

General practitioner use of delayed prescriptions for antibiotics:

A cross-sectional survey

Bruce Arroll MBChB PhD FRNZCGP, Associate Professor, Justine Arroll, Research Assistant, and Felicity Goodyear-Smith MBChB MGP FRNZCGP, Senior Lecturer, the Department of General Practice and Primary Health Care, School of Population Health, University of Auckland; Pauline Norris BA MA PhD, Senior Lecturer, School of Pharmacy, University of Otago

ABSTRACT

Aim

To explore the use of delayed prescriptions for upper respiratory tract infections (URTI) by general practitioners (GPs).

Methods

Design of study: Cross-sectional study, telephone interview. One hundred randomly-selected Auckland GPs from 1999 study of antibiotic use for URIs invited to participate in 15 minute telephone interview. Additional 40 GPs randomly selected from database to replace retired GPs or those who declined to participate.

Results

Ninety-two per cent response rate of practising GPs. Over the past five years, 12% decreased; 47% not changed; 40% increased use of delayed prescriptions. The majority give delayed prescription to patients >age 2 years;

while 30% age <2. Perceived benefits of use included improving doctor-patient relationship; patient education and empowerment; reduced antibiotic use (health fund savings; preventing resistant bacteria) and patient convenience. Individual GPs have wide variation in symptom and sign criteria for providing delayed prescriptions and instructions on days to wait before using the prescription.

Conclusion

This is the first cross-sectional survey of reported GP behaviour using delayed prescriptions. Most use them at some time. Some thought reassessment may be more appropriate than suggesting patients use their delayed prescription if they get worse.

Key words

Respiratory tract infections, antibiotics, family practice, delayed prescriptions

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Where this piece fits

While systematic reviews suggest minimal or no benefit from antibiotics for sore throat, acute bronchitis, the common cold, acute cough and otitis media, antibiotic use for respiratory tract infection is still high. Delayed prescription use has been shown to reduce antibiotic use. This is the first cross-sectional survey of randomly-selected GPs examining their self-reported behaviour using delayed prescriptions. Most use them at some time although some were concerned that patients might hoard antibiotics, or that reassessment might be more appropriate when symptoms worsened. Delayed prescriptions may no longer be needed when patients and practitioners become comfortable with reduced antibiotic use.

Introduction

There are systematic reviews which suggest minimal or no benefit from antibiotics for sore throat,¹ acute bronchitis,² the common cold,³ acute cough⁴ and otitis media.⁵ While there appears to be some reduction in the rate of antibiotic prescribing in some countries, the absolute levels are still high, e.g. in the United States, (750 per 1000 visits for bronchitis 1999–2000).⁶ A solution to this problem may be the use of delayed prescriptions.⁷

Delayed prescriptions (prescriptions to be used later if symptoms persist) have been used for conditions other than respiratory tract infection for many years. This includes oral steroids for serious asthma and antimalarials for acute malaria. The first published randomised trial evidence of benefit from delayed prescriptions for respiratory symptoms is a trial of antibiotics for acute sore throat by Little et al. (1997) who either gave antibiotic prescriptions, to be filled immediately or after three days, or no antibiotics.⁸ The immediate group consumed 99% of the antibiotic prescriptions while the delayed group used only 31% and there were no apparent serious harms. A systematic review of trials found five studies which had studied the intervention of delayed prescriptions.⁹ This found reductions in antibiotic prescriptions between 23% and 75% for otitis media, sore throat, the common cold and acute cough.

There have been two observational papers describing the use of delayed prescriptions in practice rather than systematically asking views on delayed prescriptions and how general practitioners use them in practice. The first looked at patient satisfaction with the use of delayed prescriptions for a wide range of conditions.¹⁰ They found a 96% satisfac-

tion rate and a 50% pick-up rate for the antibiotic prescriptions. In another observational study of 'safety net antibiotic prescriptions' for children with otitis media, only 31% of the group filled their antibiotic prescription.¹¹ Sixty-three per cent of the parents reported that they would be willing to treat future acute otitis media episodes without antibiotics and with pain medication alone.

The aim of this paper is to explore the use of delayed prescriptions for upper respiratory tract infections (URTI) and other conditions by general practitioners (GPs).

Methods

One hundred Auckland GPs who participated in a survey of antibiotic use for respiratory tract infections five years earlier¹² were invited to participate in a 15-minute telephone interview. It was anticipated that some would have retired, changed careers or emigrated and a random sample of Auckland GPs was chosen to replace these. The principal investigator phoned the GPs to ask if they were interested in being in the study. Those who consented were

contacted by a research assistant at a later date and administered the questionnaire by telephone. The questionnaire asked about changes in patient demand for antibiotics, the use of antibiotics for specific conditions as

well as the questions about delayed prescriptions. Most of the questions were closed apart from a small number of open-ended questions. A payment of \$50 was made to the GPs for their time. Questions about spe-

cific conditions will be presented in a separate paper.

Ethics approval for the study was obtained from the Auckland Ethics Committee.

Results

Of the original 100 randomly selected Auckland GPs who had participated in a study of GP use of antibiotics five years earlier,¹² 27 were no longer in general practice and eight declined. Forty additional GPs were randomly selected from a database of all Auckland GPs, of whom four were no longer in practice and one declined. Thus of 109 GPs approached who were still in practice, nine declined to participate, giving a 92% response rate. Of the 100 respondents, 41 were female. Their median year of graduation was 1981–1982 with a range from 1946 to 1997.

All but six GPs gave delayed prescriptions for respiratory infections on some occasions and none on all occasions. Twenty-five responded that they gave these prescriptions often, 36 sometimes, and 33 rarely. The proportion of patients with URTI for whom they would prescribe delayed prescriptions ranged from 0 to 90% (median of 10%).

Twelve per cent (n=12) had decreased their use of delayed prescriptions; 47% (n=46) reported no change, and a sizeable minority 40% (n=39) had increased their use in the past five years. Reasons given for this included being aware of research on this topic (17%) and being more patient-centred (21%). A small number were no longer using delayed prescriptions because their patients now were educated to not expect antibiotics and hence no longer presented with URTIs. Two GPs had decreased their use as a result of medicolegal concerns.

While there appears to be some reduction in the rate of antibiotic prescribing in some countries, the absolute levels are still high

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The majority of GPs said they would give a delayed prescription to patients over the age of two, but 30% would give them for children under the age of two. The vast majority gave delayed prescriptions to improve their relationship with their patients and also felt that it educated them about the lack of benefit from antibiotics and empowered them (Table 1); (all the tables represent close yes/no questions). Fifty-six per cent were concerned that patients may not use a prescription for the initial illness and then misuse it at a later date. Advantages the GPs perceived for patients included convenience, in that it could save time on a return visit, as well as external considerations such as saving health funds and preventing resistant bacteria (Table 2). Social circumstances which would increase the likelihood of them giving a delayed prescription included before a weekend or holiday (92%) or that the patient was going overseas (90%) or facing an important event (87%) in the near future.

Symptoms and signs for which the GPs would give delayed prescriptions are shown on Table 3. GPs asked their patients to wait between 0 and 10 days before filling their prescription, with a median of two and a mean of 2.75 days. Other situations in which GPs would give delayed prescriptions included urinary tract infections (9%), oral cortisones for asthmatics (8%) and antibiotics for skin lesions that were not getting better (9%).

Discussion

Summary of main findings

This is the first cross-sectional survey of the reported behaviour of GPs in their use of delayed prescriptions. It appears that almost all GPs use delayed prescriptions at some time and that their use of them is either static or likely to be increasing. Their use predates the publication of the first randomised controlled trial and qualitative data. This suggests that

Table 1. Reasons for, and concerns about, delayed prescriptions

Reasons and concerns	n*
Educates patients that antibiotics not always needed	93
Feels that it empowers patients	86
Preserves doctor/patient relationship	84
Concerned that patient may misuse prescription at a later date	56
Concerned that patients may think doctor does not know what s/he is doing	16

* n = 100

Table 2. Issues regarding delayed prescriptions that GPs considered important for patients

Issue	n*
To believe their GP is competent and will make right decisions for them	93
To be educated about self care	92
To avoid unnecessary antibiotics	90
To stop health money being spent unnecessarily	87
To prevent development of resistant bacteria	87
Empowered to make decisions about own health	87
Convenience in that it can save time and resources on a return visit	87

* n = 100

Table 3. Symptoms and signs for which the GP would give a delayed prescription

Symptom or sign	n*
Past history chronic obstructive pulmonary disease	81
Past history of respiratory complications	80
Purulent sputum	73
Sinusitis	71
Purulent runny nose	70
Otitis media	65
Acute bronchitis	53
Smokers	46
Cough	23
Sore throat with no feature of streptococcal tonsillitis	23
Night cough	15
Clear sputum	13
Clear runny nose	9
Acute common cold uncomplicated	9

* n = 100

most GPs have developed this practice without knowing whether their colleagues do the same and have been doing this for many years.¹³ Their reasons for giving delayed prescriptions vary from preserving the doctor-patient relationship to saving health funds and preventing antibiotic resistance. The issue of preserving the doctor-patient relationship is in contrast to an outright refusal to give antibiotics. This may change in the new Primary Health Organisation environment as GPs may be keener to prescribe antibiotics than to have their patients attend a different practice and invoke a clawback payment.

Strengths and limitations of the study

A strength of this study is that it comprises a random sample of GPs with a 92% response rate which is high by primary care standards. A weakness of the study is that the behaviour is self-reported rather than observed. Also, the study focussed on delayed prescriptions; it is not clear whether those who would not give delayed prescriptions would prescribe or not. It was decided not to ask questions in this way to minimise the time burden of the questionnaire on GPs.

Relationship of study to existing literature

Prescribing delayed prescriptions for patients with past history of chronic obstructive respiratory complications and past respiratory complications is reasonable. Giving delayed antibiotics for purulent rhinitis may give the message that antibiotics are an effective and necessary treatment. New evidence suggests that antibiotics are effective for acute purulent rhinitis but most patients get better without antibiotics and their use is not routinely recommended.^{14,15} It is encouraging to see limited use of delayed prescriptions for uncomplicated common cold and clear runny nose. Of more interest is the high use of delayed prescriptions for otitis media where 65% of GPs would give delayed prescriptions. The systematic reviews have been showing limited long-term benefit for antibiotics for otitis media. This study is consistent with anecdotal reports from medical students that many GPs are no longer giving routine antibiotics for acute otitis media. We suspect the publication of the study by Little et al. in 2001 has had an impact on this behaviour.¹⁶

Implications for clinical practice

Delayed prescribing is not a complete panacea for antibiotic use for conditions not routinely requiring them. Some of the practitioners were concerned that patients may hoard the antibiotics and use them at a later stage. Most GPs suggest that patients use their delayed prescription if they are getting worse. This has the potential for mishap in that reassessment may be more appropriate than consumption of a delayed prescription. It is essential to make re-assessment an easy and viable option lest patients feel unwilling to bother their doctor if their condition gets seriously worse. This is likely only to happen in a minority of cases and overall the adoption of delayed prescriptions should wean both doctors and patients off the habit of routinely using antibiotics. The day may come when delayed prescriptions are no longer needed for many conditions, as both patients and practitioners become comfortable with reduced antibiotics.

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