One “flu” over the cuckoo’s nest

How to treat and manage patients suffering from a common cold or flu without using complicated treatment regimens and avoiding polypharmacy

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Abstract

As the pharmacist is often the patient’s first line of contact when presenting with signs and symptoms of the common cold or flu, it is important to know the differences between these two disease entities and the approach to follow when the patient presents at the counter. We are often guilty of polypharmacy, dispensing complicated treatment regimens and succumbing to unrealistic patient demands. Globally many people still die from flu complications and the pharmacist can play a pivotal role in screening patients for complications and referring them in time for consultation with their general practitioner.

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Introduction

In this day and age we are working hard to find ways to kill the human immunodeficiency virus, treat auto-immune diseases and prevent cancer. It would be a happy day if these therapeutic dilemmas could be solved, however we need to remind ourselves that the basics remain crucial. In April 2014 Statistics South Africa released a report indicating the leading causes of death in South Africa during 2013. A total of 458 933 deaths were reported with tuberculosis being the leading cause (8,8%) followed by “influenza and pneumonia” (5,2%). This is significant especially keeping in mind that we have access to flu vaccines and that many flu complications are preventable.1,2 Treating a patient optimally for a common cold or flu without being guilty of polypharmacy, is therefore important.

Health professionals face a difficult challenge in managing a patient optimally and not being intimidated by patient demands. Make no mistake, an informed patient is an asset, but often a patient does not have the full therapeutic picture. The diagnosis, the possible therapies and the potential interactions between different preparations are not always part of the internet’s answer to a patient’s medical search. Patient education is paramount. We need to remind patients that the common cold (rhino, corona and adeno) and flu (influenza) are caused by viruses, therefore antibiotic treatment is not needed unless there is a secondary bacterial infection. The mainstay treatment is symptomatic as antivirals are not first-line treatment. It is also necessary to explain the differences between the symptoms of a common cold and those of flu, as these terms are often used interchangeably which is not clinically correct.

Table I: Differences in characteristics of the common cold, flu and allergic rhinitis3-5

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Common cold</th>
<th>Flu</th>
<th>Allergic rhinitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Gradual</td>
<td>Abrupt</td>
<td>Varies: quantity of allergen levels</td>
</tr>
<tr>
<td>Causative organisms</td>
<td>Adeno, rhino and corona viruses</td>
<td>Influenza A and B</td>
<td>No organism, allergen</td>
</tr>
<tr>
<td>Nasal congestion</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Fever</td>
<td>Mild to moderate &lt; 39 ºC</td>
<td>Moderate to high &gt; 39 ºC</td>
<td>No</td>
</tr>
<tr>
<td>Headaches</td>
<td>Rare</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Myalgia</td>
<td>Rare</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Sneezing</td>
<td>Common</td>
<td>Sometimes</td>
<td>Common</td>
</tr>
<tr>
<td>Sore throat</td>
<td>Common</td>
<td>Sometimes</td>
<td>Common</td>
</tr>
<tr>
<td>Coughing</td>
<td>Mild to moderate</td>
<td>Common, can be severe</td>
<td>Often due to postnasal drip</td>
</tr>
</tbody>
</table>
Management of the common cold and flu should be guided by the medical history provided by the patient. Information on the duration and severity of symptoms is needed to decide whether an over-the-counter (OTC) intervention alone is adequate, or whether the pharmacist needs to suggest a consultation with a general practitioner (GP). Table I is a reminder of the differences between conditions that all present with nasal symptoms (nasal congestion/rhinitis) and how to differentiate between these conditions with their overlapping symptoms.

Although the symptomatic treatment of a common cold and an uncomplicated flu episode is similar, differentiation is needed in patients at risk of getting complications from flu. Patients especially at risk are children younger than two years of age, immunocompromised patients (with HIV, cancer, on long-term steroid treatment, in chronic care facilities), patients older than 65 years and patients with co-morbidities (cardiovascular and respiratory disease, diabetes).6

In the paediatric population it is important to prompt the caregiver for the following information:
1. Has the patient had a body temperature more than 38.4 °C for longer than three consecutive days?
2. Has the patient been refusing feeds/meals for a prolonged period (several days)?
3. Is there a decreased responsiveness, an increased irritability or lethargy?
4. Does the patient have symptoms of difficult or rapid breathing or does the patient seem to breathe with great effort?
5. Are there signs of red eyes or a yellow discharge from the eyes?
6. Are there signs or symptoms of an ear infection (often indicated by increased crying when baby is placed in a horizontal position)?

If any answer to the above questions is YES, the patient should be referred to a GP for further consultation.7

The elderly population (patients > 65 years old) is also at risk of complications (pneumonia, myocarditis, sinusitis) from the influenza virus. It is necessary to be vigilant in identifying warning signs and symptoms, ultimately seeking early intervention to prevent an adverse outcome. The following symptoms and signs should be investigated 8:
1. Symptoms worsening after 3–4 days
2. Difficulty in breathing (dyspnoea)
3. Chest pain
4. Confusion
5. Severe vomiting and diarrhoea
6. Lethargy

Consider influenza virus infection

Temperature > 39 °C + myalgia + nasal congestion (all 3 symptoms)

NO

Consider common cold/allergic rhinitis

Mild to moderate temperature

Normal temperature

Temperature > 39 °C + myalgia + nasal congestion (all 3 symptoms)

NO

Refer to GP for supportive treatment

Consider influenza virus infection

Duration > 7 days + co-morbid conditions

NO

YES

Treat symptoms
Advise on future flu vaccination

Figure 1: A practical management strategy to treat and consult patients complaining of cold and/or flu-like symptoms
If any of the above-mentioned are present, a referral is needed to ensure that complications are prevented and supportive treatment is started sooner than later.

**Symptoms and treatment**

**General considerations**

It is a good opportunity to educate patients on the value of flu vaccinations. Many patients are sceptical as to their value, reporting that they have had a flu shot in the past but still fell ill. The value of preventing complications due to flu (myocarditis, pneumonia) should be stressed as well as the fact that it is not effective against the common cold virus, which is another disease entity altogether. Prevention is always better than cure!

Many patients will insist on taking vitamin C in order to reduce the duration of symptoms or to “boost immunity”. The value of high doses of vitamin C is questionable in terms of the reduction of disease progression and can prove to do more harm than good. If dispensed, it should be done with caution especially in patients taking anticoagulant medications (due to drug–drug interactions) and those patients with iron absorption pathology (since vitamin C can increase the absorption of iron).6

Remember to enquire about concomitant medications. Patients often self-medicate without realising the potential drug–drug interactions that can be encountered.

General body aches, myalgia and headaches can be relieved with analgesics and/or anti-inflammatories. Nonsteroidal anti-inflammatory drugs (NSAIDs) should be used with caution especially in patients taking anticoagulant medications (due to drug–drug interactions) and those patients with iron absorption pathology (since vitamin C can increase the absorption of iron).6

Encourage sufficient fluid intake to lubricate the mucous membranes and to replace fluid loss due to high fevers. It can also help to reduce sputum viscosity promoting drainage of secretions.

The nasal skin and upper lip can become sensitive and often compromised due to repeated wiping and blowing of the nose and this contributes significantly to a patient’s discomfort. Letibalm® (available as a lip-ice in a tube or a little tub) is a useful aid in moistening skin around as well as inside the nasal cavity to prevent further damage to skin.

**Nasal symptoms**

Nasal congestion due to a cold is the result of viruses damaging the ciliated cells in the nasal cavity and the bronchi. This damage initiates the release of inflammatory mediators causing increased permeability of the capillary cell walls resulting in oedema. Sneezing and a postnasal drip may also be present, the latter sometimes causing a sore throat and a cough.

Nasal congestion can be treated topically or systemically. The former method of administration causes fewer side-effects and is therefore our first choice. Table II lists several topical preparations that can be dispensed. The limitation is that they can only be used for three days or up to six days if only used at night (prolonged use causes rebound-congestion).9 For paediatric patients who need to nap during the day, it is practical to administer topical preparations regularly to improve breathing and reduce nasal oedema. It will promote feeding which is often a challenge with a sore throat and a blocked nose.

<table>
<thead>
<tr>
<th>Topical preparation</th>
<th>Active ingredient</th>
<th>Indication/duration</th>
<th>Contra-indications/special considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iliadin®</td>
<td>Oxymetazoline</td>
<td>Relief of symptoms, use &lt; 6 days</td>
<td>Lower dose/ml than Drixine®</td>
</tr>
<tr>
<td>Drixine®</td>
<td>Oxymetazoline</td>
<td>Relief of symptoms, use &lt; 6 days</td>
<td>Higher dose/ml</td>
</tr>
<tr>
<td>Sinutab Nasal Spray®</td>
<td>Xylometazoline</td>
<td>Relief of symptoms, use &lt; 6 days</td>
<td></td>
</tr>
<tr>
<td>Otrivin®</td>
<td>Xylometazoline</td>
<td>Relief of symptoms, use &lt; 6 days</td>
<td></td>
</tr>
<tr>
<td>Adco-Naphensyl®</td>
<td>Phenylephrine</td>
<td>Short-term relief</td>
<td>Use with caution in hypertensives and patients with cardiovascular disorders</td>
</tr>
<tr>
<td>Vibrocil-S®</td>
<td>Dimethindene, phenylephrine</td>
<td>Short-term relief</td>
<td>Use with caution in hypertensives and patients with cardiovascular disorders</td>
</tr>
<tr>
<td>Rhinolast®</td>
<td>Azelastine</td>
<td>Antihistamine – Rhinitis</td>
<td>Possibility of local irritation documented</td>
</tr>
<tr>
<td>Sinumax Allergy Nasal Spray®</td>
<td>Levocabastine</td>
<td>Antihistamine – Rhinitis</td>
<td>Possibility of local irritation documented</td>
</tr>
<tr>
<td>Andolex®</td>
<td>Benzydamine, alcohol</td>
<td>Throat inflammation</td>
<td>Contains alcohol</td>
</tr>
<tr>
<td>Medi-Keel A®</td>
<td>Benzocaine, cetlypyridinium</td>
<td>Sore throat</td>
<td>Use with caution in combination with anticholinergics</td>
</tr>
<tr>
<td>Strepsils Intensive®</td>
<td>Flurbiprofen, sugar</td>
<td>Throat inflammation</td>
<td>Not suitable for diabetics</td>
</tr>
<tr>
<td>Strepsils*</td>
<td>Dichlorobenzyl alcohol, amylmetacresol</td>
<td>Sore throat</td>
<td>Can be used in paediatric population</td>
</tr>
</tbody>
</table>
The use of a hypertonic saline nose spray (e.g. Drixine® hypertonic saline nose sprays and a mucolytic e.g. ACC 200® or Prospan®) stimulate nasal drainage and this can be enhanced by hypertonic saline nasal sprays for a topical effect. Table III lists systemic preparations to treat symptoms and signs of the common cold and flu.

### Table III. Systemic preparations to treat symptoms and signs of the common cold and flu

<table>
<thead>
<tr>
<th>Systemic preparations</th>
<th>Active ingredient</th>
<th>Indication/duration</th>
<th>Contra-indications/special considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinumed®</td>
<td>Pseudoephedrine HCl</td>
<td>Short-term decongestant</td>
<td>Contra-indicated in severe hypertension, cardiovascular disease and use with caution in hyperthyroidism. Several drug–drug interactions</td>
</tr>
<tr>
<td>Sinuclear®</td>
<td>Phenylpropanolamine, paracetamol</td>
<td>Short-term decongestant</td>
<td>Limit intake to 100 mg/day, contra-indicated in severe hypertension, cardiovascular disease and use with caution in hyperthyroidism. Drug interactions with MAOIs</td>
</tr>
<tr>
<td>Demazin®</td>
<td>Phenylephrine, chlorpheniramine</td>
<td>Short-term decongestant</td>
<td>Contra-indicated in severe hypertension, cardiovascular disease and use with caution in hyperthyroidism. Several drug–drug interactions</td>
</tr>
<tr>
<td>Respinol Elixir®</td>
<td>Phenylephrine, chlorpheniramine</td>
<td>Short-term decongestant</td>
<td>Contra-indicated in severe hypertension, cardiovascular disease and use with caution in hyperthyroidism. Several drug–drug interactions</td>
</tr>
<tr>
<td>Coryx®</td>
<td>Chlorpheniramine, pseudoephedrine, aspirin</td>
<td>Decongestant, antihistamine and pain relief</td>
<td>Contra-indicated in severe hypertension, cardiovascular disease and use with caution in hyperthyroidism and diabetes mellitus</td>
</tr>
<tr>
<td>Flusin®</td>
<td>Chlorpheniramine, ephedrine, paracetamol, caffeine</td>
<td>Decongestant, antihistamine and pain relief</td>
<td>Contra-indicated in severe hypertension, cardiovascular disease and use with caution in hyperthyroidism. Caffeine may cause insomnia</td>
</tr>
</tbody>
</table>

The use of a hypertonic saline nose spray (e.g. Drixine® hypertonic nasal spray) concomitantly is a good strategy and should be continued after the three day period of topical decongestants. Take care to promote the use of preservative-free sprays as they are better tolerated by sensitive patients. They promote the flushing of nasal secretions (getting rid of the viruses in the nasal cavity), reduce nasal oedema, improve the nasal cavity’s susceptibility for preparations to be absorbed (clearing the nasal cavity of secretions) and they also make nasal secretions less viscous especially after continuous antihistamine use. A practical approach is to use an antihistamine at night (not combination preparations with pseudo-ephedrine, ephedrine or phenylpropanolamine which can cause restlessness) to dry secretions and reduce coughing due to postnasal drip when lying flat. During the day it is advisable to stimulate nasal drainage and this can be enhanced by hypertonic saline nose sprays and a mucolytic e.g. ACC 200® or Prospan® effervescent tablets.

If congestion cannot be reduced by topical preparations alone, a systemic preparation can be used instead, with concomitant hypertonic saline nasal sprays for a topical effect. Table III lists preparations, mostly in combination with antihistamines and/or paracetamol or aspirin, to combat nasal congestion. The limitation of these systemic preparations is that they should be used with caution in patients with severe hypertension, cardiac pathology (abnormal cardiac rhythms, heart failure, myocardial infarction, angina), hyperthyroidism and prostate enlargement. The elderly patient often has co-morbidities and proves to be a therapeutic challenge.

Rhinitis can be treated with antihistamines. The second generation antihistamines are a good choice and have fewer side-effects (sedation, dry mouth) than the first generation. Most remedies registered for colds and flu are combination preparations (antipyretic or anti-inflammatory plus decongestant) and should be used with caution since the decongestant anticholinergic effect causes thickening of the secretions in the lungs, sinuses and the middle ear. This may lead to increased stasis and may inhibit drainage.

#### Fever and pain

The patient presenting with flu will report an abnormal body temperature (or the suspicion thereof) more often than a patient presenting with a common cold. It is seldom that a patient with an uncomplicated common cold will have a body temperature higher than 39 ºC. Fever can be treated with antipyretics (paracetamol or aspirin in adults) and with NSAIDs (Ibuprofen®, Naproxen®). These preparations can be used eight hourly and will help the patient to feel better in general. If a high fever persists, an NSAID and paracetamol/aspirin can be alternated every four hours. NSAIDs also reduce inflammation and the analgesic effect will improve myalgia, headaches and sore throat.

Throat lozenges or a local anaesthetic throat spray can be used in addition to antipyretics or NSAIDs to soothe a sore throat or in cases where there is a contra-indication for NSAIDs, paracetamol or aspirin use. In order to reduce throat pain fast and effectively, especially in children struggling to feed/eat, suggest administration of an anaesthetic throat spray prior to feeding/meals. Where the administration of medication per os is a challenge due to painful swallowing or vomiting, Voltaren® or Empaped® suppositories are an effective route of administration to control body temperature, body aches and sore throat. They can be dispensed to either adults or paediatric patients.

#### Coughing

There are many cough preparations on the market. Their true usefulness has yet to be established. Suppressing a cough in lung
cancer, terminal illness or alveolitis due to fibrosis, may prove necessary but in an otherwise healthy patient that presents with a productive cough, suppression will lead to mucus retention and stasis which in turn is a good growth medium for organisms. The fact is a continuous cough, especially at night, is not ideal and not conducive to a good night’s rest and recovery. It would be better to give a cough suppressor only at night. Dextromethorphan (Benylin Dry Cough®) is a good option to suppress a non-productive cough and can also be used in the paediatric population (preferably from six years of age). Pholcodine (Pholtex Junior® and Pholtex Forte®) is an alternative and is registered for use in paediatric patients from one year of age. Codeine phosphate has a similar method of action as dextromethorphan but has more side-effects. Common side-effects include constipation, dizziness or excitation, nausea and vomiting, dependency and, in some patients, respiratory depression. It will therefore not be your first-line choice in asthmatics or dependency-prone patients. It does have additive analgesic effects in combination with paracetamol, aspirin and NSAIDs and this property can be leveraged to the patient’s advantage.

Antihistamines and topical nasal steroids are more beneficial in a cough associated with allergic rhinitis.

Some cough mixtures have a high alcohol content and cannot be used in patients with alcohol addiction. If there is no bronchospasm or suspected bacterial infection with only a mild irritating cough, a simple linctus (citric acid monohydrate, anise water, amaranth, chloroform) or a home-made mix of lemon and honey can alleviate mild symptoms.

If the patient appears to be experiencing tightness in the chest, a bronchodilator inhaler can be added. This is not often the case in patients suffering from an uncomplicated common cold or flu episode but may be a reality in asthmatics where a viral infection will exacerbate their symptoms.

Some patients may benefit from saline inhalations and also use of a humidifier to make the air in the room more humid.

Conclusion
The successful management of a patient with a common cold or flu starts with obtaining a proper medical history of signs and symptoms when the patient presents at your counter. The duration of symptoms, assessment of co-morbidities and acting upon danger signs in patients at risk of complications will reduce morbidity and mortality in these patients. The pharmacist has an important role to play in educating patients in terms of prevention of disease (flu vaccinations) as well as to help them to distinguish between a bout of flu or just a common cold. Treating the patients’ symptoms effectively is a challenge especially in the realm of increased patient demands, however evaluating the patient with care and keeping co-morbidities and concomitant medications in mind can lead to a practical and effective treatment plan.

References
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