

Review: delaying a prescription reduces antibiotic use in upper respiratory tract infections

Arroll B, Kenealy T, Kerse N. Do delayed prescriptions reduce antibiotic use in respiratory tract infections? A systematic review. *Br J Gen Pract* 2003;**53**:871–7.

Q In patients with upper respiratory tract infections (URTIs), is delaying a prescription effective for reducing antibiotic use?

METHODS

Data sources: Medline (1966 to April 2003), EMBASE/Excerpta Medica, the Cochrane Controlled Trials Register, and researchers in the field.

Study selection and assessment: randomised controlled trials (RCTs) or clinical controlled trials (published in any language) that compared delayed and immediate antibiotic prescription for patients of any age with URTIs. URTIs included acute cough, sore throat, otitis media, the common cold, and sinusitis. Study quality was assessed using the Jadad scale.

Outcomes: use, consumption, or filling of prescriptions; and reported side effects.

MAIN RESULTS

4 RCTs (950 patients) and 1 clinical controlled trial met the selection criteria. All of the RCTs had Jadad scores >3 out of 5. Duration of delay for prescriptions was 1–7 days. Meta-analysis of RCTs was not done because of significant heterogeneity. However, rates of use (1 RCT), consumption (2 RCTs), and filling (1 RCT) of prescriptions were lower in the delayed prescription group than in the immediate prescription group (table). Furthermore, 3 RCTs reported an increase and 1 RCT reported a decrease in symptoms and signs in the delayed prescription group compared with the immediate prescription group ($p < 0.05$).

CONCLUSION

In patients with upper respiratory tract infections, delaying a prescription reduces antibiotic use.

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Commentary

Antibiotic resistance is an important public health concern and is linked to antibiotic prescribing. In response, several approaches have been implemented to enhance appropriate prescribing of these drugs, particularly in primary healthcare settings.¹ The systematic review by Arroll *et al* examined the few existing RCTs that have assessed the effect of delayed prescriptions for URTIs. No new trials have been published on the effect of delayed prescriptions since this review was published.

The strengths of the review include use of a thorough search strategy to identify published and unpublished studies in multiple languages, independent evaluation of individual study quality by 2 authors using the Jadad scale, contact with authors of included trials for missing information, consideration of heterogeneity, and comprehensive discussion of the clinical application of the results. Limitations include the small number of RCTs available for inclusion in the review; differences in the URTIs studied in individual trials and limited information about the extent of illness; and limited information on the context of practice (eg, rural or urban) and practice populations (eg, socioeconomic status and ethnicity).

The review by Arroll *et al* found that delayed prescriptions reduce antibiotic use in patients with URTIs. However, as Arroll *et al* have noted, the use of delayed prescriptions is low risk but not risk free. Although no risks are associated with delayed prescribing for the common cold, some risk is associated with delayed prescribing in some URTIs, such as otitis media and pharyngitis. Before delaying a prescription, practitioners need to carefully assess patients, their home environment, and their confidence to recognise and respond to changes in symptom patterns. Use of delayed prescriptions in more vulnerable populations, such as infants and elderly people with URTIs other than the common cold, needs further investigation before it can be safely recommended. Whether or not delayed prescriptions are used, educating patients about appropriate antibiotic use is an important intervention in the management of URTIs in primary healthcare.

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1 Gums JG. Redefining appropriate use of antibiotics. *Am Fam Physician* 2004;**69**:39–40.

Delayed antibiotic prescription (DAP) v immediate antibiotic prescription (IAP) for upper respiratory tract infections (URTIs)*

Outcomes	RCT (n)	URTI	DAP	IAP	RRR (95% CI)	NNT (CI)
Consumed the antibiotic	A (129)	Common cold	48%	89%	46% (31 to 60)	3 (2 to 4)
	B (315)	Otitis media	24%	98%	75% (68 to 82)	2 (2 to 2)†
Collected the antibiotic	C (185)	Cough	45%	100%	55% (44 to 64)	2 (2 to 4)
Used the antibiotic	D (483)	Sore throat	31%	100%	69% (61 to 75)	2 (2 to 2)†

*Abbreviations defined in glossary; RRR, NNT, and CI calculated from data in article.

†Round off errors result in a point estimate CI.