



Medicines Evidence Commentary

commentary on important new evidence from Medicines Awareness Weekly

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Infective conjunctivitis: do childcare provider policies help drive inappropriate prescribing of antimicrobials?

Public Health England (PHE) [advises](#) that children with infective conjunctivitis do not need to be excluded from school, nursery or child minders, and it does not state any requirement for treatment with topical antibiotics. An audit of childcare provider policies published online found that only 13% reflected PHE advice and almost half required treatment with antibiotics before the child could be readmitted to nursery. In a questionnaire survey of primary care prescribers, about 40% said that childcare provider policy had been the main or only reason for prescribing topical antibiotics for infective conjunctivitis in children. In line with NICE guidance on [antimicrobial stewardship](#), prescribers and community pharmacists should prescribe or sell chloramphenicol for infective conjunctivitis only if this is clinically appropriate. Organisations should encourage health and social care practitioners across all care settings to work together to support antimicrobial stewardship.

Overview and current advice

Infective conjunctivitis accounts for around 35% of all eye problems presenting in general practice, with 13–14 cases per 1000 population per year. Infective conjunctivitis in children may be caused by bacteria or viruses; it is difficult to distinguish between viral and bacterial causes on the basis of clinical signs and symptoms. Estimates of the proportion of infective conjunctivitis that are bacterial vary widely between studies. Studies in primary care estimate that between 33% and 78% of cases are bacterial in origin ([NICE CKS](#)).

[NICE CKS](#) recommends advising affected people that infective conjunctivitis is a self-limiting illness that, for most people, settles without treatment within 1–2 weeks. It also recommends advice on hygiene to avoid spreading infection. It states that as long as serious causes of a red eye can be confidently excluded, topical antibiotics could be considered if infective conjunctivitis is severe or likely to become severe (that is, if the person or their carer considers the symptoms to be distressing or signs are judged to be severe from clinical experience). However, NICE CKS recommends considering advising people to delay starting treatment for 7 days to see if the condition will resolve spontaneously. Chloramphenicol eye drops and eye ointment can also be sold by pharmacists for treating acute bacterial conjunctivitis in adults and children over 2 years.

Antibiotic eye drops will not be effective against viral conjunctivitis. A [Cochrane review](#) of [randomised controlled trials](#) (RCTs) that included participants aged from 1 month to 96 years concluded that use of antibiotic eye drops in people with acute bacterial conjunctivitis (diagnosed on clinical or microbiological grounds) is associated with modestly improved rates of clinical remission compared

with placebo¹. However, only one RCT included in the Cochrane review recruited only children (6 months to 12 years) with acute infectious conjunctivitis (from 12 GP practices in the UK)². Of the 326 children randomised and exposed to study drug, a pathogen was later identified in 80%, of whom 83% had a one or more bacterial pathogens, 3% had viral pathogens alone, and the remainder had both bacterial and viral pathogens. The study found no [statistically significant](#) difference in clinical cure rate with chloramphenicol eye drops compared with placebo at day 3 (39% and 33% respectively, rate difference 6.2%, 95% [confidence interval](#) [CI] -4.3% to 16.5%) or by day 7 (the primary endpoint; 86% and 83% respectively [excluding children lost to follow-up], rate difference 3.8%, 95% CI -4.1% to 11.8%). In a sensitivity analysis counting children lost to follow up as 'treatment failures', the difference in cure rates was greater but still not statistically significant (86% and 79% respectively, rate difference 7.4%, 95% CI -0.9% to 15.6%). The mean difference in time to clinical cure was 0.3 days (95% CI not stated)².

In [Guidance on infection control in schools and other childcare settings](#), Public Health England (PHE) advises that children with infective conjunctivitis do not need to be excluded from school, nursery or child minders. It does not state any requirement for treatment with topical antibiotics³. Additionally, the [Royal College of General Practitioners](#) has written to the schools inspectorate [Ofsted](#) (which also has responsibility for nurseries and childminders) requesting that childcare providers ensure their policies reflect this PHE guidance. In a [press release](#), the College also highlighted its [leaflet](#) of 'top tips' to help teachers, childcare professionals and parents make the right decisions about the care of young children with infective conjunctivitis.

NICE guidance on [antimicrobial stewardship](#) advises prescribers to discuss with patients and/or their family members or carers matters such as the likely nature of the condition, why prescribing an antimicrobial may not be the best option, and their views on antimicrobials, taking into account their priorities or concerns for their current illness and whether they want or expect an antimicrobial. It also advises organisations (such as clinical commissioning groups) to encourage and support prescribers only to prescribe antimicrobials when this is clinically appropriate. Organisations should also encourage health and social care practitioners across all care settings to work together to support antimicrobial stewardship by communicating and sharing consistent messages about antimicrobial use, and by sharing learning and experiences about antimicrobial resistance and stewardship.

New evidence

Researchers conducted an audit and questionnaire survey to try to establish what proportion of sickness policies of UK childcare providers comply with PHE guidance, and examine how these policies influence prescribing of antibiotics to preschool children with infective conjunctivitis⁴.

They searched Google for childcare provider sickness policies published from April 2010 to December 2014 in the UK. They found 164 relevant policies, of which 14% were from group providers and the remainder from individual organisations. Only 22 policies (13%) stated that children with infective conjunctivitis did not need to be kept away from the nursery or childminder. The other 142 policies (87%) all required exclusion, but there was considerable [heterogeneity](#) in the requirements specified for an excluded child to be allowed to return. The most common requirement was for exclusion until the child was symptom-free (37%). Other required durations of exclusion were until a specified number of days of antibiotic treatment had been completed (17%); until antibiotics had been prescribed (13%); until after a specified number of days of treatment or until the child was symptom-free (10%); until the child had been seen by a GP (6%); or for a specified number of days (4%). Some policies (13%) had more than one exclusion criterion, most commonly 'X days of antibiotics and child is symptom free'. Overall, almost half (49%) of the policies required treatment with antibiotics before a child with acute infective conjunctivitis could be readmitted to nursery. Only 4 policies (2%) stated that antibiotics were not required.

Some policies quoted a source; 23 (14%) quoted PHE (or the Health Protection Agency), but of these, only 9 had an exclusion policy in line with PHE guidance. Group providers were more likely to follow PHE guidance than individual organisations but the difference was not statistically significant (22% versus 12%, $p=0.20$). The absence of statistical significance may be because the observed difference was simply a chance finding or because the sample size meant the study did not have sufficient [statistical power](#) to detect a true difference.

The researchers also distributed a questionnaire to primary care clinicians (GPs including locums and salaried GPs; GP specialist trainees; and nurse prescribers) who attended 3 educational events (which were unrelated to conjunctivitis or antimicrobial stewardship). Of the 428 questionnaires distributed, 200 (47%) were returned completed. Most (62%) were completed by GP partners; 9% were completed by nurse prescribers. Overall, 43% of responders reported that their prescribing of topical antibiotics in infective conjunctivitis had been influenced by childcare provider policies. One-quarter (26%) stated that childcare provider policy was the main reason they had prescribed, and 15% stated that this was the only reason for prescribing.

The study authors discuss the limitations of their work. Not all childcare providers have websites or publish policies online, indeed the sample is only a very small fraction of the many thousands of Ofsted-registered providers in the UK. However, as the authors point out, there is no reason to think that the sickness policies of providers with an online presence should be systematically different from those without. They speculate that providers that publish their sickness policies online are more likely to believe that their policy is evidence-based than those that do not. The authors also note the potential sampling bias with regard to the questionnaire, the difficulty in measuring 'influence' and the possibility of a conscious or unconscious 'professional acceptability bias' that may lead to respondents answering according to what they feel someone in their profession ought to be doing, rather than reporting what they are actually doing if that falls short of this ideal.

Commentary

Commentary provided by Dr Sanjay Patel, Consultant in paediatric and infectious diseases and immunology, Southampton Children's Hospital

The international community has made a clear pledge to address the issue of antibiotic resistance⁵. One of the most effective ways of doing so is to promote the judicious use of antimicrobials⁶. The paper by Finnikin et al⁴ provides a fascinating insight into the impact of nursery sickness policies on inappropriate health seeking behaviour and antibiotic prescribing. The authors clearly demonstrate a malalignment between the exclusion policies of nurseries and the national advice provided by Public Health England (PHE)³. This advises that nursery exclusion is not required for children with acute infective conjunctivitis, and that there is no requirement for treatment with antibiotics. This study shows that most nurseries insist on the exclusion of children with acute infective conjunctivitis unless they are reviewed by a doctor, and in many cases nurseries stipulate treatment with antibiotics before a child is allowed to return. This approach is clearly putting pressure on parents to present unnecessarily to medical services, and more worryingly is putting pressure on doctors to inappropriately prescribe antibiotics. This is a major concern, not only in terms of antimicrobial stewardship but also because it places unnecessary pressure on already overstretched front-line healthcare services⁷. Childcare providers need to recognise their responsibility in the fight against antimicrobial resistance and in promoting appropriate health-seeking behaviour by parents and carers. Not only does the statutory framework for childcare providers need to ensure that nursery sickness policies are aligned with national recommendations, but parents/carers and doctors should feel empowered to challenge nurseries when this is not the case.

Declaration of interests:

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