

Over-Prescription of Antibiotics: Both Doctors and Patients Need Education

Sir,

I read with great interest an article by Teng CL, Achike FI, Phua KL *et al.* Modifying antibiotic prescribing: the effectiveness of academic detailing plus information leaflet in a Malaysian primary care setting. *Med J Malaysia* 2006; 61(3): 323-31.

Principally, there are two problems in prescribing¹. They are prescribing decision and prescribing writing process, which contribute to 39% and 61% of prescription problems respectively². The first type of problem has more serious consequences and may even cause mortality. In that study, the issue is the appropriateness of prescribing antibiotics for upper respiratory tract infections (URTI). Over-prescribing of antibiotics in primary health care, especially for respiratory tract diseases is a problem worldwide³. There are concerns about the rising prevalence of antibiotic resistant bacteria, cost and the potentially harmful consequences of unnecessary prescription such as drug interaction and allergy.

In that study, the authors compared the rates of antibiotics prescriptions for URTI and non-URTI, pre and post intervention. The outcome measured was the reduction of use of antibiotics. This outcome was not reflecting the real situation of over-prescribed antibiotics. The more fitting outcome should be the appropriateness of prescribed antibiotics. Deciding whether the prescription is appropriate or not, is not straightforward. This involves reading medical records of the patients and a panel of experts to decide the criteria for prescription of each case.

The reduction of usage rates could be due to chance alone that cases requiring antibiotics at that time were reduced as it was shown in Table I. These might happen because there was lack of an appropriate control group and confounders were not controlled by using a multivariate analysis. Comparing the reduction of antibiotics prescription for URTI with non-URTI cases was not suitable because both groups of diseases might be prescribed by the same medical officers which received the intervention. There might also be contaminations of those who did not receive the intervention. Control group may be selected among URTI cases in other area which is not related. Simply comparing pre and post rates is not sufficient. The authors should compare simultaneously pre and post as well as between groups (URTI and non-URTI). The most appropriate test is the repeated measure analysis of variance⁴.

The authors also mentioned that many of the prescriptions had no diagnosis written. This is interesting and I would like

to know further details of it. These prescriptions should be not allowed. Malaysia has no specific guideline for prescribing other than the circulars. All countries should have standard regulations for the minimum information required for a prescription⁵.

The authors were rightly conducting this study among medical officers. The medical officers were found to be the commonest offenders of prescription errors¹. It was more common among doctors with the higher mean years of working experience⁶. Medical officers with longer working experience can easily forget about proper prescribing habits compared to those who recently graduated, especially if there is a lack of training in prescribing.

The authors used an education intervention which consisted of one-page summary of URTI management and 20-minute session with a family medicine specialist. Educating doctors with academics details alone is not adequate to reduce over-prescription of antibiotics because this involved a more complex behaviour of patients' and doctors' perceptions and expectations. Some patients have expectation to be prescribed antibiotics. Some doctors prescribed antibiotics because of time pressure, heavy workload, want to do something active and as a signal of sympathy, medico-legal concerns, fear of losing patients to other doctors and a way of reassuring patient³. The study concluded that the intervention was successful in reducing the prescription rate of antibiotics but is it sustainable in long term? Is a long term follow-up planned?

Strategies for a better prescription should be the priority to ensure that antibiotics are being prescribed rationally, safely and effectively. Ministry of Health should conduct an annual training on the good prescribing practice and be compulsory for all prescribers. Health centres and clinics should also have printed booklets regarding guidance on appropriate prescription.

REFERENCES

1. Dean B, Barber N, Schachter M. What is a prescribing error? *Qual Saf Health Care* 2000; 9: 232-7.
2. Dean B, Schachter M, Vincent C, Barber N. Causes of prescribing errors in hospital inpatients: a prospective study. *Lancet* 2002; 359(9315): 1373-8.
3. Butler CC, Rollnick S, Pill R, Mags-Rapport F, Stott N. Understanding the culture of prescribing: qualitative study of general practitioners' and patients' perceptions of antibiotics for sore throats. *BMJ* 1998; 317: 637-42
4. Chan YH. *Biostatistics 301. Repeated measurement analysis.* Singapore Med J 2004; 45: 354-69.
5. WHO. *Guide To Good Prescribing: A Practical Manual.* Geneva: WHO, 1995.
6. Norsa'adah B, Tengku Norbanee TH, Zaliha I, Che Wil A. Prescription writing errors by doctors at Pasir Mas Hospital. *Int Med J* 2006; 13: 15-18.

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