spring 2024

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SA Pharmacist's Assistant

VOL 24 NO 3

ISSN: 1608-9634

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spring 2024
sapa
SA Pharmacist's Assistant

www.sapajournal.co.za

OFFICIAL PSSA PUBLICATION FOR PHARMACIST'S ASSISTANTS

Spring 2024

PUBLISHER

Medical & Pharmaceutical Publications (Pty) Ltd trading as Medpharm Publications in collaboration with The Pharmaceutical Society of South Africa.

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Medpharm Publications

Printed by
novus print
A division of Novus Holdings

FREEDOM OF COMMERCIAL SPEECH

The unseen pillars: elevating the role of pharmacists in patient care

Natalie Schellack

As the International Pharmaceutical Federation (FIP) World Congress prepares to convene in Cape Town under the theme "Innovating for the Future of Health Care", the evolving landscape of healthcare in South Africa brings to light the complex dynamics between pharmacists and other healthcare professionals. This global gathering serves as a backdrop for reflecting on pharmacists and pharmacy practices in our country.

The journey towards integrating pharmacists more fully into the healthcare team in South Africa has been fraught with challenges. Despite their extensive training and expertise in medication management, pharmacists frequently encounter barriers when attempting to expand their roles beyond traditional dispensing duties. Having attended several conferences in the last two months, where conversations still revolved around the inclusion of pharmacists as part of the multidisciplinary team, it was particularly poignant to hear one pharmacist express his anticipation for the day when he, too, would be invited to ward rounds. This sentiment echoes the frustration and eagerness of many pharmacists to fully contribute their expertise to patient care. This tension is palpable in hospital settings, where pharmacists strive to contribute more directly to patient care but may face resistance or lack of understanding from other healthcare professionals. The FIP Congress's focus on "Advancing Pharmacy Practice" underscores the global recognition of this issue and the need for change internationally.

One cannot help but contemplate the underlying factors contributing to this situation. Historical hierarchies within healthcare, coupled with entrenched perceptions of professional roles, have created an environment where pharmacists' full potential remains underutilised. The concept of medical dominance, though rarely discussed openly, casts a long shadow over interprofessional interactions. Pharmacists report feeling frustrated, undervalued, and even apprehensive when engaging with doctors, highlighting the emotional toll of these power dynamics. The FIP theme of "Interprofessional Collaboration" directly addresses this challenge, emphasising the need for a more integrated approach to healthcare.

The ongoing PiMART court case, set to be heard at the High Court, exemplifies the struggle for recognition. Pharmacists are advocating for the right to prescribe antiretrovirals (ARVs), with substantial evidence from other countries demonstrating the efficacy and safety of pharmacist-prescribed ARVs. FIP has been actively advocating for the expansion of pharmacists' roles in public health. This includes initiatives to integrate pharmacists more deeply into healthcare systems, enabling them to contribute significantly to patient care and public health efforts. For instance, FIP has emphasised the importance of pharmacists in public health through various programs and policy recommendations, particularly during the COVID-19 pandemic, where pharmacists played a crucial role in maintaining healthcare services and supporting public health measures.

In South Africa, pharmacists are expected to take on expanded roles in primary healthcare, which aligns with FIP's vision of enhancing the role of pharmacists in public health. This includes providing more patient-centred services and participating in public health initiatives, which could significantly improve health outcomes and alleviate the burden on the healthcare system. The ongoing PiMART court case is in stark contrast with the progressive vision of FIP, which focuses on broadening the scope of pharmacists' contributions to public health and patient care. The legal battles surrounding PiMART leaves many patients without timely access to ART. Given that only 78.7% of diagnosed individuals are currently on treatment, any delay exacerbates the existing gap. Without PiMART, the already strained public health system may struggle to provide adequate care for the estimated two million people living with HIV who are not on treatment.

FIP's global #ThinkHealthThinkPharmacy campaign is an important way to achieve this goal. A number of major stakeholders in global health currently recognise pharmacists as healthcare professionals, including the United Nations, the International Labour Organization, the World Health Organization, and the Organisation for Economic Cooperation and Development. A wide range of health services, in addition to medicines supply and health advice, are being provided in pharmacies. Nevertheless, the pharmacy profession needs universal recognition of its unique place in primary health care.

Newly graduated pharmacists in South Africa are facing difficulties in finding community service or intern positions, despite the overall lack of pharmacist positions in the country. This issue resonates with the FIP theme of "Workforce Development and Support," emphasising the need for strategic planning to ensure a sustainable and well-utilised pharmacy workforce. In a memorandum

handed over in April 2024 by a group called – "Representatives of Unemployed Pharmacists SA" to various stakeholders, the group called for immediate allocation of employment and letters of appointment for over 150 post-community service pharmacists in each province. They also called for the absorption of all community service pharmacists upon completion of their service and the filling of vacant positions to ensure a continuous cycle of employment in the public service.

The pending approval of regulations for specialisation in pharmacy by the Minister of Health further illustrates the challenges faced by the profession. This delay in recognising and formalising pharmacy specialisation contrasts with the FIP's emphasis on "Advancing Specialized Pharmacy Services," which recognises the importance of specialised roles in improving patient outcomes. Specialisation in any profession allows for the deepening of knowledge and expertise within a chosen field. Some hospital groups in the private sector of South Africa have created positions that enable the growth of the pharmacy profession by appointing pharmacists to provide specialised services, these are knowledge driven services such as improving medication safety and efficacy, monitoring drug interactions, and offering specialised dosing assistance. The situation in the public sector, which serves approximately 86% of the South African population, is markedly different. The position of specialised pharmacists remains largely unrecognised and underutilised.

As we contemplate the path forward, it becomes clear that change must occur on multiple fronts. Interprofessional education and collaboration, a key theme of the FIP Congress, are crucial steps towards fostering mutual understanding and respect among healthcare professionals. By creating opportunities for doctors, nurses, and pharmacists to learn and work together during their training, we can begin to break down the silos that have long divided these professions.

The journey towards full recognition and integration of pharmacists as equal healthcare partners in South Africa is ongoing. It requires patience, persistence, and a commitment to excellence from every member of the profession. As we move forward, let us remember that the ultimate goal is not professional prestige, but improved patient care. By working collaboratively and advocating for their rightful place in the healthcare team, pharmacists can help create a more holistic, effective healthcare system that truly serves the needs of all South Africans.

In this process of change, it is essential to acknowledge that progress may be slow and at times frustrating. However, each step forward, no matter how small, brings us closer to a healthcare system where the unique skills and knowledge of pharmacists are fully recognised and utilised. The FIP World Congress in Cape Town offers a unique opportunity to catalyse this change, bringing global perspectives and best practices to bear on our local challenges. The path ahead may be challenging, but it is one that must be traversed for the betterment of patient care and the advancement of the healthcare profession as a whole.

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Allergic conditions of the skin

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Abstract

Skin allergy occurs when the immune system strongly reacts to an allergen that is usually harmless and can result in an itchy rash with burning, redness, bumps, hives and swelling. Management involves moisturising the skin to restore the skin barrier and, in more severe cases, the application of a cortisone cream. Oral antihistamines may help relieve itching associated with skin allergies and using a sedative antihistamine may improve sleep in patients who experience severe itching at night. All severe and infected skin rashes should be referred to a doctor.

Introduction

Skin allergy occurs when skin becomes irritated because the immune system in some people reacts to something (an allergen) that is usually harmless to other people.[1] This can result in an itchy rash with burning, redness, bumps, hives and swelling.[1] Some of the most common allergic skin reactions include atopic dermatitis (eczema), allergic contact dermatitis, and urticaria (hives).[1]

Causes

In most people with **eczema**, there is an abnormality in the outer layer of the skin, the epidermis.[2] This makes the skin more permeable than it should be.[2] Certain environmental conditions such as cold and dry air or sweating too much, sudden temperature changes, stress or worry, or irritants such as harsh soaps or cleaning products, perfumes and wool or synthetic fabrics can trigger an episode of eczema in susceptible individuals.[1,2]

Allergic contact dermatitis occurs when the skin comes in direct contact with an allergen.[3] This activates the immune system, which triggers inflammation. Strong allergens such as plants can result in sudden onset allergic contact dermatitis with blisters.[3] Weaker allergens such as clothing, shoes, metals (such as nickel in jewellery), perfumes and cosmetics usually require exposure of weeks to months before they cause dermatitis. Allergic contact dermatitis can also be caused by certain medications, including hydrocortisone cream, antibiotic creams and benzocaine.[3,4]

Hives may occur when a person is exposed to airborne allergens or insect stings but can also appear after eating a food to which they are allergic.[1,5] For some people, alcohol, aspirin and other nonsteroidal anti-inflammatory medications (NSAIDs) can trigger a hives-type reaction.[1]

Symptoms

Patients may present with the following symptoms:[2,4,6]

- Intense itching and burning
- Colour changes may include skin turning red or pink in patients with light skin, or skin appearing dark brown, purple or grey in patients with dark skin. Patches of skin may also appear lighter than the surrounding skin
- Small bumps, raised rash, welts (hives) or blisters
- Cracking of the skin
- Skin appearing flaky or scaly

Symptoms may be aggravated by scratching and it is therefore important to avoid scratching.[6]

Prevention

Whenever the patient knows which allergen causes their symptoms, they should avoid the allergen as far as possible. Patients should also avoid rubbing, scratching or scrubbing the affected area. Wear cotton gloves at night, keep nails short and clean and cover parts of the skin that itch to help achieve this. Also wear gloves when cleaning to prevent contact with harsh soaps and chemicals.[7]

Use gentle soaps and shampoos and take short baths or showers (10–15 minutes), making sure the water is not too hot. Lukewarm water is gentler on the skin.[1,2,7] Patients with eczema may benefit from a dilute bleach bath twice per week followed by application of an emollient. To prepare a bleach bath, add a quarter to half a cup

of bleach to a tub (around 150 litres) of water. A bleach bath reduces the number of bacteria on the skin and helps prevent infections and worsening of symptoms.[2]

Moisturise the skin several times a day and after a shower or bath, using an ointment or lotion that does not contain alcohol, fragrance or dye. This will help restore the skin barrier and prevent episodes of eczema.[1,6] Try using moisturisers from tubes rather than dipping fingers into a jar.[2] Avoid tight clothes, being too hot, or sweating too much and being in very dry air and sudden temperature changes.[2]

Management

Calamine lotion or application of cool compresses on the affected areas may relieve the symptoms of skin allergies.[4] Patients may also find relief from soaking in an oatmeal or milk bath.[4] Emulsifying ointment may be used as a bath additive and one to two tablespoons should be dissolved in a bowl of hot water before adding it to the tub. Warn patients and caregivers to take care as this will make the bath slippery.[8] Many different types of emollients are available and vary in greasiness. The greasiest preparations, such as white soft paraffin are effective but may be less pleasant to use. Patients may need to try different emollients to find one that suits them.[8]

Topical steroids

Hydrocortisone creams and ointments may provide relief for the itching associated with minor skin irritation and a 1% formulation is available over the counter. Treatment involves administration of a thin layer of cream or ointment initially up to four times daily and reducing to twice daily as the condition improves.[9] Creams are suitable for oozing areas and ointments are best for dry areas with thickened skin.[10] Over-the-counter use of topical steroids should not be continued for longer than seven days and it should only be used in children under two years of age if under doctor's advice and supervision.[8,10] Table I provides a summary of treatment options available over-the-counter for treatment of allergic skin conditions. Systemic absorption of topically applied hydrocortisone particularly occurs when application is made to wide areas of the skin or to damaged skin, when applied to skin folds and moist areas, when applied to the nappy areas in young children and when the occlusive dressing technique is used.[11]

Table I: Treatment options available over-the-counter in South Africa for treatment of allergic skin conditions[9,10]

Active	Trade name	Preparation
Topical cortisone		
Hydrocortisone	Biocort® Dilucort® Mylocort® Procutan® Skincalm® Stopitch® Vari-Hydrocortisone®	1% Cream 0.5% Cream and ointment 1% Cream and ointment 1% Cream 0.5% Cream 1% Cream 1% Cream
Oral antihistamines		
Chlorpheniramine	Allergex® Rhineton®	4 mg tablets and 2 mg/5 ml elixir 4 mg tablets and 2 mg/5 ml syrup
Promethazine	Lenazine® Phenergan® Prohist®	5 mg/5 ml syrup 25 mg tablets 5 mg/5 ml syrup

Always refer to the manufacturers package insert for instructions on dosing and administration

Explaining the use of fingertip units to patients is helpful where a fingertip unit is the amount of cream that can be squeezed onto the fingertip from the tip to the first crease on the finger. Half a fingertip is sufficient to treat a patch of skin the same size as the palm of the hand.[8] Topical steroids should not be used in patients with rosacea, acne, dermatitis around the mouth, skin lesions caused by infection with viruses, fungi or bacteria; known hypersensitivity or ulcerative conditions (healing may be delayed).[10]

Oral antihistamines

Oral antihistamines may help alleviate the itching associated with allergic skin conditions. Patients with eczema often experience itchiness that worsens at night. For these patients, it may be useful to provide an antihistamine that causes drowsiness to help them sleep.[2] Examples of sedative antihistamines that can be used to help relieve itchiness associated with allergic skin conditions include promethazine and chlorpheniramine.[10] Promethazine should not be used in children younger than two years of age and chlorpheniramine should not be used in children younger than one year of age.[9,10] The use of topical antihistamines should be avoided because they are associated with contact dermatitis.[3]

When to refer

Patients should be referred to a doctor if there is evidence of infection, such as weeping and crusting, or if the condition is severe with badly cracked skin or bleeding. Patients who see no improvement after one week of treatment with topical steroids should also be referred for further assessment and management.[8]

Conclusion

Allergic skin conditions can cause red, itchy, burning and cracking skin. Management involves good skin care and applying emollients frequently throughout the day and directly after each bath or shower. Topical steroids available over-the-counter may be considered for mild to moderate cases and should not be administered for longer than seven days. Oral antihistamines may also relieve the symptoms of allergic skin conditions. Patients with severe cases, infection of the area or who do not respond to treatment after seven days of treatment should be referred to a doctor.

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Red eye – when to manage and when to refer

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Abstract

There are several conditions that can result in red eye(s) and although some of them are less serious and can be managed at home, others can be an indication of serious conditions that need referral to a doctor or specialist. This article will discuss the most common causes of minor conditions that may present with red eye and the signs and symptoms that require referral for further medical management.

Introduction

"Red eye" is a term used to describe red, irritated and bloodshot eyes.[1] This can happen when blood vessels in the eye get larger, become inflamed or when a blood vessel is damaged leading to bleeding underneath the conjunctiva.[1] Red eyes alone are not usually a reason for concern. However, if a patient also experiences pain, impaired vision or if there is an exudate, a red eye may require medical intervention.[2]

Causes, signs and symptoms of less severe conditions

There are several causes of red eye that are less serious and can be managed at home with medication available over-the-counter from a pharmacy.[1]

Conjunctivitis

Conjunctivitis is the most common cause of red eye and may be viral, bacterial or allergic.[3] The conjunctiva is a thin layer covering the white of the eye (sclera) and the inner eyelids.[4,5] Conjunctivitis is characterised by inflammation and dilation of the blood vessels in the conjunctiva resulting in redness.[3,5]

- Viral conjunctivitis is associated with a watery discharge, and upper respiratory infection.[3]
- Bacterial conjunctivitis is associated with a sticky purulent discharge.[3,5] Both viral and bacterial conjunctivitis are highly contagious.[6]
- Allergic conjunctivitis usually occurs in patients with a history of allergies and is associated with a watery discharge,[5] itching and burning of the eyes.[3,6] Allergens such as pollen, dust, mould, pet dander and chemical irritants such as cigarette smoke or air pollution[6] can cause an allergic conjunctivitis.[4]

Blepharitis

Blepharitis affects the eyelids around the eyelashes, resulting in red swollen eyelids or eyes. Tiny flakes that look like dandruff may also stick to the base of the eyelashes[6,7] Other symptoms may include itching, burning, sensitivity to light, the feeling that something is in the eye and crusty eyelids in the morning.[6]

Dry eye syndrome

Tears are a complex mixture of water, salts, lipids, proteins and mucus.[5] Dry eye is a common condition that may occur due to decreased tear production, poor tear quality or when tears evaporate too quickly.[8,9] Patients experience symptoms such as a burning gritty feeling, heavy eyelids and eye fatigue, excess watering and a stringy discharge that can cause blurry vision, especially when waking up in the morning.[5,9] Chronic dry eye can cause the surface of the eye to become red, inflamed and irritated.[2] Hormonal changes, ageing, some medical conditions and some medications can cause dry eye syndrome and it is seen more often in older female patients and patients who wear contact lenses.[2,5,6]

Table I: Some eye drops available over-the-counter to alleviate symptoms of minor red eye[10,11]

Active ingredient	Products available	Uses
Artificial tears		
Carmellose Hypromellose Hypromellose, dextran-70 Liquid Lanolin Acrylic acid polymers	Optive®, Cellufresh®, Refresh Tears® Spersatear®, Xailin Hydrate®, Tears Naturale® Duratears®, Refresh® Xailin gel®	Moistens and lubricates eye. Can be used up to 5–6 times daily depending on the severity of the condition[11]
Decongestants		
Antazoline, tetryzoline Naphazoline Oxymetazoline	Oculerge®, Spersallerg® Oculosan® Oxylin®, Allergex®	Decrease swelling of blood vessels to reduce redness. Do not use for longer than two to three days.[4]
Antihistamines		
Azelastine Emedastine Epinastine Lodoxamide Olopatadine	Optilast® Emedine® Relestat® Alomide® Patanol®, Olopagen®	Reduce itchiness and redness due to allergy[4]

Always refer to the manufacturer's package insert for warnings and dosing instructions.

Subconjunctival bleeding

When tiny blood vessels in the conjunctiva break open and bleed, it can result in a bright red spot of blood leaking between the conjunctiva and the white of the eye.[2] Although this condition looks serious, it is often harmless[6] and the blood is reabsorbed over a period of 1–2 weeks.[6,8] Subconjunctival bleeding can occur following intense coughing or sneezing or eye injury such as rubbing the eyes too hard.[6] Patients taking blood thinners or those with diabetes or hypertension are more likely to experience subconjunctival bleeding.[6]

Management of red eye conditions

Symptoms may be managed at home for mild cases of red eye or until a doctor can be seen. The following may help relieve some of the symptoms:

- Avoid exposure to allergens and irritants as much as possible to prevent worsening of allergic conjunctivitis symptoms.[4]
- Rinsing or washing the eyes using a mild cleanser such as diluted baby shampoo, can flush out allergens and other irritants.[4]
- Application of a cool compress can alleviate symptoms of red irritated eyes. A clean washcloth moistened with cold water can be placed over closed eyes as necessary during the day.[4] A warm compress can increase oil production on the eyelids to create more lubrication.[6]
- Make a conscious attempt to blink eyes more often to maintain tear production, flush out foreign particles and keep the eyes from drying, especially when using digital devices.[4]
- Rest eyes by getting enough sleep and taking breaks when working on digital devices.[4,9]

Treatment options

Red eyes often get better without treatment, but eye drops may help ease any discomfort. Table I provides a summary of options to relieve symptoms of minor red eye.

Decongestants and antihistamine eye drops can sometimes cause eyes to feel dry and if this is the case, a lubricating artificial teardrop may be used to relieve dryness. Artificial tear drops may be used frequently during the day and lubricant ointments can be administered at night. If artificial tears cause itching or irritation or are going to be used frequently, consider using preservative-free formulations.[8,11]

When to refer

Some causes of red eyes are more concerning and may result in eye damage and vision loss.[4] It is important to see a doctor or eye specialist if any of the following symptoms are present in addition to red eyes:

- Symptoms continue for a week or longer, or are getting worse[1,6]
- Light sensitivity[6]
- Tenderness of the eye[1]
- Purulent discharge from one or both eyes

Patients should seek immediate medical advice if they have any of the following symptoms:

- Eye pain[1]
- Red eye following an injury[6]
- Fever or severe headaches along with eye discomfort[9]
- Nausea or vomiting[6]
- Sudden change in vision or visual disturbances (blurry vision or seeing halos around lights)[1,4,9]
- Debris in the eye (such as glass, metal or other objects)
- An inability to keep the eye open[9]

Conclusion

Red eyes caused by minor conditions such as conjunctivitis, blepharitis and dry eye may be managed at home by washing or resting the eyes or use of eye drops that are available over-the-counter to alleviate symptoms. It is important to refer patients who do not respond to treatment or if they have eye pain, sudden vision changes or debris, such as glass or metal in the eye.

List of references available on request

Spersallerg®

RAPID RELIEF FROM OCULAR ALLERGIES[1,2]

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S2 Spersallerg® Sterile Eye Drops. Each 1 ml contains: antazoline hydrochloride 0,5 mg; tetryzoline hydrochloride 0,4 mg. Ref. No. H1283 (Act 101/1965). Under license from Novartis Pharma AG, Hettlingen, Switzerland. For full prescribing information refer to the professional information approved by the medicines regulatory authority (February 1975).

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More than just a flare

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Abstract

Gout is the most common inflammatory arthritis experienced worldwide. Symptoms occur suddenly and include severe pain, redness and/or swelling in a joint. Management of gout involves medication to treat the acute attack, as well as long-term medication to manage the underlying cause, namely excess uric acid levels in the blood. Patients with gout may also have underlying conditions (comorbidities) and should therefore be referred to a physician for an evaluation.

Introduction

Gout is an inflammatory form of arthritis that presents suddenly as a painful, red, swollen joint, (known as a gout "flare").[1,2] While gout can affect any joint, most often the big toe joint (metatarsophalangeal joint) is affected.[3,4] Usually, only one joint is affected at a time, and while extremely painful, gout generally resolves on its own without medication within a few days or weeks.[3] About 80% of patients will experience a second attack within three years, and many within one year of the initial attack.[3] Patients generally feel well, with no joint pain or swelling, between attacks (known as the intercritical phase).[3] The length of time between gout flares can vary from person to person.[5]

What causes gout?

Purines are chemicals formed naturally in the body and are also found in certain foods.[4] Uric acid is formed when the body breaks down these purines.[4] Under normal circumstances, the uric acid in the blood is filtered and excreted by the kidneys.[4] However, if the kidneys are not able to effectively excrete the uric acid, or if the body produces too much uric acid over an extended period of time, it begins to build up in the blood (hyperuricaemia), and needle-like crystals (urate crystals) form in the joints, leading to a gout flare.[4,6] The most common cause of hyperuricaemia is a decreased excretion of uric acid from the kidneys.[7]

Who is at risk of developing hyperuricaemia and gout?

Certain hereditary factors may cause a decreased excretion of uric acid from the kidneys.[1,7] However, other than genetics, certain underlying medical conditions, medications and dietary factors are also associated with gout.[1,3,8] Having chronic hyperuricaemia,

Table I: Risk factors associated with gout[5,7,9]

Genetics	Underlying medical conditions	Medications	Diet and lifestyle
Family history of gout Certain racial and ethnic groups (e.g. Maori ethnic group from New Zealand and the Hmong ethnic group from China) Men are more susceptible than women	High blood pressure (hypertension) Diabetes Insulin resistance Congestive heart failure Metabolic syndrome Kidney disease Anaemia Obesity	Certain diuretics (e.g. hydrochlorothiazide) Certain antihypertensives (e.g. ACE inhibitors and beta blockers) Cyclosporine (an immunosuppressant) Aspirin Niacin	Alcohol (especially beer) High fructose corn syrup (found in sweetened soft drinks) Foods rich in purines (red meat, organ meat, shellfish)

A patient presenting with gout should be advised to see a physician to rule out the possibility of also having an underlying medical condition and to assess the need for uric acid-lowering therapy[5,6]

Cipla

K-FENAK OTC

Diclofenac potassium 50 mg

K-Fenak OTC contains diclofenac **potassium,** which **dissolves and absorbs faster** than diclofenac **sodium.**[2]

INDICATIONS[1]

- For the treatment of fever or mild to moderate pain of inflammatory origin, for a maximum treatment period of 5 days.
- The emergency treatment of acute gout attacks, for a maximum treatment period of 3 days.

Anti-Inflammatory[1]

Targets **Pain, Swelling & Inflammation**[1]

S2 Reg. No. A38/3.1/0651. K-Fenak OTC. Each film-coated tablet contains Diclofenac potassium 50 mg.
For full prescribing information, refer to the Professional Information approved by the medicines regulatory authority.

References:
1. Professional Information: K-Fenak OTC (Film-coated tablets).
2. Chuasuwan, B. *et al.* Biowaiver monographs for immediate release solid oral dosage forms: Diclofenac sodium and diclofenac potassium. *Journal of Pharmaceutical Sciences* **98(4)** 1206–1219 (2009).

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however, does not always lead to gout and some patients with hyperuricaemia remain asymptomatic.[1]

How is gout managed?

Gout may be described as a chronic condition with "acute-on-chronic flares".[1]

The overall aim of gout management is to ultimately reduce and maintain uric acid levels so that the patient no longer experiences acute gout attacks and complications.[5]

Management of gout involves:[8,9]

- Treating the acute gout flare promptly
- Preventing further attacks by reducing uric acid levels
- Lifestyle and dietary modifications

Although gout flares can subside on their own, medication can speed up the healing process.[5] What is more important, is that measures be taken to treat the underlying cause of the flares, namely the hyperuricaemia.[5] While most acute flares can be managed in the pharmacy with over-the-counter medication, proper management of gout requires the regular use of prescription medication (allopurinol) to lower uric acid levels in the blood.[5] Patients receiving uric acid-lowering therapy should be assessed by their doctor every 6–12 months, especially if they are still experiencing frequent gout attacks (frequent is defined as ≥ 2 flares annually).[5,6]

Treating acute gout flares

Treating acute gout flares involves the use one of the following medications to reduce pain and swelling, namely:[9]

- Nonsteroidal anti-inflammatories drugs (NSAIDs)
- Colchicine
- Corticosteroids (on a doctor's prescription)

The earlier the treatment of the gout flare, the better the response to the medication.[10]

Ideally, the acute gout flare should be controlled or treated before the patient starts medication to lower uric acid levels.[8] However, patients experiencing frequent flares, may need to start their chronic medication immediately.[1] Initially, patients starting uric acid-lowering medication may experience a gout flare.[8] They may be offered colchicine or NSAIDs as prophylaxis (prevention) and should be counselled and encouraged to continue with their chronic uric acid-lowering medication.[8]

Lifestyle and diet

In addition to medications, patients should be encouraged to adopt certain nonpharmacological measures, to help prevent gout flares.[8,9]

These include:

- Maintaining a healthy weight
- Avoiding excessive alcohol use (especially beer)
- Avoiding or restricting foods with a high purine content (see Table I)
- Limiting drinks sweetened with high fructose corn syrup
- Remaining hydrated (drinking plenty of water) to avoid dehydration

Education plays an important role in the management of gout, and patients should be educated on the causes, triggers and

Table II: Over-the-counter medications to treat acute gout flares[6,9,10,11,12]

Acute management of gout	
Colchicine	**Adult dose**
Colchicine tablets (0.5 mg or 1 mg) Colchicine Houdé (1 mg) Or Aspen Colchicine® (0.5 mg)	Preferred low-dose regimen (ideally within 12 hours of onset of flare): • 1 mg to be taken immediately • 0.5 mg (1 X 0.5 mg tablet *or* half a 1 mg tablet) to be taken 1 hour later (maximum of 1,5 mg on day 1) • 12 hours later, if not yet resolved, 0.5 mg to be taken once or twice daily until symptoms resolve A gap of 7–14 days is recommended between each course of gout treatment to prevent a build-up of colchicine.
• Should be taken at the first sign of gout (preferably within the first 12 hours) • Short course, lower dose colchicine is preferred over previously recommended higher dose regimens due to similar efficacy and fewer side effects than high dose regimens[5,9] • Overdose of colchicine may be fatal. It is important to counsel the patient regarding the symptoms of colchicine toxicity. Early symptoms of toxicity include diarrhoea, vomiting and abdominal pain and the patient must be advised to stop the medication should these side effects occur[9] • Colchicine may interact with certain medications, such as certain antibiotics, antifungals, statins, blood pressure tablets and certain HIV medications[5] • Colchicine is preferred in patients who are unable to tolerate NSAIDs (e.g. those with peptic ulcer disease or poor kidney function), or those who are on blood-thinners[10,11]	
NSAIDs	**Adult dose**
Diclofenac potassium 50 mg tablets (e.g. K-Fenak OTC) Diclofenac sodium 50 mg tablets (e.g. Panamor AT-50®) Diclofenac potassium 50 mg dispersible tablets (e.g. Catafast D®, Diclo-flam Blackcurrant®)	50 mg (1 tablet) 3 times daily after a meal Maximum of 150 mg daily for 3 days Dispersible tablets: dissolve 1 tablet in water 3 times daily before meals Maximum of 150 mg daily for 3 days
• Other NSAIDs, such as ibuprofen and naproxen may also be used in treating the pain and inflammation associated with gout[10] • Aspirin is not used to treat gout flares, as a low dose may prevent the kidney from excreting uric acid[10] • NSAIDs use for gout flares is recommended in patients younger than 60 years, who can tolerate NSAIDs[10] • NSAIDs should not be used in patients with kidney failure, heart failure and/or gastrointestinal disease[10] • Patients taking NSAIDs may be offered a proton pump inhibitor for gastric protection[1] • Diclofenac potassium dissolves and absorbs faster than diclofenac sodium[12]	

Colchicine Houdé

Colchicine 1 mg

Cipla

INDICATIONS[1]

Colchicine Houdé is for the emergency treatment of acute gout.

Fluxes in uric acid concentrations induce an inflammatory cascade that manifests as an acute gout flare[2].

Adopting a healthy lifestyle can go a long way towards reducing the frequency and severity of gout attacks[2].

S2 Reg. No. C665 (Act 101/1965) Colchicine Houdé (Tablets). Each tablet contains crystallised Colchicine 1 mg. For full prescribing information, refer to the Professional Information approved by the medicines regulatory authority.

References: 1. Professional Information approved by SAHPRA: Colchicine Houdé (Tablets). 2. Tikly, M. & Makan, K. Gouty arthritis: An approach for general practice. *S Afr Fam Pract*. 55(4): 307-312. (2013).

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management of gout to help them adhere to long-term therapy and prevent flares.[6]

Complications of untreated gout

If gout remains untreated, gout flares may become more frequent, last longer and complications may occur.[2,6,7]

Complications, such as chronic destructive arthritis, kidney failure and cardiovascular complications may occur if uric acid levels are not adequately lowered.[7]

Conclusion

Frequent dispensing of over-the-counter colchicine or NSAIDs to treat gout flares without referral to a doctor should be avoided.[7] Every patient presenting in the pharmacy with a gout flare provides an ideal opportunity for the pharmacist or pharmacist's assistant to educate the patient on this condition, the possible association of gout with other underlying conditions, and the complications associated with untreated gout.[1] Patients with frequent gout flares should be asked if they are taking any medication to lower uric acid levels, and referred to the doctor for initiation of the chronic medication, or for re-assessment of their condition.[1]

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Managing **exam stress**

Roslynn Steenkamp, RD

Abstract

Exam stress is a common challenge for students. While low levels of stress can be helpful, excessive or prolonged stress can harm physical and mental health. Healthy lifestyle practices like a nutritious diet, regular exercise and sufficient sleep are important for stress management. Stress relief supplements containing ingredients like vitamins, minerals and herbs are popular amongst students, especially during exam time. Supplements can help to alleviate mild stress, but more serious psychological conditions like depression and anxiety need to be managed by a medical doctor or psychologist. Students are encouraged to adopt a holistic approach to stress management to enhance their well-being and academic performance.

Introduction

Exam stress is common amongst students at varying academic levels and occurs when the demands of academic performance exceed a student's capacity to adapt and cope with the demands. Although stress can have a positive impact on performance, excessive or prolonged stress can be damaging to both physical and mental well-being.[1] Diet plays a crucial role in overall health and brain function, and nutrient deficiencies can worsen both physical and psychological stress. Students are encouraged to follow healthy lifestyle practices and optimise their study habits to prevent and manage exam stress.[2,3] Nutritional and herbal supplements may play a role in managing exam stress.[3,4]

Stress

Stress occurs when physical or mental challenges, called stressors, disrupt normal body function. The body's response to stress involves changes in the nervous system, hormone levels, as well as immune function. Stress can be acute or chronic. Acute stress arises from immediate challenges or situations, triggering the body's fight-or-flight response and causing a surge of adrenaline and increased heart rate. If stress persists over a long time, it becomes chronic stress. A person can also experience episodic acute stress, which is characterised by periodic bouts of acute stress. Stressors can be psychological, originating from mental or emotional factors, or physiological, resulting from physical stressors like illness, injury, inadequate sleep, or poor nutrition. Although the body's stress response is important for survival and can have positive effects, excessive or prolonged stress can damage both physical and mental health.[5] Chronic or severe stress can lead to oxidative stress, inflammation, and an increased risk of heart disease. Stress can also cause difficulties in breathing, digestive issues, muscle tension, headaches, weakened immune function, and reproductive problems.[4,5]

Understanding exam stress

Students are especially susceptible to stress, especially during exam periods. This is typically due to academic pressure and the struggle to balance studies with daily activities. If stress is not properly managed, it could progress to more serious mood disorders like anxiety or depression and have significant health implications.[6,7]

Lifestyle factors

Adopting healthy lifestyle habits can significantly reduce stress both during exams and throughout life.[8]

Diet

Research indicates that diets rich in nutrient-dense wholefoods, such as those found in the Mediterranean diet, are associated with better psychological well-being when compared to less healthy diets containing high levels of refined or processed foods. Dietary choices significantly impact brain function and deficiencies of essential nutrients like vitamin B_{12} and folate are linked to an increased risk of psychological disorders.[2,6,8]

Exercise and sleep

Regular, moderate-intensity exercise has been shown to improve mood and reduce stress levels.[8] Getting enough sleep is also essential for both physical and psychological health. Poor sleep is linked to higher stress levels and can negatively affect memory and learning ability. Excessive screen time from smartphones and other devices has reduced the amount of time we spend on physical activity and sleep, potentially contributing to depression and anxiety. Reducing screen time can therefore improve mood and overall well-being.[9,10]

Unhealthy behaviours

Avoiding unhealthy habits like excessive alcohol consumption, substance use, and smoking can help prevent and manage stress, especially during exam time.[8]

Time management

Effective time management skills can help prevent procrastination and makes room for activities that improve well-being like exercise and sleep. Students are encouraged to approach exam season with a plan and to give themselves enough time to prepare.[11]

Supplements for stress relief

Supplements containing specific nutrients and herbal ingredients may help to reduce stress during exam time.[2,3] While supplements can be helpful in addressing mild stress, the treatment of more serious mood disorders such as anxiety or depression should be overseen by a medical doctor/psychologist.

Nutritional supplements

Poor nutrition can aggravate both physical and psychological stress and may have significant health consequences. A varied diet is the best way to meet the body's nutrient needs. Supplements may help to prevent nutrient deficiencies and support health, especially during periods of stress.[2,4] Certain nutrients are particularly important for brain health and are often included in stress-relief supplements. Examples of these are described below:

B-vitamins

The B-vitamins (i.e. B_1, B_2, B_3, B_5, B_6, B_7, B_9 [folate] and B_{12}) are important for healthy brain and nervous system function. Multi-nutrient supplements containing B-vitamins have been shown to reduce stress levels. Although it is usually not recommended to consume nutrients in quantities above their nutrient reference value (NRV), water-soluble B-vitamins are easily excreted by the body and are generally safe to consume, even in higher amounts.[2]

Omega-3 fatty acids

Omega-3 fatty acids are essential, polyunsaturated fats that perform many roles in the body. They are anti-inflammatory and assist with normal brain function. Omega-3 supplementation may help to manage psychological stress.[6]

Amino acids

Amino acids are the building blocks of proteins and can be categorised as either essential or non-essential. Non-essential amino acids can be made by the body, while essential amino acids come from the food we eat. Two essential amino acids studied for their stress-relief properties are L-lysine and L-arginine. These molecules may interact with neurotransmitters and help reduce stress and anxiety levels. Another interesting ingredient often found in stress relief supplements is L-theanine.[4] L-theanine is a unique, non-protein amino acid derived from green tea that may help to relieve stress and cognitive issues.[12]

Magnesium

Magnesium is a mineral naturally found in foods like whole grains, green vegetables and dairy products. When used in combination with other vitamins, minerals and herbal extracts, magnesium may help to treat stress, anxiety and anxiety-related disorders.[4,13]

Probiotics

Probiotics are healthy bacteria important for gut function and immune health. Studies have shown a strong connection between gut health and mental well-being. The use of probiotic supplements may play a role in reducing negative emotions, improving cognitive function and treating psychological stress. Common types of probiotics found in supplements include lactobacillus and bifidobacterium bacterial strains.[1]

Herbal supplements

Herbs, spices and natural ingredients have been used for centuries in homeopathic or traditional medicines and many are known for their stress-relieving properties. Examples of herbal ingredients often found in stress-relief supplements are described below.

Chamomile

Chamomile is a flower known for its antioxidant and anti-inflammatory properties. It contains a flavonoid called apigenin, which elicits a sedative effect. Chamomile is often used in teas and is found in several stress-relief supplements.[14]

Passionflower

Passionflower extract has been used for centuries as an anti-anxiety remedy. Studies have shown a positive effect of passionflower on stress, but the exact chemical which causes this effect has yet to be identified.[4]

Rhodolia Rosea

Rhodolia rosea root, also called "rose root", has been shown to reduce symptoms of burn-out, fatigue and chronic stress. These effects are attributed to its interaction with neurotransmitters in the central nervous system.[15]

Ashwagandha

Also known as Indian ginseng or Indian winterberry, ashwagandha is renowned for its anti-inflammatory and antioxidant properties. It has been shown to support nervous system health, reduce stress, and improve sleep.[16]

Valerian root

Valerian root has been used throughout history for its ability to improve sleep quality and associated psychological issues. It is a common ingredient in stress-relief supplements.[17]

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Table I: Examples of stress-relief supplements

Stress-relief supplement	Active ingredients
Biogen Platinum: Stress Relief	Valerian root, passionflower
Bio-herbal: Stress	Lemon balm, chamomile, calcium, potassium, magnesium, valerian root
Nativa Complex® Calm Support	Chamomile, L-theanine
Natura®: Nervuton 2	Southernwood, jimsonweed, hops, potassium, chamomile, valerian root, zinc
Nutripure®: Stress Relief	Ashwagandha, vitamin B_6, vitamin B_{12}
Probiflora™: Adult Classic Bowel Support	*Lactobacillus acidophilus, Bifidobacterium lactis, Lactobacillus casei, Lactococcus lactis,* Fructooligosaccharides (FOS)
Relicalm: L-theanine	L-theanine
Solal®: Stress Damage Control	Rhodiola rosea, ashwagandha, vitamin B_1, alpha-lipoic acid, beta-sitosterol
Stress-Away	Bacopa monnieri, valerian root, ashwagandha, gotu kola
Vitaforce Stress: Nutri-B Calm	L-theanine, magnesium, vitamin B_2, vitamin B_{12}, vitamin D_3
Xcel	Bacopa monnieri, Indian pennywort, ashwaganda, Celastrus paniculatus

Choosing a supplement

Not all supplements have been tested for safety in all populations and should be used with caution or under the advisement of a healthcare professional. Examples of stress-relief supplements are summarised in the table above.

Conclusion

Stress is prevalent among students and can negatively affect physical and mental health. Following healthy diet and lifestyle behaviours and learning to manage time effectively is essential for preventing and managing stress during exam season. Several nutrients and herbs, when used appropriately, can help reduce mild stress and related symptoms.

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Fighting **year-end** fatigue

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Abstract

Year-end fatigue is a common phenomenon and occurs due to both physical and psychological factors. Symptoms of fatigue, such as mental and physical exhaustion negatively affect quality of life and overall well-being. Healthy lifestyle habits like following a balanced diet, regular exercise, good sleep habits and rest are important when it comes to preventing and managing fatigue. Supplements containing nutrients, such as B-vitamins, and herbal extracts (like ginseng and echinacea) may help to support energy levels and fight year-end fatigue.

Introduction

As we near the end of 2024, the familiar sensation of year-end fatigue begins to settle in. Fatigue is described as having low energy levels, which can negatively affect quality of life.[1,2] The best way to fight year-end fatigue is to follow healthy diet and lifestyle habits.[3] Supplements containing various nutrients and herbs may help to support energy levels and fight year-end fatigue.[4,5]

What is fatigue?

Having energy is associated with feelings of well-being, stamina and vitality, along with the motivation to complete daily tasks and maintain social relationships. Fatigue, on the other hand, is characterised by a lack of energy.[1] Symptoms of fatigue include mental exhaustion, difficulty concentrating, poor muscle endurance, delayed recovery and non-restorative sleep.[1,6] End-of-year fatigue typically results from imbalances in exercise, rest/sleep or diet and is aggravated by stress and environmental factors. Severe or prolonged periods of fatigue that do not resolve with lifestyle or behavioural modification should be investigated by a healthcare professional.[1,4]

Nutrition and fatigue

Food provides fuel to both the brain and the body and is essential for maintaining energy levels. A healthy diet should meet the body's requirements for energy, protein, vitamins and minerals as well as for fluid and fibre. An inadequate diet causes low energy levels and may lead to nutrient deficiencies.[1,4] Deficiencies of nutrients such as the B vitamins, vitamin D, omega-3, iron, magnesium and zinc are associated with fatigue symptoms.[4,7] A diet rich in fruits, vegetables, low-GI (wholegrain) carbohydrates, dairy, legumes, healthy fats, and lean protein is recommended to meet nutrient requirements and prevent fatigue.[6] Nutrient-poor diets containing refined carbohydrates can exacerbate fatigue and negatively impact overall health.[3]

Lifestyle habits and fatigue

Lifestyle habits like sleep and exercise play a crucial role in managing fatigue. Getting enough, good-quality sleep allows the body and mind to rejuvenate and recharge.[1,8] Regular moderate exercise can help build endurance, improve sleep quality and support energy levels.[6,8] Conversely, unhealthy habits such as alcohol and substance use have a negative effect on energy levels.[9,10] By prioritising exercise, adequate sleep, and healthy habits, individuals can significantly improve their energy levels and overall well-being.

Supplements for fighting fatigue

Energy-boosting supplements are available in most pharmacies. Nutrients like B vitamins, vitamin C, vitamin D, iron, magnesium, zinc, omega-3 fatty acids and amino acids are commonly found in these supplements.[1,4,6,7] Nutrient supplements can help prevent and treat fatigue associated with nutrient-deficiencies and may help to support energy levels.[1] Herbal ingredients such as ginseng and echinacea have also shown to reduce symptoms of fatigue.[5] Caffeine is another common ingredient found in energy supplements.

Although caffeine temporarily improves energy levels, it may interfere with sleep, increase stress levels and ultimately contribute to fatigue.[8,10] It is important to note that not all supplements are tested for safety and overconsumption may have negative effects.[1] Examples of common fatigue-fighting supplements are summarised in the table.

Supplement	Active ingredients
Solal® Burnout Adrenal Support	Vitamin B_1, vitamin B_5, liquorice, echinacea, ginseng, chromium
Berocca® Boost Effervescent Tablets	Vitamin B_1, B_2, B_3, B_5, B_6, B_7, B_9, B_{12}, vitamin C, calcium, magnesium, zinc, guarana.
Slowmag: Performance Effervescent Tablets	Magnesium, vitamin B_5, ginseng
Turbovite® Excel	Ginseng, caffeine, vitamin B_1, B_2, B_3, B_5, B_6, B_7, B_9, B_{12}, vitamin C, magnesium
Vital Maxi B	Vitamin C, vitamin B_1, B_2, B_3, B_5, B_6, B_7, B_9, B_{12}
ReVite: Vit-T-Go Energy Sachets	Vitamin B_1, B_6, B_{12}, creatine, magnesium, vitamin C, vitamin D_3, green tea, glutathione, sodium, potassium
Bioplus® Effervescent Tablets	Caffeine, vitamin B_1, B_2, B_3, B_5, B_6, B_{12}, vitamin C, calcium

Conclusion

Year-end fatigue may lead to symptoms such as mental and physical exhaustion. Healthy lifestyle habits such as regular exercise, sufficient good quality sleep and following a nutrient-rich diet are the best ways to prevent and treat fatigue. The short-term use of supplements containing certain nutrients and herbal ingredients may help to combat year-end fatigue.

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Iron deficiency and iron deficiency anaemia: iron supplements in the pharmacy

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Abstract

Iron deficiency (ID) and iron deficiency anaemia (IDA) are major public health problems worldwide, especially in young women.[1] Insufficient iron storage and/or loss of iron through excessive bleeding are common causes.[2,3] Oral iron supplementation is an effective strategy for treating and preventing IDA, aiming to increase the production of haemoglobin and replenish the body's iron stores.[1,3] Traditional ferrous sulphate is commonly used. However, lower doses of daily elemental iron may be as effective with fewer side effects.[4-6] In addition, novel iron formulations are available, which have been formulated to improve iron absorption and maximise tolerability.[4,7,8]

Introduction

Iron is an essential trace element that plays a crucial role in various bodily functions. It is a structural component of proteins such as haemoglobin (Hb) and myoglobin found in red blood cells (RBCs) that carry oxygen through the body. Iron deficiency (ID) is a condition characterised by a reduction in total iron levels in the body, leading to insufficient iron for essential physiological functions. Iron deficiency progresses through three stages: depleted iron stores, iron-deficient RBC production, and eventually to a state of iron deficiency anaemia (IDA).[9]

Iron deficiency anaemia

IDA is the most common nutritional deficiency globally, affecting approximately two billion people, with the highest burden among pregnant women and young children.[2] ID and IDA are highly prevalent among women throughout their lives, but particularly during their reproductive years.[10] In South Africa, 50% of women suffer from ID surpassing the global average of 20%.[9,11]

IDA is a type of anaemia that occurs when there is not enough iron to make the Hb in RBCs to help carry oxygen from the lungs to the organs and tissues of the body.[3]

Although the most common causes of IDA are gastrointestinal bleeding and menstruation, decreased dietary iron and decreased iron absorption are also culpable causes.[12]

Symptoms and signs of iron deficiency

Symptoms of iron deficiency can vary from person to person.[3] The most common symptoms include:[3]

- Weakness
- Headache
- Irritability
- Fatigue
- Difficulty exercising (due to shortness of breath or exhaustion)
- Brittle nails
- Sore tongue
- Restless legs syndrome
- An abnormal craving to eat non-food items, such as clay or dirt, paper products or cornstarch known as "pica"
- Pagophagia (a form of pica in which there is an abnormal craving to eat ice)

Oral iron supplements for the treatment of ID and IDA

Oral iron supplementation is considered first-line treatment for ID and IDA.[1] Iron allows the body to increase production of Hb and rebuild iron reserves in the body. However, in rare cases of severe anaemia, a blood transfusion is needed.[3]

Although there are several types of iron supplements available that vary widely in elemental iron content, chemical state, cost and bioavailability, they all help to support RBC production.[1,15]

- Bioavailability refers to the proportion of iron in an oral supplement that is absorbed from the gastrointestinal tract.[1]
- Chemical state refers to oral iron being ferrous or ferric.[13] The bioavailability of iron from ferric iron supplements is typically three to four times lower than that of ferrous iron, which is generally more effective in replenishing Hb in IDA.[1]

Commonly used iron salts include:[1,5,6]

- ferrous sulphate
- ferrous fumarate
- ferrous gluconate
- amino acid chelate, ferrous bisglycinate
- ferric polymaltose complexes

Examples of over-the-counter (OTC) iron supplements containing varying amounts of iron are provided in Table I.

In general, the bioavailability of ferrous iron compounds is similar, and their side effect profiles and efficacies to regenerate Hb are also comparable.[1,14] However, they vary in their elemental iron content. Therefore, the choice of ferrous iron salt is usually based on the amount of elemental iron in the formulation and may also be influenced by cost.[1,14]

- Elemental iron is the pure form of iron that is available for absorption and use by the body. When referring to iron supplements, the term "elemental iron" indicates the amount of actual iron content in the supplement (excluding the salt it is bound to e.g. ferrous sulphate).[15]

Traditional ferrous sulphate (65 mg of elemental iron per 325 mg tablet) is considered a first-line approach based on its affordability, good bioavailability and efficacy. However, the frequency and severity of gastrointestinal side effects limits its use. Tolerability is an important factor to consider since it may affect treatment compliance, likely leading to cessation and, thus, inadequate treatment.[4,5,12] Although the appropriate dosing of iron supplements remains unclear, lower doses (e.g. 15–20 mg elemental iron daily) may be as effective and cause fewer side effects.[4,5] The daily doses of elemental iron should not exceed 100 mg as the body is only able to absorb 10–20 mg of iron per day.[12]

Novel oral iron supplements are becoming increasingly available. These are innovative formulations designed to improve the absorption, efficacy, and tolerability of iron supplementation compared to traditional iron salts like ferrous sulphate. These newer formulations often address common issues such as gastrointestinal side effects and poor absorption.[4,12,16] Examples include:

- Sucrosomial iron, a form of iron supplement where iron is encapsulated in a phospholipid membrane, with a sucrose ester matrix, forming what is known as a sucrosome[4]
- Ferrous bisglycinate, a "chelated" form of iron supplement in which iron is bound to two molecules of the amino acid glycine[8]

Side effects

These are mainly dose-related gastrointestinal in nature, such as nausea, constipation, stomach upset, and vomiting. Some people experience a metallic taste after taking oral iron.[3] Taking iron tablets can turn the stool a dark, almost black colour. This is normal, and does not mean that the iron tablets are causing gastrointestinal bleeding.[3]

Tips to help minimise side effects and aid iron absorption:

- Taking oral iron every **other** day (or on Monday, Wednesday, and Friday) allows the body to absorb more iron while reducing gastrointestinal side effects[3]
- Certain foods and medicines can reduce the absorption of oral iron:[3]
  - Avoid taking with tea, coffee, calcium supplements, or milk. Oral iron can be taken one hour before or two hours after these items
  - Avoid taking with antacids, oral iron should be taken at least two hours before or four hours after the antacids
- Using a formulation with a lower elemental iron content or a novel iron formulation.[4,5,7,8,12]

Conclusion

While various iron supplements are considered equally effective in treating ID and IDA, minimising side effects is also an important

Table I: Examples of OTC iron supplements containing varying amounts of iron[16-24]

Product	Form of iron	Amount of elemental iron
Chela-fer® 15 Tablets[16]	Ferrous bisglycinate chelate 75 mg	15 mg
Chela-fer® 24 Tablets[16]	Ferrous bisglycinate chelate 120 mg	24 mg
Chela-fer® Syrup[16]	Ferrous bisglycinate chelate 75 mg	15 mg
Ferovance™[17]	Ferrous bisglycinate 120 mg	25 mg
Ferrimed® Capsules[18]	Ferric polymaltose complex	50 mg
Ferrimed® DS Chewable Tablets[18]		100 mg
Ferrimed® Syrup[18]		50 mg per 5 ml
Ferrous Forte Somal Capsules[19]	SunActive™ Ferric Pyrophosphate	24 mg
Ferrous Forte Tablets[20]	Ferrous bisglycinate chelate	20 mg
Ferrous Forte Kids (Fizzy)[21]		24 mg
Ferrous Forte Syrup[22]		24 mg per 5 ml
QuadroFER®[23]	Iron pyrophosphate (sucrosomial iron) 80,77–87,5 mg	21 mg
SiderAL 15[24]	Sucrosomial® Iron consisting of 57,69–62,50 mg of iron pyrophosphate	15 mg
Vital® Iron complex[25] film-coated tablets	Ferrous sulphate 40,8 mg	15 mg

factor in choosing the appropriate supplement.[12,14] Pharmacist's assistants are well-positioned to help patients better understand iron supplements on the market and educate them on strategies to aid iron absorption and keep side effects to a minimum. Effective iron supplementation can help relieve the symptoms of ID and IDA, improve quality of life and the well-being of patients.[3,5]

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Some common **contraindications/warnings** with two classes of **OTC medicines**

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Abstract

Minor and self-limiting illnesses are often suitable for treatment with medicines available over-the-counter in the community pharmacy. The pharmacist's assistant under the supervision of the pharmacist needs to assess, by careful questioning, if the illness or symptom is suitable for treatment with a non-prescription medicine or if the patient should be referred to the doctor for further evaluation. Some patients are at higher risk for medication-induced diseases or adverse events. The more common medicine contraindications/warnings of two classes of medicines available without a doctor's prescription, namely the oral decongestants and nonsteroidal anti-inflammatory drugs, are briefly reviewed.

Introduction

Many customers visit their community pharmacy to seek information on and/or seek over-the-counter (OTC) medicines for the treatment of minor ailments. However, medicines should be recommended only when the benefits of treatment are expected to outweigh the potential risks to the individual.[1]

Medication-induced diseases have a higher likelihood of occurring in certain at-risk populations, including pregnant and breastfeeding women, individuals at the extremes of age (very young or elderly), patients with impaired liver or kidney function, those with multiple comorbidities, and individuals taking multiple medications concurrently, including prescription drugs, OTC products, and traditional or complementary medicines. Factors such as genetic predisposition, polypharmacy, and certain pre-existing conditions can also increase susceptibility to drug-related problems.[1] Particular care needs to be taken when recommending medicines for these patients.[1]

Concerns associated with the use of OTC medicines

Pharmacy customers may need convincing that the inappropriate use of OTC medicines has a potential for harm, albeit usually lower than that associated with prescription-only medicines.[2] This is because:

- Consumers may not read or may ignore the contraindications or warning information on the packaging or in the patient information leaflet.[2]
- In opting for self-treatment, the consumer needs to assess their own symptoms, and their assessment may not be correct.[2]
- Patients may overlook potentially more serious but less debilitating symptoms in preference to those that are more familiar.[2]

Together with the pharmacist, the pharmacist's assistant can be an invaluable source of information on the appropriate use of non-prescription medicines.

Responding to symptoms

Members of the public seeking medical treatment from the pharmacist or the pharmacist's assistant may fall into one of three categories:[2]

- Those patients who have already made their own diagnosis from their symptoms and seek help with product selection only.
- Those who describe a symptom or a group of symptoms, which require interpretation by the pharmacist/pharmacist's assistant and then a recommendation on an appropriate course of action or treatment.

- Those who request a specific category of medicine e.g. an analgesic but ask for guidance on product selection.

By means of careful questioning, the pharmacist's assistant, under the supervision of the pharmacist, needs to confirm the patient's self-diagnosis, interpret any symptoms described and recommend an appropriate course of action. The following questions may be considered:[2]

- **Establish who the patient is**. Do not assume that it is the person presenting the symptom. Then find out: How old is the patient; is the patient pregnant or breastfeeding; does the patient suffer from any chronic conditions like type 2 diabetes or high blood pressure; is the patient taking any other medicines, including alternative medicines and nutritional supplements; does the patient have known allergies to any medicines.
- **Establish a profile of the patient's symptoms,** e.g. what is the primary symptom; what is the nature and the severity of the symptom; what other symptoms is the patient experiencing; did the symptoms appear gradually or suddenly; how long have the symptoms been present; has the patient already used any medication to treat the symptoms.

The answers obtained from the above questioning should indicate one of the following courses of action:[2]

- The ailment is suitable for treatment with a non-prescription medicine. The patient should be told what to do if the symptoms persist after a few days of treatment (e.g. referral to the doctor or return to the pharmacy).
- Refer the patient to the doctor for further evaluation.
- Suggest non-drug treatment e.g. information on diet or lifestyle changes.

The above questions are particularly pertinent when considering non-prescription medicines in the high-risk patient, such as patients with co-existing medical conditions.

Two classes of frequently used non-prescription medicines that have warnings or are contraindicated in patients with certain underlying medical conditions are briefly discussed below.

Please note that the manufacturer's prescribing information should always be consulted before recommending a treatment for a particular patient and for full information on the appropriate use of the medicine.

Decongestants

Oral decongestants may increase blood pressure and should be used with caution in patients with cardiovascular disease.[1] Patients with high blood pressure or other heart or blood vessel disorders are advised to speak to the doctor or the pharmacist before taking oral decongestants such as pseudoephedrine, phenylpropanolamine and phenylephrine, often found in cold and flu medicines, cough mixtures, and allergy medicines.[3]

Oral decongestants should also be used with caution in patients with an overactive thyroid, diabetes mellitus, raised intraocular pressure, prostatic hypertrophy and in patients with severe renal or hepatic impairment.[1]

The elderly are particularly susceptible to the central nervous system stimulating and cardiovascular effects associated with the use of oral decongestant medicines.[1]

Decongestants should be used with caution in young children, and they should be avoided altogether in infants under six months of age, as these medicines are associated with a high risk of adverse effects in this patient population.[1]

The safety of oral decongestants during pregnancy has not been established and their use is best avoided, particularly during the first trimester.[1]

Significant amounts of the oral decongestant may be excreted into the breast milk, and decongestants are therefore best avoided in women who are breastfeeding.[1]

Nonsteroidal anti-inflammatory drugs (NSAIDs)

NSAIDs are commonly used to treat inflammation, pain and fever.[4] NSAIDs such as ibuprofen are available OTC on their own or in combination with other medicines e.g. paracetamol and codeine in combination analgesics or with pseudoephedrine, a decongestant, in cold and flu/sinus medicines.[5]

NSAIDs are associated with potential adverse events related to several different body systems, including gastrointestinal, cardiovascular, hepatic, renal and haematologic.[4] Adverse effects from NSAIDs can occur at any time while taking them, but there is evidence to support an increased incidence of adverse effects with increased duration and dosing.[4]

Gastrointestinal

Minor gastrointestinal effects such as dyspepsia occur commonly with the non-selective NSAIDs, such as diclofenac and ibuprofen.[1] Concomitant use of alcohol may aggravate gastrointestinal irritation.[1] Serious adverse gastrointestinal effects, such as bleeding and ulceration, can occur in patients taking long-term NSAIDs.[1] Non-selective NSAIDs should therefore be avoided in patients with a history of NSAID-associated upper gastrointestinal tract bleeding or ulceration.[4]

Cardiovascular

All NSAIDs have the potential to aggravate hypertension, congestive heart failure, and oedema.[4] The cardiovascular risk associated with NSAIDs is dose- and duration-dependent and therefore NSAIDs should be used at the lowest effective dose for the shortest possible period.[1] It is recommended to avoid NSAIDs in patients with congestive heart failure and to use NSAIDs with caution in patients with hypertension.[4]

Renal

All NSAIDs tend to impair renal perfusion and to cause retention of sodium and fluid and should therefore be used with caution in patients with hypertension, heart failure, angina pectoris and renal impairment.[1,4] Dehydration during NSAID therapy markedly increases the risk of renal damage.[1]

Blood clotting problems

NSAIDs should be avoided in patients with blood clotting problems or taking blood thinners.[4] Combining NSAIDs with blood-thinning medicines increases the risk of gastrointestinal bleeding.[4]

Conclusions

Medicines available OTC in the pharmacy are suitable for the management of various minor and self-limiting illnesses. However, medicines should only be recommended when the benefits of treatment outweigh the risks of treatment.[1] High-risk patients require careful consideration before considering treatment with an OTC medicine as they may be at higher risk of medication-induced disease or adverse effects from medicines.[1]

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Meningococcal disease: a rare but devastating disease

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Abstract

Meningococcal disease, although uncommon, is a serious and potentially life-threatening disease caused by *Neisseria meningitidis*. It commonly presents as meningitis or septicaemia. Early diagnosis and appropriate antibiotic treatment are crucial, as the disease can progress rapidly and can lead to death within hours. Meningococcal disease can occur in people of all ages, but certain people are at increased risk. It is important that people at high risk for meningococcal disease are vaccinated.

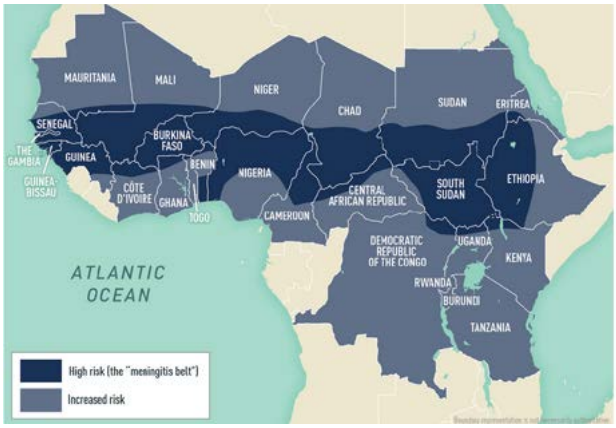
Introduction

Meningococcal disease is a serious infection caused by *Neisseria meningitidis* bacteria (also known as meningococcus).[1-3] Based on the characteristics of their polysaccharide capsule (protective outer coat), meningococci are classified into 13 serogroups. Meningococcal disease is most commonly caused by six of these serogroups (A, B, C, W, X, and Y).[2,4,5]

Although meningococcal disease is uncommon, it occurs worldwide.[1] In South Africa, sporadic cases of meningococcal disease have been reported throughout the year, with most cases occurring from May to October.[4]

Outbreaks of meningococcal disease are most common in the "meningitis belt" of sub-Saharan Africa.[1,5] The meningitis belt stretches horizontally from Senegal in the west to Ethiopia in the east (see map).[5]

The meningitis belt & other areas at risk for meningococcal meningitis epidemics



Map I. The meningitis belt and other areas at risk for meningococcal meningitis epidemics. Disease data source: World Health Organization, International Travel and Health (Geneva, Switzerland, 2015). CDC Health Information for International Travel 2024 (Yellow Book).[5]
Available from: https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/meningococcal-disease

How is the infection spread?

At any given time, up to 10% of the population carry the bacteria in their nasopharynx (back of nose and throat) without it causing disease.[2,4,5,6] Asymptomatic carriers do not have any symptoms themselves, but are able to spread the bacteria to other people.[1,2,6,7] Asymptomatic carriage is temporary and varies over time. The incidence and length of carriage also varies in different populations, and age groups, with highest carriage rates occurring in adolescents.[2,4,5]

The bacteria are spread from person to person via respiratory droplets or throat secretions. People with meningococcal disease as well as asymptomatic carriers can be sources of infection.[2,4,5,7] The spread of the disease is facilitated by prolonged close contact with a carrier or infected person, for example, intimate kissing, sharing eating and drinking utensils, or living in the same household or close quarters such as a dormitory.[1,2,5,6]

Table I: Risk factors for acquiring meningococcal disease[1,2,4-6]

Risk Factor	Examples
Certain medical conditions	People with: • Disorders of the immune system • Functional asplenia (no function or decreased function) or anatomic asplenia (no spleen) • Human immunodeficiency virus (HIV) infection
Close contact with a case	• Close or household contacts of a patient with meningococcal disease
Crowding or crowded living conditions	• New military recruits and adolescents or young adults entering their first year of university or college, especially those staying in dormitories/residences • Miners • Attendees of mass gatherings (i.e. Hajj pilgrims and travellers to Saudi Arabia, sporting events)
Settings/Occupational exposures	• Laboratory workers and microbiologists routinely exposed to *N. meningitidis* • People travelling to the meningitis belt with the risk being the greatest for unvaccinated long stay travellers who have close contact with the local population during an epidemic
Other	• Smoking or exposure to smokers (passive smoking) • Recent or current viral infections of the upper respiratory tract

Risk factors

People of all ages can acquire meningococcal disease.[7] However, it is more common in infants and in children under five years of age, adolescents and young adults (15 through 24 years of age) and adults over 80 years of age.[1,5,7]

Other risk factors for acquiring meningococcal disease are listed in Table I.

Signs and symptoms

Most people exposed to *N. meningitidis* carry the bacteria in the back of the throat, without becoming ill.[4,8] However, occasionally, "for reasons not fully understood, the bacteria overwhelm the body's defences", and cause a serious form of illness which can be deadly within a few hours. It is referred to as meningococcal disease, if the infection (caused by the *Neisseria meningitidis* bacteria) spreads through the blood stream to the brain and other parts of the body.[4,6,8,9]

The two most common types of meningococcal infections are:[1,2,5,6]

- Meningococcal meningitis
  - Bacteria infect the meninges (membranes covering the brain and spinal cord) and cause swelling.
- Septicaemia (meningococcaemia)
  - Bacteria enter the bloodstream and start to multiply, causing damage to the walls of the blood vessels, which leads to bleeding into the skin and organs.

Table II summarises the signs and symptoms associated with meningococcal meningitis and septicaemia.

Complications

If not treated promptly, meningococcal disease can lead to serious complications such as deafness, brain damage, nervous system problems and disabilities (loss of a limb). Despite adequate antibiotic treatment, around 10–15% of people with meningococcal disease still die.[2,4,6,7]

Treatment

The onset of meningococcal disease is usually fast and initial symptoms may be non-specific (flu-like). The symptoms can worsen rapidly, and it can be potentially fatal within a matter of hours. Meningococcal disease is viewed as a medical emergency. It is imperative that antibiotic treatment is started as soon as possible, as the risk of serious illness, disability and death is high.[3,5,6]

Tabel II: Signs and symptoms of meningococcal meningitis and septicaemia[1,2,5,6]

Meningococcal meningitis	Meningococcal septicaemia
Classical symptoms include: • Sudden onset of fever • Headache • Stiff neck These symptoms may be accompanied by: • Nausea • Vomiting • Photophobia (increased sensitivity to light) and • Confusion (altered mental status) Meningococcal meningitis in newborns and infants may be difficult to notice as symptoms may be absent, or they may not present with the classic symptoms (see above). Instead, infants may: • Be irritable • Appear slow or inactive • Vomit • Feed poorly • Have a budging anterior fontanelle (soft spot on the scull)	Symptoms may include: • Sudden onset of fever • Fatigue • Nausea with or without vomiting • Diarrhoea • Cold hands and feet • Chills • Severe body pain • Rapid breathing • A petechial or purpuric rash (a dark purple rash). The rash does not fade with gentle pressure, and is characteristic of meningococcal disease, but it is not always present

Table III: Key points on Menactra®[2,4,8]

Key points	Notes
Serogroup protection	• Protects against invasive disease caused by four serotypes, namely A, C, W and Y.
Indicated age groups	• Indicated for individuals from nine months of age through 55 years of age.
Scheduling status	• S4, which means that it is only available with a prescription.
Common side effects	• Local reactions (injection-site pain, swelling), fever and headache which typically clear within two to three days. • Other side effects include fatigue, malaise, irritability, drowsiness and loss of appetite.

If there is a high index of suspicion, the doctor will start empiric antibiotic treatment while waiting for identification of the causative organism. After the laboratory has identified the causative organism, the doctor will prescribe a suitable antibiotic based on the susceptibility of the causative organism.[5,6]

It is also important that all close contacts of an infected person are traced and given antibiotic prophylaxis. Firstly, the antibiotic will prevent them from developing illness, and secondly it will prevent them from spreading the disease.[1,3,5,6]

Vaccination

Meningococcal disease is a vaccine-preventable disease. There is no single vaccine available against all the serogroups that cause disease.[2] Some of the vaccines available internationally only protect against one serotype (monovalent A, B or C serotype), while other vaccines protect against a few of the disease-causing serotypes.[2,5] It is important to note that vaccines only protect against those serotype(s) of *Neisseria meningitidis* included in the vaccine.[2,5,6,8]

People at high risk of meningococcal disease, whether it is due to their age, underlying medical condition, travel or other risk factors should be vaccinated. However, anyone who wishes to reduce their risk of meningococcal disease may receive the vaccine (if not contraindicated).[2,4]

Menactra® is the only meningococcal vaccine currently available in South Africa.[4,8] (see Table III)

Vaccination against meningococcal disease is not part of the routine childhood immunisation programme in South Africa (Expanded Programme of Immunization in South Africa) offered by the Department of Health. It is only available with a prescription from a doctor and must be paid for either privately or by the medical aid.[4,6,8]

Conclusion

Although the risk for acquiring meningococcal disease in South Africa is low, the outcomes of acquiring meningococcal disease can be devastating.[4] Early symptoms are often non-specific.[2,4] It is important that people at high risk for acquiring meningococcal disease are vaccinated.[4]

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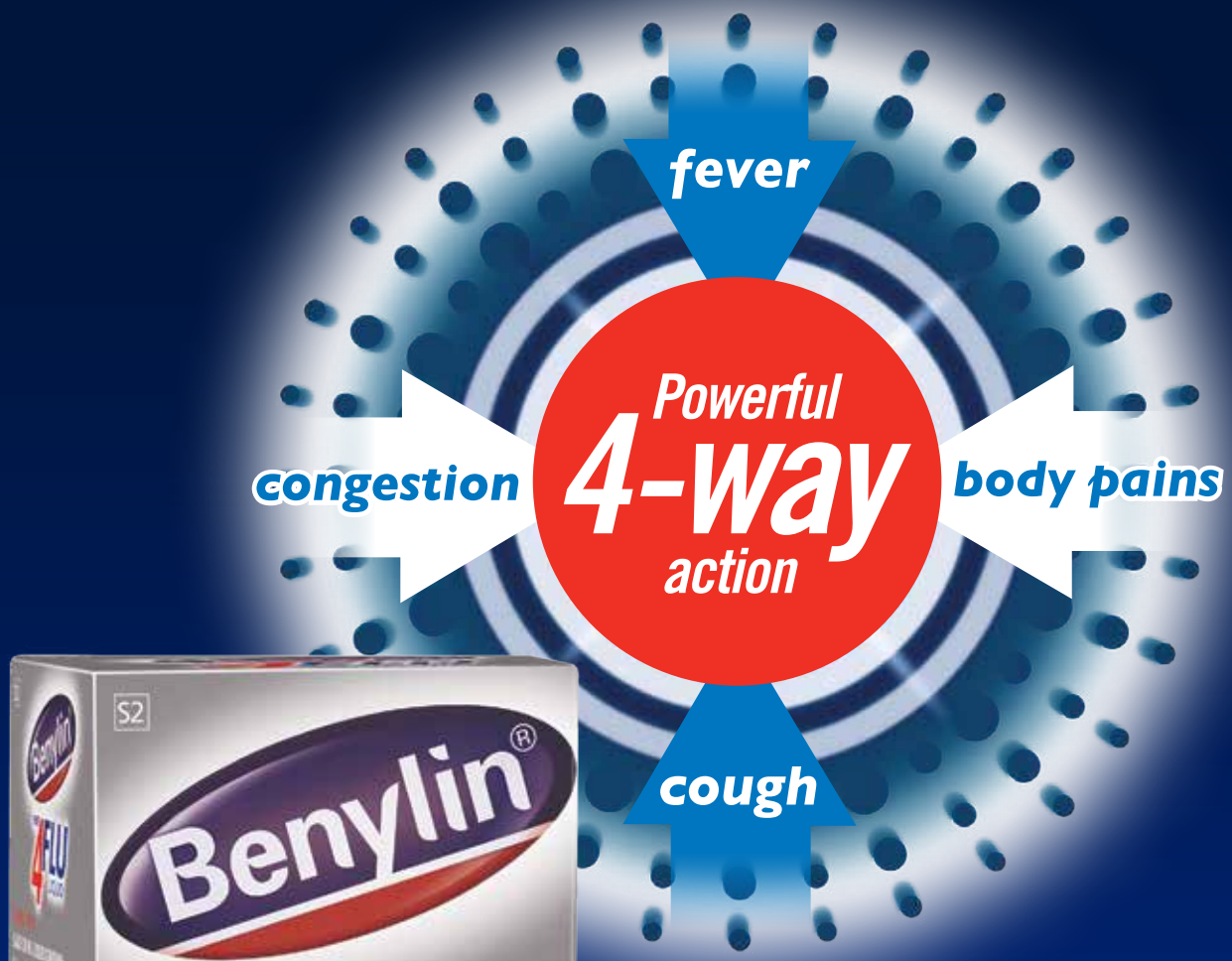

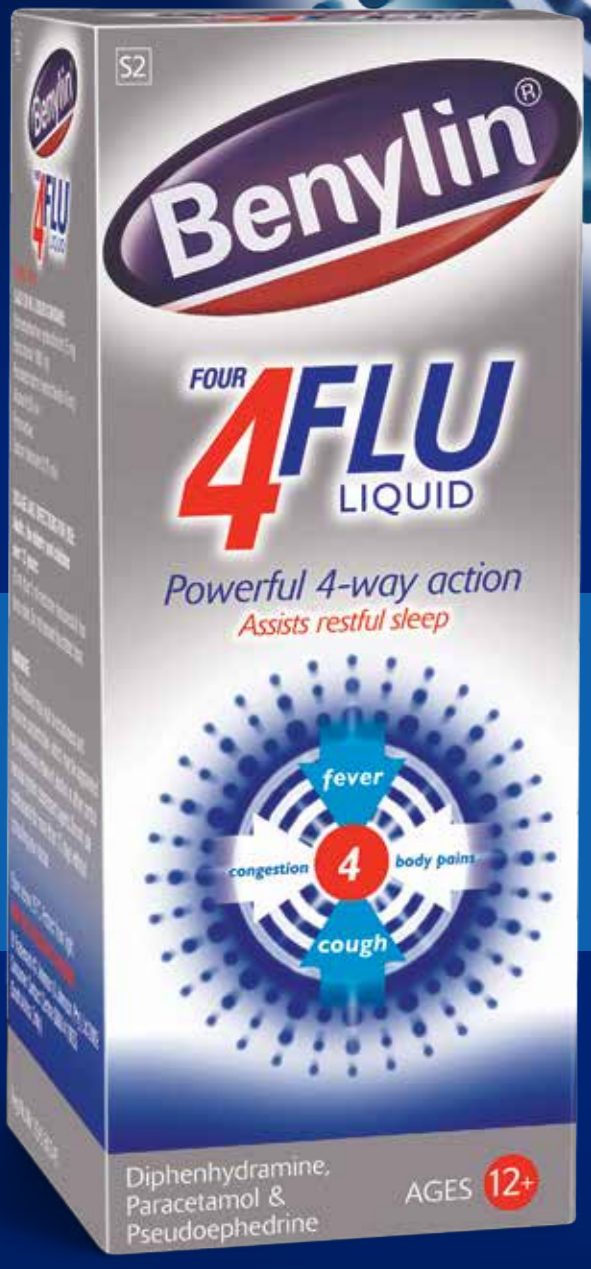

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