WHO/E/M/P/MAR/2012.32.WHO Fact sheet N<sup>o</sup> 338 May 2010.
2. WHO Model Formulary. Geneva: WHO press; 2004.
3. Rational and Irrational use of drugs: A synopsis of research by Institute of Community Medicine, Madras Medical College, Chennai. Available from: <http://www.icm.tn.gov.in/synopsis/RATIONAL.htm>. [Last accessed on 2013 Dec 19].
4. Sharma R, Sharma CL, Kapoor B. Antibacterial resistance: Current problems and possible solutions. Indian J Med Sci 2005;59:120-9.
5. Bhadoria AS, Kapil U, Sareen N, Singh P. Reproductive factors and Breast

## Correspondence

cancer: A case-control study in tertiary care hospital of North India. *Indian J Cancer* 2013;50:316-21.

- Choudhary NK, Stelfox HT, Detsky AS. Relationships between authors of clinical practice guidelines and pharmaceutical industry. *JAMA* 2002;287:612-7.
- The Guide to Good Prescribing: WHO Publication. Available from: <http://www.apps.who.int/medicinedocs/en/d/jwhozip23e/50.html>. [Last accessed on 2013 Dec 19].

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