Clinical practice update

Introduction

A recent study of South Africans’ use of healthcare facilities for common infectious diseases in Soweto and Klerksdorp has shown that over one-third of patients with influenza-like illnesses did not seek care from primary care health professionals as they regarded their illness as ‘not serious enough’.¹ This poor use of South African healthcare resources, whether private or public sector, can have life-threatening implications for particular types of patient.

Young children and adults aged ≥65 years experience a disproportionate burden of influenza-associated hospitalisation and death.²,³ This is likely to be due to South Africa’s high rates of HIV infection and tuberculosis; a local study of influenza and tuberculosis co-infection showed high mortality among adults hospitalised with these respiratory illnesses.⁴ While influenza vaccination is important, there is some evidence of reduced vaccine efficacy in children aged 6-23 months⁵ and in adults aged 65 years and older.⁶ For vulnerable patients, primary care practitioners need to ensure quick and effective treatment of colds and influenza.
Patients underestimate influenza’s impact on their health

Educating vulnerable patients not to ignore flu-like symptoms

At the start of the flu-season, the following groups of patients should be advised to have a flu vaccination and to take a course of multivitamins.

- Pregnant women
- Mothers with babies/toddlers
- HIV-infected patients
- Patients with tuberculosis/history of tuberculosis/in an environment where a family member has tuberculosis
- Patients aged 65 years and older
- Patients with chronic obstructive pulmonary disease (COPD)
- Patients with diabetes
- People who are very obese.

If flu-like symptoms occur, they should be encouraged to come to the clinic/doctor’s room for treatment as soon as possible.

The education of vulnerable patients should consist of:

1. A description of the symptoms of colds versus flu, so there is an understanding of the typical symptoms of the latter (Figure 1).
2. An explanation of why it is particularly important to come for treatment. This discussion should include (a) an explanation of how mucociliary clearance works to keep the airways healthy; (b) an explanation that the influenza virus reduces the airway’s ability to clear more serious infections, e.g. the bacteria that cause pneumonia, from the upper airways; (c) an explanation that the earlier influenza is treated, the quicker the recovery.

How is mucociliary clearance affected by the influenza virus?

Mucociliary clearance is the primary defence mechanism of the lung. The functional protective components are the mucous layer, the airway surface liquid layer and the cilia on the surface of ciliated cells.

The cilia are specialised organelles that beat in metachronal waves to propel pathogens and inhaled particles/viruses trapped in the mucous layer out of the airways (Watch how mucociliary work clearance on this brief YouTube video – click here). In healthy individuals, this clearance mechanism is effective, but research has shown that the influenza virus reduces mucociliary velocity. This slows the clearance of other pathogens such as *Streptococcus pneumoniae* from the airways, resulting in an increased bacterial burden.

The epithelial surface of the respiratory tract between the nose and the alveoli is extensive and is exposed daily to viral and bacterial pathogens, particles and gaseous material (cigarette smoke) with harmful effects.

Mucus build-up and inflammation provoke the cough reflex, a mechanism which seeks to protect the airways and rid them of these irritants.

![Figure 1. Cold versus flu symptoms; important differences are highlighted](image-url)
The most common presenting symptoms are acute-onset fever, myalgia and arthralgia. Cough, malaise, fatigue, headache, weakness and chest discomfort may also be present.

In general, clinicians should assess for fever, myalgia, arthralgia, cough, pharyngitis and rhinorrhea (Table 1).

| Table 1. Differential diagnosis² |
|---------------------------|------------------|--------|-----------------|
| **Condition**              | **Clinical presentation**                      | **Fever** | **Onset**        | **Duration** |
| Influenza                  | Myalgia, arthralgia, anorexia, headache, dry cough, fatigue, weakness | Yes      | Sudden (3-6 hours) | Approximately 5-7 days |
| Upper respiratory infections (colds) | Nasal congestion, rhinorrhea, cough, sneezing and pharyngitis | Rare     | Gradual, over a few days | Approximately 2-3 weeks |
| Infectious mononucleosis  | Pharyngitis and posterior cervical lymphadenopathy | Yes      | Gradual, usually over 1-2 weeks | Approximately 2-3 weeks |

Footnote: Diagnostic tests for influenza are done using rapid antigen detection testing, reverse transcriptase-polymerase chain reaction and viral culture, mainly in hospitalised patients.

Symptomatic treatment of influenza

Infants

In the very young (>2 years of age), treatment options depend on the severity of the disease. Mild symptoms can be treated using sterile isotonic saline solution to restore and moisturise nasal passages and thin the mucus, which can then be cleaned or aspirated from the infant’s nose. Infant formulations of paracetamol can be helpful to lower fever. Aspirin should always be avoided due to the risk of Reye’s syndrome. Hospitalisation and antiviral drugs are not indicated in mild disease.

Young children

Treatment of mild influenza can be managed at home with rest, adequate fluid intake and decongestion of the nasal mucosa with paediatric medicines such as pseudoephedrine and triprolidine. Children with underlying airway disease such as asthma or cystic fibrosis, heart disease and HIV infection, or those living in high tuberculosis environments are particularly vulnerable to the complications of acute otitis media, sinusitis, pneumonia and bronchitis. These children should be carefully watched (Table 2).

<table>
<thead>
<tr>
<th>Table 2. When to refer to specialist/higher centre¹⁰</th>
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<tbody>
<tr>
<td>• Children with mild disease but with additional risk factors for severe disease/complications</td>
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<tr>
<td>• Children with high fever and sore throat interfering with feeding</td>
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<tr>
<td>• Children with persistent vomiting</td>
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<tr>
<td>• Children not able to feed</td>
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<td>• Children on long-term corticosteroid therapy</td>
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<tr>
<td>• Children with severe respiratory distress</td>
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<tr>
<td>• Children with symptoms of circulatory failure (cold hands, weak and fast pulse)</td>
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<td>• Children with central nervous system symptoms, drowsiness, seizures.</td>
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Adults

In healthy adults with symptoms of cold/flu, the treatment is focused on decongestive, analgesic and anti-inflammatory medicines to deal with the blocked nose and sinuses, fever and chills, body aches and pain. Rest and hydration are essential to support recovery. (Click here to view video)

In vulnerable adults, influenza antivirals (oseltamivir and zanamivir) should be given within 48 hours of symptoms. When influenza is circulating within the community, patients who have both cough and fever within 48 hours of symptom onset are likely to have influenza and the administration of influenza antiviral therapy may be appropriate.11 The Infectious Disease Society of America recently issued (2018) practice guidelines on the diagnosis, treatment, chemoprophylaxis and institutional outbreak management of seasonal influenza.12 This guidance adds new information on the use of antivirals as well as for the clinician looking after hospitalised and immune-compromised patients, and elderly persons in institutional care where an influenza outbreak can be very serious.

When should bacterial co-infection be considered, investigated and treated?

Clinicians should investigate suspected bacterial infection and treat empirically in patients with influenza who present with severe disease, respiratory failure, hypotension and fever; also in patients who fail to improve after 3-5 days of treatment or who deteriorate after initial improvement in influenza symptoms on antiviral treatment.

References

Click on reference to access the scientific article


Resources: National Institute for Communicable Diseases video of an interview with Dr Sibongile Walaza: ‘Why should you get the flu vaccination?’. Click here to view video.