Pharmaceutical care of patients with infections

Course information
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Course information
Contents of Pack

Your pack contains:

- Pharmaceutical care of patients with infections – Course information
- Pharmaceutical care of patients with infections – Course activities
- A DVD with two presentations (in 16:9 PAL format). This DVD will play in almost any DVD player, and any PC or Mac with DVD playing software.

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Introduction

Pharmaceutical care of patients with infections

This course offers Scottish pharmacists training on how they can contribute to the prudent use of antibiotics, as part of their normal working practice, by applying the principles of pharmaceutical care for patients with infections. This invaluable training for pharmacists will help them engage with local initiatives to support the Scottish Management of Antimicrobial Resistance Action Plan.

The evening will start with a presentation on antibiotics – mainly covering the national and local context, basic pharmaceutical microbiology, diagnosis and management of common infections and current problems with antimicrobial resistance. This will be delivered by a local expert in the field (for example, the Antimicrobial Pharmacist in your area) and will explore the aims of treatment and review the various clinical management options for some infectious diseases. The workshops will include very practical patient case studies illustrating how pharmacists can contribute to the care of patients presenting with common infections.

A choice of hospital or community based case studies is offered, so the course will be of interest to pharmacists working in both sectors of care and will provide a useful CPD opportunity on the prudent use of antibiotics.

Aim

To update pharmacists on the management of common infections and the current national programme to tackle antimicrobial resistance.

Objectives

At the end of the session pharmacists will be able to:

• describe current national and local initiatives to improve antimicrobial management.
• describe the role of pharmacists in the prudent use of antimicrobials.
• discuss the management of common infections.
• provide an overview of antimicrobial resistance and the impact resistant organisms may have on patients and the public.
Pre-course preparation

An additional presentation entitled ‘Bugs and Drugs’ is included on the DVD. This gives background information on basic microbiology, common pathogens, antibiotic spectra of activity and which antibiotics to use in common infections. It is divided into 3 parts, so you can watch it in bite-sized chunks!

Part 1 Bugs – approx 30 mins
Part 2 Drugs – approx 30 mins
Part 3 CDAD (Clostridium difficile associated disease) – 15 mins

It is recommended that you view this presentation BEFORE you attend the course as it will provide valuable revision to help you participate fully in the workshop sessions.

If attending the local event, you may prefer not to view the second DVD presentation entitled “Pharmaceutical care of patients with infections” (by Dr Jacqueline Sneddon) since this is the opening presentation at the start of the course. It is included on the DVD for referral/revision after the course, and for those who do not manage to attend a local event.

Key national resources

The following national resources provide background information on the national initiatives to address prudent use of antibiotics and antimicrobial resistance.


In addition, it is recommended that, before coming along to the course, you update yourself on any local guidelines that exist within your NHS Board for the management of infection.
Background

The worldwide threat from antimicrobial resistant organisms is increasing. The consequences of this for society as a whole are potentially very serious. Empirical antimicrobial treatment is becoming increasingly ineffective and some infections may become untreatable.

The development of antimicrobial resistance is a complex evolutionary process but exposure to antimicrobial agents is known to be a major factor. It is known that a significant proportion of current antimicrobial usage is not ‘prudent’; this is mainly an issue of excessive use (use of an antimicrobial where not necessary or prolonged courses), or inappropriate choice of (or incorrect dosing of) antimicrobial agent for treatment or prevention of the relevant infection.

Prudent prescribing of antimicrobials may prevent, or at least slow the rate of, the development of drug resistant strains. Promoting good antimicrobial prescribing practice is an ongoing process requiring continuing vigilance and can be greatly enhanced by developing better information systems about resistance patterns and antibiotic prescribing.

National collaboration

The Scottish Management of Antimicrobial Resistance Action Plan (ScotMARAP) was published by the Scottish Government in March 2008. This document made key recommendations for antimicrobial stewardship in primary and secondary care and defined the organisational structure required within NHS Boards to ensure prudent use of antimicrobials.

The Scottish Antimicrobial Prescribing Group (SAPG) was formed to implement the recommendations of ScotMARAP. SAPG is a national multi-disciplinary clinical forum hosted by the Scottish Medicines Consortium with representation from all key stakeholders; Information Services Division (ISD), Health Protection Scotland (HPS), Quality Improvement Scotland (NHS QIS), NHS Education for Scotland (NES) and territorial NHS Boards.

SAPG is working with stakeholders to improve information about prescribing and surveillance of organisms at national and local level, education of all healthcare staff about use of antibiotics, and management of common infections.
Antimicrobial management is also included in the NHS QIS Healthcare Associated Infection (HAI) standards which define the requirements for cleanliness and infection prevention within healthcare establishments.

**NHS Boards**

Local Antimicrobial Management Teams (AMTs) are key to NHS Boards delivering the recommendations of ScotMARAP. An AMT is a sub-group of the Area Drug and Therapeutics Committee and should comprise a Lead Clinician, Lead Microbiologist, Lead Pharmacist and representatives from Infection Control, Primary Care and the public. Key objectives for AMTs are reporting to the Board on antimicrobial issues, implementation of antibiotic policies, analysis of prescribing and surveillance data and auditing clinical practice in the use of antimicrobials.

Antimicrobial policies for hospitals and primary care should be in place in all NHS Boards. These should provide evidence based guidance on empirical treatment of common infections promoting the use of narrow spectrum agents and restricting broad spectrum agents associated with Clostridium difficile infection.

In hospitals prescribing data at ward level should be used to monitor compliance with antimicrobial policy and trends in antimicrobial use.

In primary care PRISMS provides data on antimicrobial prescribing at Board, GP Practice and individual prescriber and can be used to identify outliers, quantify amount of antibiotics prescribed and assess usage of non-policy antibiotics.

Prescribing indicators may be used in hospital and primary care to monitor prescribing quantitatively and qualitatively.

Surveillance is the monitoring of bacteria in samples sent to Microbiology laboratories. Surveillance data is used to inform antimicrobial policies and monitor resistance patterns.
Pharmacists and Antimicrobial Management

Specific government funding was provided in 2008 to ensure that all NHS Boards have an Antimicrobial Pharmacist based in hospital but with a remit that includes primary care. This specialist pharmacist role was established in the late 1990s/early 2000s to address concerns about antimicrobial resistance and the link to antimicrobial prescribing. Antimicrobial Pharmacists require strong clinical skills and work closely with microbiology and infection control staff. Their key roles are development of policies, education of staff, audit of antimicrobial prescribing and monitoring antibiotic consumption.

The Association of Scottish Antimicrobial Pharmacists (ASAP) is a specialist interest group which was formed in 2003 to provide a forum for sharing good practice, developing educational resources and contributing to the national antimicrobial agenda.

All hospital pharmacists have a role in antimicrobial stewardship and should check all medication charts and prescriptions for compliance with antibiotic policy for choice of antibiotic, route, frequency and duration. Clinical pharmacists can also promote the antibiotic policy at ward level and educate medical and nursing staff about its use.

Pharmacists working in Primary Care can monitor prescribing of antibiotics using PRISMS and may identify problems with quantity and quality of antibiotic prescribing. They can also monitor key prescribing indicators within their Board area and against the national picture. Feedback of such prescribing information to prescribers has been shown to be effective in influencing prescribing and promoting compliance with the local antibiotic policy.

Community pharmacists should be aware of their local antimicrobial prescribing policy and the use of non-policy antibiotics, inappropriate dosage or duration should be queried with the prescriber.
Patient education on self management of minor infections is important in avoiding unnecessary use of antibiotics. Community pharmacists can provide advice on symptom relief and may influence patients’ decisions on whether to consult their GP with coughs, colds and other self-limiting conditions caused mainly by viruses.

All pharmacists have a role in challenging inappropriate prescribing of antibiotics. This may be a difficult thing to do but it is worth remembering that the use of a local antibiotic policy is essential to ensure prudent use of antibiotics and minimisation of antimicrobial resistance which is a real emerging threat to managing infections. Antibiotic use is a clinical governance issue for all prescribers and following local antibiotic policies is considered a mandatory requirement by NHS Boards and Scottish Government.

**Pharmaceutical microbiology**

All pharmacists will have some knowledge of pharmaceutical microbiology from their degree course but we include in this pack a DVD presentation on ‘Bugs and drugs’ which provides useful revision on common pathogenic organisms, the infections they may cause and which antibiotic should be used for which organism. Much of this information is in the format of diagrams and tables which makes the topic easy to understand. It has been provided as three short pre-course presentations on the DVD with a set of accompanying notes.
Teaching plan

Presentation 40 minutes and 10 minutes discussion.

Pharmaceutical care of patients with infections
This talk will cover:
• Antimicrobial prescribing policies
• Role of the pharmacist in antimicrobial management
• Brief overview of bugs and drugs
• Management of common infections
• MRSA
• Clostridium difficile

Break 15 minutes (may vary locally according to usual timings).

Workshops 75 minutes.
Participants will be divided into small groups. One facilitator will normally be assigned to each group – each group will work through the cases as directed.

Four sets of case studies have been produced and participants should undertake three of them; the choice of respiratory case study will depend on whether working in hospital or community sector:

Urinary tract infection (suitable for all)
Skin and soft tissue infection (suitable for all)
Respiratory infections in primary care (optional)
Respiratory infections in hospital (optional)

Suggested answers will be provided at the end of the session. They can also be downloaded from the NES website at a later date.

Summary 10 minutes.
• CPD-action, evaluation and identification of further training needs
• Local Antimicrobial Management Teams and sources of information about antimicrobials.
• Course assessment
Respiratory tract infections
Guidelines on COPD and pneumonia on British Thoracic Society website
www.brit-thoracic.org.uk

SIGN 59 Community Management of Lower Respiratory Tract Infections 2002
www.sign.ac.uk/guidelines/fulltext/59/index.html

NICE Clinical Guideline 12 Management of chronic obstructive pulmonary disease in adults in primary and secondary care 2004

Global Initiative for Chronic Obstructive Lung Disease 2008
www.goldcopd.com/Guidelineitem.asp?l1=2&l2=1&intId=989

Guidelines for the management of hospital acquired pneumonia in the UK
www.jac.oxfordjournals.org/cgi/reprint/62/1/5

Upper respiratory tract infection material

Skin and soft tissue infections
Skin and soft tissue infection – Diagnosis and management, focus on methicillin-resistant S. aureus, Seaton R A, Clinical Pharmacist 1, January 2009 (RPSGB publication)

Guidelines (2008) for the prophylaxis and treatment of methicillin-resistant Staphylococcus aureus (MRSA) infections in the United Kingdom
www.jac.oxfordjournals.org/cgi/reprint/62/1/5

Urinary tract infections
Clinical Knowledge Summaries accessed via www.cks.library.nhs.uk

SIGN Guideline 88 Management of Suspected Bacterial Urinary Tract Infection in Adults. July 2006
www.sign.ac.uk/

European Association of Urology March 2008 accessed via
www.uroweb.org/nc/professional-resources/guidelines/online/
**General infection references**

Local primary care antibiotic guidelines from NHS Board website available via SHOW website  
[www.show.scot.nhs.uk](http://www.show.scot.nhs.uk)

National guidance and current national projects on Scottish Antimicrobial Prescribing Group website  
[www.scottishmedicines.org.uk/smc/6616.html](http://www.scottishmedicines.org.uk/smc/6616.html)

Managing common clinical scenarios in primary care  
[www.cks.library.nhs.uk/home](http://www.cks.library.nhs.uk/home)

Leaflets for patients on common infections  
[www.patient.co.uk/pils.asp](http://www.patient.co.uk/pils.asp)

Resources on Healthcare Associated Infection  
[www.nes.scot.nhs.uk/hai](http://www.nes.scot.nhs.uk/hai)

Information on infectious diseases and surveillance on Health Protection Scotland website  
[www.hps.scot.nhs.uk](http://www.hps.scot.nhs.uk)

Health Protection Agency guidance on primary care management of infections  

Guidance on selected infections on Scottish Intercollegiate Guideline Network website  
[www.sign.ac.uk](http://www.sign.ac.uk)

A simple guide to Clostridium difficile  