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Fourth Year. Clinical Pharmacy

Patient adherence

Background

1-"**Keep watch also on the fault of patients which often makes them lie about taking of things prescribed**." Hippocrates made this remark over 2000 years ago [(1)].
Hippocrates advised the physician to "not only to do what is right himself, but also to make the **patient**…**cooperate**" [(2)].
Unfortunately, concern about how patients actually use their prescribed medications continues to this day [(1)].

2-As former Surgeon General Dr. C. Everett Koop said, "**Drugs don't work in patients who don't take them**." Prescription medications are only effective when they are taken [(1)].

3-The terms "**compliance**," "**adherence**," and more recently "**concordance**" have been used to describe the relationship between patient medication taking behaviors and the regimens prescribed by providers [(1)].

Definitions

1-Adherence to (or compliance with) a medication regimen is generally defined as the **extent to which patients take medications as prescribed by their health care providers** [(3)].

2-Often, the terms compliance and adherence are used interchangeably. However, they are somewhat different [(2)]. The word "**adherence**" is **preferred** by many health care providers, because "**compliance**" suggests that the pa**tient is passively following the doctor's orders** [(3)] while **adherence presumes the patient's agreement** with the recommendations [(2)] and was intended to move away from viewing patients as individuals who simply did as they were told [(1)].

3-More recently, the term "**concordance**" has been used. The concordance may be defined as "**an agreement reached after negotiation between a patient and health care professional that respects the beliefs and wishes of the patient in determining whether, when and how medicines are to be taken**." [(1)].

4-**Persistence** is defined as the **ability of a person to continue taking medications for the intended course of therapy**. A person is classified as **non-persistent** if he or she never fills a prescription or stops taking a prescription prematurely [(4)].

Incidence of nonadherence

1-Because of the difficulties in measuring adherence, no estimate of adherence or non-adherence can be generalized, **but poor compliance is to be expected in 30-50% of all patients, irrespective of disease** [(5)].

2-According to a 2003 report published by the World Health Organization (WHO), **adherence rates** in **developed countries** average only **about 50%.** In **developing countries**, the rates are **even lower**

3-The rate of adherence for **short-term therapy was much higher** at between 70% and 80% [6].

4-Furthermore, the rates of non- adherence with different types of treatment also differ greatly. Estimates showed that almost **50%** of the prescription drugs for the **prevention** of bronchial asthma were not taken as prescribed. Patients' adherence with medication therapy for **hypertension** was reported to vary between **50% and 70%** [6].

The Consequences of The nonadherence

1-Non-adherence to medications is considered as one of the largest drug related issues. WHO states that non-adherence to medications is a "worldwide problem of striking magnitude." [7].

A-Poor medication adherence can cause negative health outcomes such as **worsening disease or even death** [7]. Non- adherence is directly associated with poor treatment outcomes in patients with diabetes, epilepsy, AIDS, asthma, tuberculosis, hypertension, and organ transplants [6].For example:

-Nonadherence has been found to be the **primary predictor of rejection of transplanted organs** [1].

In **hypertensive** patients, **Nonadherence** is the most important **reason for poorly controlled BP**, thus increasing the risk of stroke, myocardial infarction, and renal impairment markedly [6].

-Up to 60% of patients with epilepsy are **non-adherents**, and this is the most **common reason for treatment failure** [7].

-Approximately 125,000 deaths occur annually in the US due to nonadherence with cardiovascular medications [4].

B-For infectious diseases, the consequences of non-adherence can include not only the direct impact such as treatment failures, but also the development of resistant microorganisms [6].

C-Poor medication adherence also may result **in increased health care cost** [7]. More than **10% of older adult hospital admissions** may be due to nonadherence with medication regimens [4]. Of all **medication-related hospital admissions** in the USA, 33

-69 % are due to poor medication adherence, with a resultant cost of approximately $100 billion a year [1].
Additionally, non- adherence would have **indirect cost** implications due to the **loss of productivity** [6].

D-Nonadherence with medication regimens may result in **increased use of medical resources**, such as physician visits, laboratory tests, unnecessary additional treatments, emergency department visits, and hospital admissions [4].

E-Additionally non-adherence has a **substantial negative effect** on **patient's quality of life** [6].

Spectrum of medication non-adherence [1, 4, 6, 8]

Medication nonadherence can include:
1-Failing to **initially fill** a prescription
2-Failing to **refill** a prescription as directed
3-**Omitting** a dose or doses (decreasing the frequency of doses) (Many patients are afraid of taking medications)
4-Taking **more of a medication** than prescribed (some patients may rely too heavily on medications and take more than prescribed)
5-**Prematurely discontinuing** medication
6-Taking a dose at the **wrong time**
7-Taking a medication **prescribed for someone else**
8-**Taking a dose with prohibited foods**, **liquids**, and other **medications**
9-Taking **outdated** medications
10-Taking **damaged** medications
11-**Storing** medications **improperly**
12-**Improperly** using medication **administration devices** (e.g., inhalers).
13- "**White-coat adherence**", which means "improved patient adherence to treatment **around clinic visits**"

In addition, it has been shown that almost all patients who had poor adherence with drugs **eventually dropped out of treatments completely**, and therefore did not benefit at all from the treatment effects.

Causes of medication nonadherence

1-The reasons for poor medication adherence are often multifactorial. Nonadherence to medications can be **intentional** or **nonintentional**.

A-Intentional nonadherence: is an active process whereby the patient chooses to deviate from the treatment regimen.

B-Unintentional nonadherence: is a passive process in which the patient may be careless or forgetful about adhering to the treatment regimen [9].

2-The common belief that **patients are solely responsible for taking their medications** often reflects a **misunderstanding** of how other factors affect patient adherence to treatment regimens [4].

3-The World Health Organization has categorized potential reasons for medication nonadherence into 5 broad groupings that include **patient**, **condition**, **therapy**, **socioeconomic**, and **health system–related factors** [9]. (Figure-1). [4] Factors associated with each dimension are listed in Table-1 [4].

Figure-1. The five dimensions of adherence [9].

4-It is important to recognize that a person may have **multiple risk factors** for medication nonadherence and these factors **may change over time.** Therefore, it is important to continually assess a person's adherence throughout the course of therapy [4].

Table-1. Factors reported to affect adherence [4, 6].

A-Social and economic dimension	**B-Therapy-related dimension**
1-Low health literacy**. 2-Medication cost. 3-Cultural and lay beliefs about illness and treatment. 4-Unstable living conditions; homelessness 5-Lack of family or social support network 6-Limited access to health care facilities 7-Lack of health care insurance 8-Inability or difficulty accessing pharmacy 9-Elder abuse 10-Inability to take time off work	1-Complexity of medication regimen (number of daily doses; number of concurrent medications) 2-Treatment requires mastery of certain techniques (e.g. inhalers) 3-Duration of therapy 4-Frequent changes in medication regimen. 5-Lack of immediate benefit of therapy 6-Medications with social stigma attached to use. 7-Actual or perceived unpleasant side effects 8-Treatment interferes with lifestyle or requires significant behavioral changes 9-Route of administration 10-Taste of the medication
C- Condition- related dimension	
1-Chronic conditions 2-Lack of symptoms 3-Severity of symptoms 4-Depression 5-Psychotic disorders 6-Mental retardation/developmental disability	

D-Patient-related dimension	
Physical Factors	**Psychological/Behavioral Factors**
1-Visual impairment 2-Hearing impairment 3-Cognitive impairment 4-Impaired mobility or dexterity 5-Swallowing problems	1-Knowledge about disease 2-Understanding reason medication is needed 3-Expectations toward benefit of treatment 4-Confidence in ability to follow treatment regimen 5-Motivation to manage the disease 6-Fear of possible adverse effects 7-Fear of dependence 8-Feeling stigmatized by the disease 9-Frustration with health care providers
E-Health care system dimension	
1-Provider-patient relationship 2-Provider communication skills (contributing to lack of patient knowledge or understanding of the treatment regimen) 3-Disparity between the health beliefs of the health care provider and those of the patient 4-Lack of positive reinforcement from the health care provider 5-Weak capacity of the system to educate patients and provide follow-up 6-Lack of knowledge on adherence and of effective interventions for improving it 7-Patient information materials written at too high literacy level 8-High drug costs, copayments, or both 9-Poor access or missed appointments 10-Long wait times 11-Lack of continuity of care	

** Health literacy means patients are able to read, **understand**, **remember** medication **instructions**, and act on health information [6].

False Assumptions about Medication Adherence [1].

The following are some common issues that should be kept in mind.

1-Do not assumes that **once patients start taking their medications correctly, they will continue to take them correctly in the future**. Often patients adhere to regimens while providers monitor adherence closely but lapse into nonadherence as provider attention decreases.

2-Do not assume that **when patients do not take their medications correctly that they "don't care," .** Many patients want to take their medications correctly but are not able to do this due to a variety of reasons

3-Do not assume that **if patients are having problems in taking their medications, they will tell pharmacist or other health care providers (Patients may be embarrassed to admit having** problems in taking their medications).

Measurement of medication adherence

1-Adherence to medication regimens has been monitored since the time of Hippocrates [3].

2-The methods available for measuring adherence can be broken down into **direct** and **indirect** methods of measurement. Each method has advantages and disadvantages, and no method is considered the gold standard (Table-2) [3].

3-**Direct** methods mostly used for patients under **single-dose therapy** or **intermittent administration** and **hospitalized** [8].

Table-2. Methods of Measuring Adherence [3, 8].

	Test	Advantages	Disadvantages
Direct methods	Directly observed therapy	Most accurate	Patients can hide pills in the mouth and then discard them; impractical for routine use
	Measurement of the level of medicine or metabolite in blood or urine (e.g. serum level of antiepileptic drugs)	Objective	Variations in **metabolism** and "**white coat adherence**" can give a false impression of adherence; expensive
	Measurement of the biologic marker in blood *	Objective; in clinical trials, can also be used to measure placebo	Requires expensive quantitative assays and collection of bodily fluids
Indirect methods	Patient questionnaires, patient self-reports	Simple; inexpensive; the most useful method in the clinical setting	Susceptible to error with increases in time between visits; results are easily distorted by the patient
	Pill counts (Counting the number of pills that remain in the bottles).	Objective, quantifiable, and easy to perform	-Data easily altered by the patient (e.g., pill dumping) -No information on other aspects, such as dose timing -Unfeasible in assessing those medication taken as needed (prn)
	Rates of prescription refills;	Objective; easy to obtain data	A prescription refill is not equivalent to ingestion of medication requires a closed pharmacy system
	Assessment of the patient's clinical response	Simple; generally easy to perform	Factors other than medication adherence can affect clinical response
	Electronic medication monitors (recording and stamping the time of opening bottles, dispensing drops, or activating inhaler)	Precise; results are easily quantified; tracks patterns of taking medication	-Expensive; requires return visits and downloading data from medication vials -Do not document whether the patient actually ingested the drug or correct dose -Pressure to the patient

	Measurement of physiologic markers (e.g., heart rate in patients taking beta-blockers)	Often easy to perform	Marker may be absent for other reasons (e.g., increased metabolism, poor absorption, lack of response)
	Patient diaries	Help to correct for poor recall	Easily altered by the patient
	When the patient is a child, questionnaire for caregiver or teacher	Simple; objective	Susceptible to distortion

*Non-toxic biological markers can be added to medications and their presence in blood or urine can provide evidence that a patient recently received a dose of the medication under examination [4, 6].

3-**Patient self-report or questionnaire** is one of the important indirect methods of measuring medication adherence and it's the most commonly used method in the clinical setting. Although it's simple and easy, studies show it can measure medication adherence effectively [7].

4-In 2008, a modified eight item **Morisky Medication Adherence Scale** (MMAS-8) developed from the original four item Morisky scale was published. Afterwards, MMAS-8 has become popular and commonly used in various clinical settings and different populations, as well as been translated in foreign countries [7].

Prerequisites for adherence to medication regimens [4, 6]

Berger and Felkey (2001) summarized the prerequisites for adherence to medication regimens. Adherence requires that a person:
1-Show interest in his or her health and **understand the diagnosis**
2-Understand the **potential impact of the diagnosis**
(The adherence was better when patient believes that the illness or its complications could pose severe consequences for his health)
3-Believe that the **prescribed treatment will help**
4-**Know** exactly **how to take the medication and the duration of therapy**
5-Find ways to **fit the medication regimen into his or her daily routine**
6-**Value the outcome of treatment** more than the cost of treatment
7-Believe that he or she **can carry out the treatment plan**
8-Believe that the health care practitioners involved in the treatment process truly care about him or her as a person rather than as a disease to be treated.

Enhancing adherence

1-The WHO, in its 2003 report on medication adherence, states that "**increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatment**" [10].

2-Table-**3** lists some simple strategies for optimizing a patient's ability to follow a medication regimen. Enhancing **communication** between health care providers and the patient is a key and effective strategy in enhancing adherence [(3)].

3-Studies show that **no single intervention is adequate to ensure medication adherence** [(9)] (simplifying a dosage regimen is unlikely to affect a person who does not believe that taking medications is important or that the therapy will improve his or her health, and the available evidence shows that knowledge alone is not enough for creating or maintaining good adherence). A **combination of approaches** is the most effective [(4)].

Table-3. Strategies for improving Adherence to a Medication Regimen [(1-4)].

1-Assessing the person's understanding about the disease and the treatment regimen and then providing information where knowledge gaps exist 2-Emphasize the value of the regimen and the effect of adherence. 3-Provide simple, clear instructions and **simplify the regimen** as much as possible (minimizing the frequency of dosing, prescribing fixed-dose combination pills when possible). 4-Encourage the use of a medication-taking system (adherence aids like **Medication package** for daily or weekly doses, **wristwatch alarms** can also be programmed to signal when medication doses are due to be taken, **telephone reminder**). 5-Listen to the patient, and customize the regimen in accordance with the patient's wishes. 6-Obtain the help from family members, friends, and community services when needed. 7-Consider more "Medications with long half-life, depot (extended-release) medications, and transdermal medications" medications when adherence appears unlikely. 8-Identify poor adherence with encouraging **blame free** environment (I know it must be difficult to take all your medications regularly. How often do you miss taking them? : Look for markers of nonadherence: lack of response to medication, and missed refills.

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Arabic version of Morisky Medication Adherence Scale (MMAS-8)

السؤال	نعم	كلا
هل **تنسى أحيانا"** تناول الدواء الخاص بمشكلتك الصحية؟		
لايتناول الناس أحيانا" الأدوية الخاصة بهم لأسباب أخرى غير النسيان، هل كان هناك اية أيام **على مدى الأسبوعيين الماضيين** لم تتناول فيها الدواء الخاص بمشكلتك الصحية؟		
هل سبق لك أن **خفضت او توقفت عن تناول الدواء** الخاص بمشكلتك الصحية دون أن تخبر طبيبك وذلك لأنك شعرت بأن حالتك الصحية أصبحت اسوء عندما تناولت الدواء؟		
عندما تسافر أو تغادر المنزل، هل تنسى أحيانا" أصطحاب الدواء الخاص بمشكلتك الصحية؟		
هل **تناولت الدواء** الخاص بمشكلتك الصحية **بالأمس؟**		
عندما تشعر بأن (المشكلة الصحية لديك) **تحت السيطرة، هل تلجأ أحيانا" الى التوقف عن أستعمال الدواء؟**		
تناول العلاج بشكل يومي قد لايروق لبعض الناس **هل تشعر بعدم رضا أو أمتعاض أو تشويش بسبب ألتزامك اليومي بالدواء؟**		

كم من الأحيان **تواجه صعوبة في تذكر تناول جميع أدويتك؟**	نادرا" /أبدا"	قليلا"	أحيانا"	عادة"	دائما"

Each No answer is scored with 1 point except for the fifth question where the Yes answer is scored with 1 point. The 8th question is scored from 4-0 respectively, and then the answer is divided by 4 to get the question score. The total MMAS-8 score is calculated by the sum of the 8 questions scores. According to the scores adherence is classified into 3 categories: Low adherence (score <6)، Medium adherence (6 to <8) and high adherence (score = 8). Based on adherence levels, patients classified as adherent (MMAS-8 score = 6-8) and Non-adherent (MMAS-8 score <6).

وبعض المصادر تصنف أي سكور اقل من 8 على انهNon-adherent

Lecture No. : 2
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Gastrointestinal Conditions

1-Diarrhea

1-Diarrhea is an increased frequency of bowel evacuation with the passage of abnormally soft or watery stools [1]. Although the normal frequency of bowel movements varies with each individual, more than three bowel movements per day are considered abnormal [2].

2-Diarrhea may be **acute** (less than 14 days duration), **persistent** (14 days to 4 weeks duration), or **chronic** in nature (more than 4 weeks). Chronic and persistent diarrheal illnesses are often secondary to other chronic medical conditions (or treatments) and need medical care [2].

Causes

1-Acute diarrhea (infective diarrhea, gastroenteritis):

The most common causes of acute diarrhea are bacterial and viral infection and food toxins [3].

Viral: Rotavirus responsible for causing severe diarrhea in infants and children and the most common cause of gastroenteritis among children worldwide [3]. Rotavirus tends to be a seasonal infection, with peaks of gastroenteritis occurring between November and February. It is spread by the fecal-oral route [2]. Associated symptoms are those of a cold and perhaps a cough. The infection starts abruptly and vomiting often precedes diarrhea. [1]. Whilst in the majority the infection is usually not too severe and is self-limiting, it should be remembered that rotavirus infection can cause death. This is most likely in those infants already malnourished and living in poor social circumstances who have not been breastfed [1].
Note: vaccine is available to protect against rotavirus [3].

Bacterial: These are *the food-borne infections* (previously known as food poisoning). There are several different types of bacteria that can cause such infections: *Salmonella*, *Shigella*, pathogenic *Escherichia coli*,…….. . The typical symptoms include severe diarrhea and/or vomiting, with or without abdominal pain [1].
Antibiotics are generally unnecessary as most food-borne infections resolve spontaneously. The most important treatment is adequate fluid replacement. Antibiotics are used (by prescription only) for *Shigella* infections and the more severe *Salmonella. Ciprofloxacin* (by prescription) may be used in such circumstances [1].

Protozoan: Examples include *Entamoeba histolytica* (amoebic dysentery) and *Giardia lamblia* (giardiasis). Diagnosis is made by sending stool samples to the laboratory [1].

2-Chronic diarrhea:

There are several causes and chronic diarrhea requires medical investigation. Causes include: **Irritable-bowel syndrome** (IBS), inflammatory bowel disease (**Crohn's disease**, **ulcerative colitis**), malabsorption syndromes (such as **celiac disease**)…… [4].

Patient assessment with diarrhea

A-Age

Infants (<1 years) and elderly patients are especially at risk of becoming **dehydrated** [1]. In newborn, water comprise up to 75% of total body weight. After 8-10 bowel movements within 24 hours period, a 2-month-old infant could lose enough fluid to cause circulatory collapse ***and renal failure*** [2].

B-Duration

Diarrhea of >1 day duration in children <1 year required referral [4].
(but in babies under 3 months: refer immediately)[4].
Diarrhea of >2 days duration in children <3 years and elderly patients required referral [4].
Diarrhea of >3 days duration in older children and adults required referral [4].
Diarrhea of more than 24 hours in people with **diabetes** required referral [4].

C-Severity

Severe diarrhea (**passing 6 or more unformed stool in 24 hours**) required referral [2].

D-Periodicity

A history of recurrent diarrhea of no known cause ---------should be referred for further investigations [5].

When to refer [1]
Diarrhea of greater than:- 1 day's duration in children younger than 1 year. 2 days' duration in children under 3 years and elderly patients. 3 days' duration in older children and adults. -Association with severe vomiting and fever. -Recent travel abroad. -Suspected drug-induced reaction to prescribed medicine. -History of change in bowel habit. -Presence of blood or mucus in the stools. -Pregnancy.

E-Associated symptoms

The presence of ***blood*** or ***mucus*** in the stools is an indication for referral for further investigations [1].
Diarrhea with severe ***vomiting*** or with ***high fever*** required referral for further investigations [1].
Diarrhea with ***severe abdominal pain*** required referral for further investigations [5].

F-Recent travel abroad

Diarrhea in patient who has ***recently travelled*** abroad requires referral since it may be infective in origin (**Traveler's diarrhea**) [1].

G-Signs of dehydration [3]

Patient with signs or symptoms of debilitating dehydration required referral (table1-5).

Table1-5: Symptoms of dehydrations in children and adults [3]	
children	**adults**
Dry mouth, tongue and skin Fewer or no tears when crying Decreased urination (less than 4 wet diapers in 24 hours) Sunken eye, cheeks or abdomen sunken fontanel decreased skin turgor irritability or listlessness	Increased thirst Decreased urination Feeling weak or lightheaded Dry mouth/ tongue

H-Medication [1]

Medicines already tried: The pharmacist should establish the identity of any medication that has already been taken to treat the symptoms in order to assess its appropriateness**.**

Other medicines being taken:

Details of any other medication being taken (both OTC and prescribed) are also needed, as the diarrhea may be ***drug induced*** (Table 1-6).

Table1-6: Some drugs that may cause diarrhea [1].
Antacids: *Magnesium salts*
Antibiotics
Antihypertensives: *methyldopa*; beta-blockers (rare)
Digoxin (toxic levels)
Diuretics (*furosemide*)
Iron *preparations*
Laxatives
Misoprostol
Non-steroidal anti-inflammatory drugs
Selective serotonin reuptake inhibitors

Treatment timescale

One day in children, otherwise 2 days [1].

Management

A-Advices for patients suffering from diarrhea [4]

1-Drink **plenty of clear fluids**, such as water.

2-**Avoid drinks high in sugar** as these can prolong diarrhea.

3-**Avoid milk** and milky drinks, as a temporary lactose intolerance occurs due to damage done by infecting organisms to the cells lining the intestine, making diarrhoea worse.

4-**Babies should continue to be fed as normal**, whether by breast or bottle.

B-Oral rehydration therapy

1-The risk of dehydration from diarrhea is greatest in babies, and **rehydration therapy** is considered to be the standard treatment for acute diarrhea in babies and young children [1].

2-Oral rehydration sachets may be used **with antidiarrheals** in older children and adults [1].

3-Rehydration may still be **initiated even if referral** to the doctor is advised [1].

A premixed solutions [2] or Sachets of powder for reconstitution are available; these contain sodium as chloride and bicarbonate, glucose and potassium. The absorption of sodium is facilitated in the presence of glucose [1].

4-Table1-7 provides the volumes required per watery stool [1].

5-**Reconstitution of ORS**: Only water should be used to make the solution and that boiled and cooled water should be used for children < 1 year [1].

Table1-7:Amount of rehydration solution to be offered to patients. [1].

Age	Quantity of solution (per watery stool)
Under 1 year)	50 mL (quarter of a glass
1–5 years	100 mL (half a glass)
6–12 years	200 mL (one glass)
Adult	400 mL (two glasses

6-**Stability of ORS after reconstitution**: To avoid risk of possible exposure hour after 1to further infection, the solution should be discarded not later than reconstitution, or it may be kept for up to 24 hours if stored in a refrigerator. [9].

7- If the child is **vomiting**, give 1 teaspoon of ORS every few minutes [2].

C-Antimotility Drugs:

1-Loperamide, **and Co-phenotrope** (Diphenoxylate+Atropine) [Atropine is included at a subtherapeutic dose **to discourage abuse** (unpleasant antimuscarinic effects will be experienced if higher than recommended doses are taken)] [4].

2-Loperamide is considered an OTC drug only for patient of > 12 years old [1].

Adult dose: Initially 2 tablets (4 mg) followed by 1 tablet (2 mg) after each loose stool (max. 8 tablets / day) [6].

3-Co-phenotrope is considered an OTC drug only for patient of > 16 years old [1, 6].

B-Adult doses: 4 tablets initially followed by 2 tablets every 6 hours [6] .

D-Adsorbents: Like Pectokaolin® (pectin +kaolin)

Adsorbents such as kaolin **are not recommended for acute diarrheas** [6].

Extra-Notes:

A-Probiotics (dietary supplement): Probiotics are **dietary** supplements containing bacteria (including several *Lactobacillus* species) that may promote health by enhancing the normal microflora of the GI tract while resisting colonization by potential pathogens [7]. Probiotics have been shown to decrease the duration of infectious and antibiotic-induced diarrhea (AAD) in adults and children (however; the use of probiotics to treat and prevent AAD is controversial [8].

B-Use of zinc in children with diarrhea: Several large studies performed in **developing countries** have shown that daily zinc supplementation in young children with acute diarrhea reduces both the **duration** and **severity** of diarrhea [2, 3]. The **WHO/UNICEF** recommends that children with acute diarrhea also receive zinc (10 mg of elemental zinc/day for infants younger than 6 months; 20 mg of elemental zinc/day for older infants and children) for 10 to 14 days [2, 3].

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2-Irritable Bowel Syndrome (IBS)

1-Irritable Bowel Syndrome is defined as: a functional bowel disorder in which **abdominal pain** is associated with **abdominal distention** and a **change in bowel habit (**diarrhea and constipation may occur; sometimes they alternate) [1, 2].

2-The two main classifications of IBS are IBS with constipation predominant (**IBS-C**) and IBS with diarrhea predominant (**IBS-D**). Some patients may also have IBS with alternating diarrhea and constipation (**IBS-A**) [3].

Adult prevalence rates in Western countries are reported to be between 10% and 20%, with approximately twice as many women than men affected [2].

3-The cause is unknown [1]. Some possible causes include genetic mutations, abnormal GI motility, enhanced gut pain sensation (visceral hypersensitivity), or psychological changes. Most likely a **combination of these factors leads to IBS** [3].

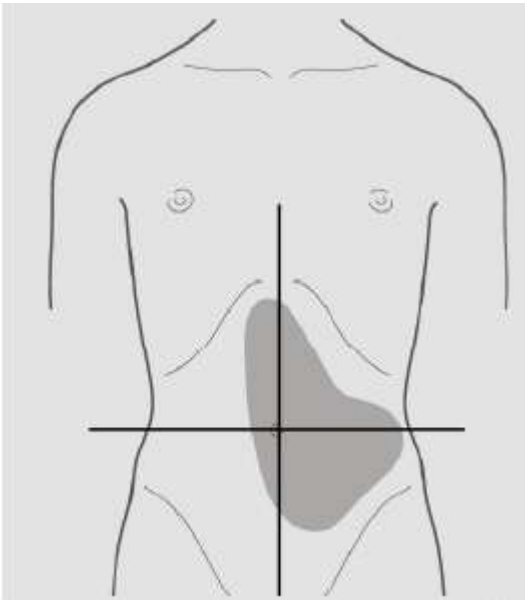

Figure1-9: The position of pain associated with irritable bowel syndrome [2].

Patient assessment with IBS

A-Age:

Because of the difficulties in the diagnosis of abdominal pain in children [1], it is best to refer children ***less than 16 years*** [2].

IBS often develop in **young adult life** [1]. If an older (**above 45**[2]) person presenting with for **the first time** with no previous history of bowel problems, referral should be made [1].

B-Symptoms:

IBS has three Key symptoms: **abdominal pain**, **abdominal distention/bloating** and **disturbance** of **bowel habit** [1].

1-Abdominal pain: The pain can occur anywhere in the abdomen. It is often central or left sided and can be severe [1] (pain normally located in the **left lower quadrant**) (figure1-9) [2].

The site of pain can vary from person to person and even for an individual [1]. Sometimes the pain comes on after eating and can be relieved by defecation [1] or the passage of wind [2].

2-Bloating: A sensation of **bloating** is commonly reported. Sometimes it is so severe that clothes have to be loosened [1].

3-Bowel habit: Diarrhea and constipation may occur; sometimes they alternate. A **morning rush** is common, where the patient feels an urgent desire to defecate several times after getting up in the morning and following breakfast, after which the bowel may settle .There, may be a feeling of incomplete emptying after a bowel movement. The motion is often described as loose and **semiformed** rather than watery. Sometimes it is like pellets or rabbit dropping, or pencil shaped. There may be a mucus but **never blood** [1].

4-Other symptoms: Some patients may also complain of nausea, and other unrelated symptoms such as: backache, feeling tiered, urinary urgency, and the need to pass urine during the night.
Patient with ***unexplained weight loss***, or with ***signs of bowel obstruction*** (like vomiting) required referral for further investigation [1].

C-Periodicity:
IBS tend to be episodic. The patient might have a history of being well for a number of weeks or months in between bouts of symptoms [2].

When to refer [1, 2]
-Children
-Older person with no previous history of IBS
-Pregnant women
-Blood in stools
-Unexplained weight loss
-Caution in patients aged over 45 years with changed bowel habit
-Signs of bowel obstruction
-Unresponsive to appropriate treatment
-Fever .

D-Previous history:
To know whether the patient has consulted the Dr. about the symptoms and if so, what they were told. Any history of **previous bowel surgery** would suggest a need for referral [1].

E-Aggravating factors:
Stress appears to play an important role and can precipitate and exacerbate symptoms. Also some types of food may aggravate IBS [1].

F-Pregnant women: required referral for further investigation [1].

G-Medication [1]**:**
To know:
1-What had been tried to treat the condition and whether it produced an improvement. (Unresponsive to appropriate treatment required referral).
2-Other medicines (IBS is associated with depression and anxiety in many patients).

Treatment timescale

Symptoms should start to improve within a **week** [1].

Management

A-Diet:

Patient with IBS should follow the recommendation for a healthy diet (**low fat**, low **sugar**, **high fiber**). In addition patient should avoid any food **they know to exacerbate their symptoms** [1]. Various foods such as beans, and fatty meals, and gas-producing foods such as legumes, may aggravate symptoms in some patients. This has led many patients to exclude these suspected aggravating foods from their diet although the effectiveness of such practices remains controversial [3].

B-Antispasmodics:

Antispasmodics (table1-14**)** [2] **are the main stay of OTC treatment of IBS**. They work by a direct effect on the smooth muscle of the gut, causing relaxation and thus reducing abdominal pain. The patient should see an improvement within a few days of starting treatment [1].

1-Mebeverine: It is given in a dose of 135 mg (1 tablet) three times a day, **preferably 20 minutes before meals** [1].

2-Alverine citrate: Alverine citrate is given in a dose of 60–120 mg (one or two capsules) up to three times a day [1].

3-Pippermint oil capsules: Capsules containing 0.2 mL of the oil are taken in a dose of one or two capsules three times a day, 15–30 min before meals [1].

4-Hyoscine butylbromide: The recommended dose for adult is one tablet(10 mg) three times a day , although this can be increased to two tablets four a day if necessary [2].

Table 1-14: Practical prescribing: Summary of IBS medicines [2]

Name of medicine	Likely side effects	Drug interactions of note	Patients in which care is exercised
Hyoscine	Constipation and dry mouth	Tricyclic antidepressants, neuroleptics, antihistamines and disopyramide	Glaucoma, myasthenia gravis and prostate enlargement
Mebeverine	None	None	None
Peppermint oil	Heartburn	None	None
Alverine	Rash	None	None

C-Laxatives and antidiarrheals:

1-In addition, Bulk-forming and stimulant laxatives can be used to treat constipation predominant (IBS-C) [2]. Insoluble fiber (e.g. bran) may exacerbate symptoms and its use should be discouraged [4].
2-Use of OTC antidiarrheals such as **loperamide** is appropriate only on an occasional, short-term basis [1].

D-Compound preparations:

Bulking agents are also available in combination with antispasmodics [1].
e.g. **Fybogel® Mebeverine:** effervescent Granules (in sachets), contain ispaghula husk (Bulk-forming laxatives) and mebeverine hydrochloride [4].

Dose: 1 sachet in water, morning and evening 30 minutes before food; an additional sachet may also be taken before the midday meal if necessary [4].

E-Probiotics:

Probiotics such as ***lactobacillus*** and ***Bifidobacterium*** have also been promoted for IBS. The studies showed that probiotics appear to be effective however the size of the effect need to be established [2].

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Overview of herbal medicine and dietary supplements

Introduction

1-Plants have been used for medicinal purposes **for thousands of years**. All major cultures have used botanicals for healing purposes. As an example, saw palmetto was used for urinary symptoms in men from Egypt in the 15th century BC. Hippocrates documented the use of St. John's wort for mood ailments in the 5th century BC [(1)].

2-**Over 120 conventionally** used pharmaceuticals are derived **from plant species** [(1)].

3-Many terms have been used to describe DS, including **nutraceuticals**, **natural products**, **supplements**, **herbs**, **botanicals**, and **phytochemicals**. Dietary supplements are most often grouped into the natural products category of **Complementary and Alternative Medicine** (CAM) [(2)].

4-The Food and Drug Administration (FDA) defines dietary supplements (DS) as products intended to supplement the diet that contain one or more of the following dietary ingredients: **vitamins**, **minerals**, **herbs** or other **botanicals**, and **amino acids** [(2)].

Regulation

1-The Dietary Supplements are placed in a distinct category from drugs. Labels of dietary supplements are required to state: "**this product in not intended to diagnose, treat, cure, or prevent any disease**." [(1)]. (**further reading 1**).

2-However, product labels are allowed to make health claims, such as "**promotes prostate health**" or "**supports the circulatory system.**" [(1)].
A supplement manufacturer may claim that the product "**supports healthy cholesterol levels**" but is **prohibited** from indicating that the supplement may "reduce high cholesterol levels." [(2)].

3-In general, **regulation** of the quality of herbal products is significantly **greater in the European Union than in the United States** [(1)].

A-A **premarket evaluation of quality and safety** of the product is required. Companies need to carry out **post-marketing** surveillance and report serious adverse events. Indications for these over-the-counter herbal products are for minor conditions not usually requiring a clinician's care [(1)].

B-In **USA**, makers of dietary supplements are **not** required to prove efficacy, safety, or quality of a product **prior to marketing**. Supplement manufacturers are also **not obligated to report post-marketing** adverse events to the FDA [(1)].

4-Over two-thirds of countries sold herbal medicines without requiring a prescription. There are relatively few **herbal medicines available by prescription only** (eg, saw palmetto, ginkgo, St. John's wort) [(1)].

Labeling حسب التعليمات العراقية

See **further reading 2**

Top Selling Dietary Supplements

The following natural products were the **10 most commonly used** by United States adults [(1)] :

1-Fish oil	2-Glucosamine or chondroitin		3-Probiotics or prebiotics
4-Melatonin	5-Coenzyme Q-10		6-Echinacea
7-Cranberry	8-Garlic	9-Ginseng	10-Ginkgo biloba

Quality and efficacy

There is substantial **variation in the quality of commercially available products**. Variability in product quality can impact the product's efficacy, safety, and therefore clinical usefulness [(1)].

Quality:

There are multiple factors affect the quality of an herbal product [(1)]:

A-Plant species used — Several common herbal products are drawn from **closely related species**. As an example, studies of echinacea for the treatment and prevention of the common cold utilize *Echinacea purpurea*, and *E. pallida*. The relative **pharmacologic activity of these different species is unclear**. Serious injury also has resulted from the **misidentification** of other plant species and subsequent mislabeling [(1)].

B-Plant parts used — **Different plant parts from the same species may have different pharmacologic activity**. As an example, **echinacea** products vary according to the proportion of root and aerial parts used. The relative activities of these different parts of the same plant are uncertain [(1)].

C-Harvesting and storage conditions — The strength of a plant's pharmacologic activity may also vary according to where it **was raised, when it was harvested, and the length of time it was stored**. Plant products and their active constituents can vary from year to year due to climatic changes involving rainfall, sunlight, and even genetic composition. Problems with **prolonged storage may also lead to microbial contamination** [(1)].

D-Processing — **Different processing techniques can result in different chemical composition of the final product**. Herbs can be processed and formulated multiple

ways. Whole herbs can be homogenized and extracted using solvents (eg, alcohol, glycerol, acetone, water). These extracts can be dried and encapsulated, or made into liquid tinctures. Whole herbs can also be eaten or consumed as teas [(1)].

E-Accuracy of labeling — Multiple reports of inaccurate herb labeling have been documented. As an example, in a study of valerian products, 4 out of 17 products tested **had no detectable levels of the expected valerenic acids**, while another four had only **one-half the expected amount** [(1)].

Some products contained **a different plant species** and did not contain the labeled product. Furthermore, many brands of the same herb have **labeling recommendations that vary greatly** [(1)].

F-Standardization — Herbs are complex substances with dozens or hundreds of chemical constituents. Often it is unclear which of these chemicals play an important role in the herb's pharmacologic activity. **Some herbal products are standardized to contain a specified amount** of one or two chemicals or chemical groups thought to be the active ingredients for the herb. Examples include **ginkgo** extracts standardized to 24 percent flavonoid glycosides and 6 percent terpenoids [(1)].

Even when herbal preparations are labeled "standardized," there may be significant variation [(1)].

G-Purity — Reports of herbal medicines containing pharmaceuticals have occurred. Notable examples include the combination product PC-SPES ®used for prostate cancer that was found to contain diethylstilbestrol (DES) [(1)].

Reports of lead, mercury, and arsenic contamination in imported traditional Chinese and Indian herbal products have also occurred [(1)].

Efficacy

Prior to 2000, a number of predominantly European studies suggested efficacy for common herbs such as echinacea for upper respiratory infection, saw palmetto for benign prostatic hyperplasia, ginkgo for dementia, and St. John's wort for depression. **However, more recent accurate studies of standardized well-defined preparations suggest the contrary** [(1)].

Several herbal medicines and dietary supplements in an accurate studies show **therapeutic promise** [(1)].:

●**Soy** products (*Glycine max*) for treating **hypercholesterolemia**.

●**Ginger** (*Zingiber officinale*) for **antiemetic** efficacy in various situations that can produce nausea and vomiting (eg, postoperative, chemotherapy, motion sickness, pregnancy).

●**Probiotics** for various gastrointestinal conditions such as infectious diarrhea, and irritable bowel syndrome.

●**Fish** oils containing omega-3 fatty acids such as eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) for **reduction in cardiovascular risk**.

Hazards from Dietary Supplements

A-False Advertising/Quackery

1-Manufacturers who make DS health claims sometimes ignore the regulations (**all advertising to be truthful, not misleading, and based on sound scientific evidence**) and market products using false or misleading claims (The **weight loss** DS market is one example in which false or misleading health claims are commonly identified) [(2)].

2-Historically, this type of practice might be considered "**quackery**," which implies that the person promoting use of the product knows it to be ineffective and is still promoting its use (**further reading 3**) [(2)].

3-Consumers and providers should be **wary of information found on online sites** that market DS products (**may lack referenced information**) [(2)].

4-Consumers should be wary of products that contain any of the characteristics listed in table 1 [(2)].

Table 1:Characteristics of Supplements Making Fraudulent or Misleading Claims [(2)].

1-**List a wide variety** of unrelated clinical conditions for use. 2-State **only benefits** and **no harmful** effects. 3-**Neglect to provide expiration date**, lot number, and contact information for the manufacturer on the package label. 4-Use **pseudomedical terminology** such as detoxify, purify, or improves body chemistry. 5-Use terms such as **revolutionary therapy** which suggest that the product has superior efficacy to standard care. 6-Use **personal testimonials** in place of sound scientific evidence to support product claims. 7-Promise **quick relief** of a health condition. 8-Promote **natural content as being superior to conventional medicine**.

5-FDA has also created supplement categories that should be viewed with scrutiny because of a history of prior violations or problems. These supplement categories are listed in table 2 [(2)].

Table **2:Categories of Supplements That FDA Considers "Clearly Problematic"** [(2)].

1-Treatments for life **threatening diseases** (e.g., HIV or cancer) or **serious** medical conditions (e.g., diabetes, Alzheimer's disease) 2-**Weight loss** products 3-**Chelation** products 4-Treatments for **behavioral disorders** (e.g., attention deficit/ hyperactivity disorder) or autism 5-Supplements for **body builders** 6-Supplements for **sexual enhancement** (e.g., impotence).

B-Hazards Introduced by the Consumer

1-**Exceeding the recommended dietary allowance** for a vitamin or mineral supplement or taking more of a supplement than is directed on the label can occur **intentionally** or **accidentally** (a consumer is taking more than one multi-ingredient product containing similar ingredients) [(2)].

2-Overuse of some DS has serious consequences. For example, **overuse of calcium or vitamin D supplements** over short periods may cause **hypercalcemia**. In addition, concern exists that excessive calcium supplementation over long periods of time may contribute to coronary artery calcification [(2)].

C-Product Hazards: Adverse Effects and Drug Interactions

1-The fact that herbal DS are derived from a natural source **does not guarantee safety** [(2)].

2-Adverse effects are often linked to the pharmacology of the supplement, as was noted when products containing **ephedra were removed from the market because of their association with stroke and myocardial infarction** [(2)].

3-Other DS may be harmful because they contain **chemicals that are toxic** when ingested. For example adulteration with prescription or nonprescription drugs; or contamination with heavy metals, microbial contaminants, and pesticides that can occur during production [(2)].

4-**Interactions between DS and conventional medications** may have a pharmacodynamic or pharmacokinetic basis. For example, in persons combining drugs that have antiplatelet or anticoagulant activity with **DS that have antiplatelet properties** (e.g., fish oil, garlic, ginseng, ginkgo, and ginger) [(2)].

5-**St. John's wort induces multiple cytochrome P450 isoenzymes**. This herb has been reported to induce metabolism of drugs, including oral contraceptives and cyclosporine, thereby lowering drug levels and overall drug efficacy [(2)].

Considerations for Special Population Groups

The lack of data on safety and efficacy in these groups underscores the need for comprehensive assessment of the consumer's health status and knowledgeable counseling [2].

A-Older Adults

1-Older adults may have age and disease related physiologic declines such as impaired kidney function. Older individuals may be chronically taking **multiple prescription** and nonprescription drugs, making a thorough medical history essential [2].

2-The potential for **drug-food** and **drug-DS interactions**, age related functional declines, and concomitant diseases should be considered in counseling older adults about DS [2].

3-Products that are likely to be used in older adults include fish oil or omega3 fatty acids, glucosamine, gingko, garlic, saw palmetto in men, and flaxseed and soy supplements in women [2].

Children

1-Use of DS by children presents unique challenges. **Little research is available regarding the safe and effective use of DS in children**, making evidence based recommendations difficult [2]. Additional concerns are proper dosing in this age group [1].

Pregnancy and Lactation

1-Although many natural products have been used in pregnancy, little published data exist on their safety with regard to the developing embryo and fetus [2].

2-**Women who are pregnant or lactating should generally be discouraged from using herbal treatments** [1].Currently, providers should advise women to limit their use of DS to products that have reasonable proof of safety and efficacy for use during pregnancy and lactation [2].

3-Products that are likely to be used in pregnant women include fish oil, ginger, and tea formulations of raspberry leaf, peppermint, and chamomile [2].

Kidney Disease/ Liver Disease

1-Most commonly, patient with liver or renal disease may be unable to eliminate the drug appropriately, potentially resulting in supratherapeutic concentrations [2].

2-No DS have been found to be clinically effective in reversing liver disease or in preventing liver damage [2].

Surgery

1-A detailed preoperative history that includes questions related to DS use should be obtained from all patients undergoing surgery.

2-Supplements that are known to affect sedation or **platelet function** (eg, ginkgo, ginseng, garlic), or that may possibly **affect the metabolism of anesthetic agents** (eg, St. John's wort) should be **discontinued 2 weeks prior to the procedure** [1, 2].

Commonly used Natural Products [2]

		Therapeutic Uses
1	**Fenugreek**	Fenugreek has been used for diabetes, hyperlipidemia, and stimulation of breast milk production
2	**Glucosamine and Chondroitin Sulfate**	Glucosamine is marketed primarily for osteoarthritis.
3	**Saw Palmetto**	Saw palmetto has been used to treat BPH.
4	**Cranberry**	Cranberry has been used to prevent and treat urinary tract infections (UTIs).
5	**Green tea**	Green tea is considered a performance enhancer because of the stimulant effect from caffeine. Green tea has also been used to prevent cardiovascular disease, cancer, and liver disorders.
6	**Ginseng**	Asian ginseng has been used to improve mental and physical stress, anemia, diabetes mellitus, immune response, insomnia, and impotence, and for cancer prevention.
7	**Echinacea**	Echinacea is used to prevent and treat colds and other respiratory infections.
8	**Ginger**	The primary use of ginger has been to relieve nausea and vomiting associated with pregnancy, motion sickness, chemotherapy, and surgery. Ginger has also been used for indigestion, colic, and arthritis.
9	**St. John's Wort**	SJW is used to treat depression, pain, anxiety, obsessive compulsive disorder, menopause symptoms, and premenstrual syndrome
10	**Ginkgo (Ginkgo biloba)**	Ginkgo has been used for Alzheimer's disease, vascular dementia, intermittent claudication, tinnitus, acute mountain sickness, and age related macular degeneration
11	**Fish Oil (a source of omega3 fatty acids)**	Fish oil is used to lower TG levels, improve cardiac health, and relieve inflammatory conditions, such as rheumatoid arthritis
12	**Garlic**	Garlic is used to treat hyperlipidemia, hypertension, and type 2 diabetes mellitus, and for improvement of immune function and prevention of various cancers
13	**Coenzyme Q10**	Consumers use CoQ10 for cardiovascular conditions and as a general antioxidant. It has been investigated for use in Parkinson's disease, breast cancer, migraine prevention, and reduction of chemotherapy associated Adverse effects.

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Further reading

1-These claims would require the product to adhere to the regulations related to a drug, and the product would be subject to all the regulatory processes necessary to demonstrate safety and efficacy [(2)].

2-

يجب ذكر المعلومات التالية باللغة **الانكليزية** و العربية

المعلومات المطلوب ذكرها النشرة الداخلية للمستحضر النباتي (ان وجدت)	**المعلومات المطلوب ذكرها على الغلاف الخارجي للمستحضر النباتي**
1-الاسم التجاري 2-الاسم / الاسماء العلمية 3-اسماء المواد الفعالة باللغة اللاتينية والاسماء الانكليزية الشائعة وتراكيزهااسماء المواد الغير فعالة وتراكيزها 4-دواعي وموانع الاستعمال واي تداخلات دوائية 5-محاذير بشان الاستخدام 6-احتياطات ومحاذير خاصة بشان الاستخدام في الحوامل والمرضعات والاطفال وكبار السن والحالات المرضية الخاصة التي تتاثر باستخدامه 7-الجرعة الزائدة وكيفية التعامل معها حيثما يلزم 8-طريقة اعطاء المستحضر موضحا الجرعة و فترة الاستخدام حيثما يلزم 9-الاثار الجانبية 10-الشكل الصيدلاني وحجم العبوة 11-تحذيرات بضرورة ابعاد المستحضر عن متناول يد الاطفال 12-اسم المسوق و / او الشركة المصنعة وعنوانه (البلد والمدينة / او المنطقة) 13-اذا كانت المعلومات اعلاه قد ذكرت على العبوة الخارجية او الداخلية فلا داعي لارفاق نشرة داخلية	1-عدم وجود اي دلائل علاجية للمستحضر على الغلاف الخارجي 2-عدم وضع اي رسومات ايحائية تدل على خواص علاجية للمستحضر وبالامكان كتابة عبارة بالامكان استخدامه في حالات او ممكن استخدامه في حالات ... الخ (may be benefit for , may be used for …) 3-الاسم التجاري 4-الاسم او الاسماء العلمية 5-اسماء المواد الفعالة ونسبها الداخلة في تركيبة المستحضر النباتي 6-اسماء المواد الغير فعالة ونسبها 7-الشكل الصيدلاني وحجم العبوة 8-الجرعة وطريقة الاعطاء والاستعمال 9-رقم الوجبة 10-تاريخ التصنيع(شهر / سنة) 11-تاريخ انتهاء الصلاحية (شهر / سنه) 12-ظروف الخزن 13-اسم المسوق و / او الشركة المصنعة وعنوانه (البلد / المدينة او المنطقة) 14-وضع عبارة مكمل غذائي باللغة العربية والانكليزية على الغلاف الخارجي للمستحضر بخط ولون واضح ويصعب ازالته.

3-In the case of some DS, manufacturers may believe, with or without strong clinical support, that their products are effective for a wide variety of ailments [(2)].

Hypercholesterolemia —

1-Enhanced hepatic synthesis of lipoproteins containing apolipoprotein B and cholesterol has been thought to account for most of the rise in cholesterol levels [4,11,15].

2-Diminished catabolism contributes to hypercholesterolemia in patients with the nephrotic syndrome..

صيدلة سريرية
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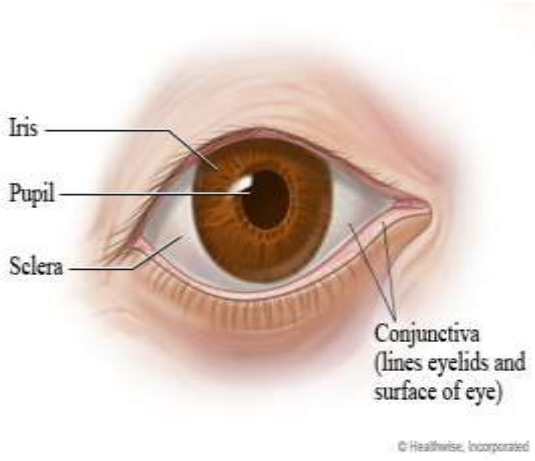
Minor Eye Disorders

1-Conjunctivitis

Conjunctivitis (bacterial, viral and allergic forms) is the most common ocular condition encountered by community pharmacists [1].



Conjunctivitis is an acute inflammation of the conjunctiva, the transparent surface **covering the white of the eye** and the **inside of the eyelids.** In the conjunctiva there are tiny blood vessels, which are normally almost invisible .The conjunctiva, can become inflamed due to infection, allergy or irritation. The blood vessels dilate and become more obvious, making the **eye look red or pink** [2]. **Pharmacist should differentiate types of conjunctivitis**, and to diagnose the cases that required referral [1].

Patient Assessment with Red Eye:

A-Duration: Minor eye problems are usually self-limiting and resolve within a few days .therefore, any ocular redness (apart from Subconjunctival hemorrhage, and allergic conjunctivitis) that **last more than 1 week requires referral** [1].

B-Discharge: Most commonly seen in conjunctivitis. It can vary from watery to mucopurulent depending on the type [1]. (table -1)
Mucopurulent discharge is more suggestive of bacterial conjunctivitis especially if the eyes are **glued together** [1].

However, patient with copious purulent discharge that re-accumulates after being wiped away required referral [2].

C-Associated rhinitis: Sign and symptoms of an upper respiratory tract infection points towards viral cause of conjunctivitis [1]. (table -1)

D-Visual changes: Any **loss of vision**, **photophobia**, or **haloes around the objects** required referral [1].

When to refer (red eyes) [1].
-Clouding of the cornea
-Associated vomiting
-Redness caused by a foreign body
-Irregular-shaped pupil or abnormal pupil reaction to light
-Photophobia
-True eye pain
-Distortion of vision
-Redness localized around the pupil

E-Pain/discomfort/itch: **True pain** required referral [1].
Pain associated with conjunctivitis is often described as a gritty/ foreign-body type pain [1].(see the table -1)

F-Location of redness: Redness localized near or around the pupil (colored part of the eye) required referral [1].Generalized redness or redness towards the corners of the eye is more indicative of conjunctivitis [1]. (See the table1 below)

Table -1: symptoms help to distinguish the different type of conjunctivitis [1]:

	Bacterial	**Viral**	**Allergic**
Eyes affected	Both , but one eye affected first by 24–48 hours	both	both
Discharge	purulent	watery	watery
Pain	Gritty feeling	Gritty feeling	itching
Distribution of redness	Generalized and diffuse	Generalized	Generalized
Associated symptoms	None commonly	Cough and cold symptoms	Rhinitis (may also have family history of atopy)

Management

A-Bacterial conjunctivitis.

Nonpharmacological advices [1].

1-**Bathe the eyelids with lukewarm water** to remove any discharge.
2-Tissues should be used to **wipe the eyes** and thrown away immediately.
3-**Avoid wearing contact lenses** until symptoms have resolved.
5-**Wash hands** regularly and **avoid sharing pillows** and **towels**.

Pharmacological therapy:
Chloramphenicol Eye Drop and ointment:

Note: Bacterial conjunctivitis is regarded as self-limiting (65% of people will have clinical cure in 2 to 5 days with no treatment) yet antibiotics are routinely given by medical practitioners (and pharmacists) as they are considered clinically desirable to speed recovery and reduce relapse [1].

1-In 2005, chloramphenicol eye **drops** and in 2007 chloramphenicol **ointment** became OTC in the UK [1].

Dosage: The dosage for the OTC product (for adults, and children aged two years and over) **is 1 drop every 2 hours for the first 48 hours, then 1 drop every 4 hours for a further 3 days.** Patients can be advised that (**Sleep need not be interrupted** in order to administer eye drops) [3].The course should be **completed even if symptoms improve** [4].

The ointment, if used **in conjunction with the drops**, should be only applied **at night** . approximately 1 cm of ointment should be applied to the inside of the eyelid, after which blinking several times will spread the ointment [(1)].

If ointment used alone, then the ointment should be used **3 or 4 times a day** [(1)].

In pregnancy and breastfeeding there is a lack of manufacturer data for them to recommend their use. Practically, during pregnancy hygiene measures should be adopted and if absolutely necessary they can be used in breastfeeding women [(1)].

Treatment timescale:

If the symptoms do not improve within **two days**, the patient should be referred [(3)].

Adverse effects:

Side-effects such as mild stinging or burning in the eye on application and blurring of vision are usually minor and transient [(4)].

Note: Patients with glaucoma or who have had eye surgery or laser treatment in the past six months required referral [(2)].

B-Allergic conjunctivitis:

Nonpharmacological advices:

Applying **cold compresses** to the eye 3-4 times daily will reduce redness and itching. Other measure includes avoiding or reducing the exposure to the causative allergen [(5)].

Pharmacologic-therapy

These include **Mast cell stabilizers** (sodium cromoglicate), **Sympathomimetic** e.g. Naphazoline , **Anti-histamine** (Antazoline) , and **Decongestants—antihistamine** combination (Naphazoline-Antazoline) [(1)].(See table -2)

C-Viral conjunctivitis:

Viral conjunctivitis is usually self-limiting, with symptoms resolving over 2-3 weeks [(5)].

Nonpharmacological advices:

Viral causes are highly contagious and the pharmacist should instruct the patient to follow strict hygiene measures (e.g., not sharing towels, washing hands frequently),which will help control the spread of the virus [(1)].

Pharmacologic-therapy

Viral conjunctivitis is treated by **ophthalmic decongestant** which had been discussed under allergic conjunctivitis [(4)].

Table -2: Doses of some eye drops used for allergic conjunctivitis [1].		
Drug	**Use in children**	**Dose**
Mast cell stabilizers (sodium cromoglicate)	>6 years	1 drop four times daily
Sympathomimetic : Naphazoline	>12 years	1 drop 3-4 times daily
Anti-histamine : Antazoline	>12 years	1 drop 2-3 times daily
Decongestants—antihistamine : (Naphazoline-Antazoline)	>12 years	1 drop 2-3 times daily

Table -3:Hints about conjunctivitis [1].	
Children and school	children with conjunctivitis do not need to be kept away from schools.
Contact lens wearers	Patients who wear soft contact lenses should be advised to stop wearing them while treatment continues and for 48 hours afterwards. This is because preservatives in the eye drops can damage the lenses.
Chloramphenicol drops	These must be stored in the fridge. If they are put into the eye cold it will be uncomfortable, so patients should be told to remove them from the fridge prior to use to allow them to warm up to room temperature.

2-Dry Eye

Dry eye is among the most common disorders affecting the anterior eye [5].the condition **is chronic with no cure** [1].

Essentially, a reduction in tear volume or alteration in tear composition causes dry eyes. Underproduction of tears can be the result of increased evaporation from the eye, increased tear drainage and a decrease in tear production by the lacrimal gland [1].

Patient Assessment with Dry Eye:

A-Age: Dry eye is most often associated with **aging process**, especially postmenopausal women [5]. **Dry eye is rare in children and required referral** [1].

B-Symptoms: Usually affecting both eyes. Symptoms that are frequently reported are eyes that **burn, feel tired , itchy, irritated (**decreased tear production results in irritation and burning) **or gritty** and **feel as if something is in the eyes** [1, 6].

C-Clarifying questions: Have you had daily, persistent, troublesome dry **eyes for more than 3 months**? Do you have a **recurrent sensation of sand or gravel in the eyes**?

A positive response to at least one of these questions would indicate dry eye syndrome [1].

D-Associated Symptoms: **Normally no other symptoms are present in dry eye**. If the patient complains of a dry mouth, check for medication that can cause dry mouth (table -4). If medication is not implicated, then symptoms could be due to an autoimmune disease [1].
Sometimes the lower eyelid turns outward (a condition called **Ectropion**), this will over expose the conjunctiva to atmosphere leading to eye dryness. Referral is required [1].

Management:
Dry eye are managed by instillation of **artificial tear preparations.** They act by stabilizing the tear film and decreasing tear evaporation) [5].

Table -4: Medication that can cause dry eye [1].
-Diuretics -Drugs that have an anticholinergic effect – e.g., tricyclic antidepressants (TCAs) and antihistamines -Isotretinoin -HRT (particularly oestrogen alone) -Androgen antagonists -Cardiac arrhythmic drugs, beta-blockers -Selective serotonin reuptake inhibitors (SSRIs)

Drops can be divided into those which contain a **preservative and those which do not (i.e. preservative free).**
The preservative is nearly always **benzalkonium chloride**, usually present at 0.01 per cent. **Preservatives can damage the corneal epithelium.** If a patient is likely to be using artificial **tears for a long time**, a preservative-free preparation should be considered [6]. **Examples** of the compound used are:

When to refer [1]
-Associated dryness of mouth and other mucous membranes -Outward turning lower eyelid

1-Hypromellose (hydroxypropylmethylcellulose): (Tears Naturale ® eye drop)
2-Polyvinyl alcohol (Liquifilm Tears® eye drop)
Patients with **mild** dry eye may benefit from instillation of one of these artificial tear drops up to **four times** a day. However, in **moderate to severe** cases, these preparations need to be instilled more frequently [7].

3-Carbomers: (Liquivisc ® Gel : Viscotears ® gel): To overcome the problem of frequent instillation , preparations containing **a longer-acting polymer**, known as **carbomer** , have been introduced. Such preparations have a much longer retention time in the eye and symptom relief is obtained with **significantly fewer instillations** [7].

4-Lubricating ointments: Ophthalmic lubricating ointments contain white **soft paraffin (**Lubri-Tears ®Eye ointment), **lanolin and liquid paraffin**. These preparations **melt at the temperature of the ocular tissue** and are retained longer than other ophthalmic vehicles. They are not generally recommended as tear substitutes during **the day because the vision is blurred after instillation**. They are, however, a useful adjunct to artificial tears **if used at bedtime** [7].

3-Eyelid Disorders:

A-(Stye and Chalazion):

Styes are caused by bacterial infection and can either be external (outside the surface of the eyelid) or internal (in the inner surface of the eyelid) [1]. Internal stye generally has a more prolonged course than external [8].
Occasionally, internal stye can evolve into **Chalazion** (a granulomatous inflammation that develops into a **painless lump**) [1].
A chalazion can be confused with a stye. **Stye often has a head of pus** at the lid margin and will **be tender and sore**, whereas a chalazion presents as painless lump [1].

Although styes are caused by bacterial pathogens the use of antibiotic **therapy is not usually needed**. Topical application of ocular antibiotics does not result in speedier symptom resolution [1].

Patient with stye should avoid **touching the eyes and wash the hands** after any contact with infected eye [8]. Without treatment, a stye will usually resolve within seven to 14 days [8].
A warm compress applied for 5–10 minutes three or four times a day might bring to a head an external stye, and once it bursts the pain will subside and the symptoms will resolve [1] (External stye usually drains spontaneously, but warm compress will hasten resolution which usually occurs within 48 hours). Internal stye generally resolves within 1-2 weeks [8].

A chalazion is self-limiting, although it might take a **few weeks to resolve completely** [1]. Initial treatment for chalazion is similar to that of stye especially for small chalazion (warm compress applied several times a day. About 25-50% resolves with this treatment. If the lesion does not begin to resolve within few days, referral is required [8])

If the patient complains that it is particularly **bothersome** and is affecting **vision** or associated with eye **pain**. Referral in these circumstances is needed for surgical removal [1, 8].

B-Blepharitis:

Blepharitis is chronic inflammation of the lid margins, affecting both eyes [9].

Signs and symptoms:

1- Typically Blepharitis is **bilateral** [1].The **lid margins appear red**, with irritation, burning and itching [9].

2-**Scales are frequently seen on the lashes of both upper and lower lids**, which tend to be greasy in seborrhoeic blepharitis [9]. (excessive crusty debris or skin flakes around the eyelash) [1].

3-**Lashes are frequently lost** or may be distorted, turn inwards and rub on the cornea; this in turn can cause conjunctivitis [9].

Patient Assessment with blepharitis

A-Other existing conditions:

Patients who suffer from blepharitis often have a co-existing skin condition, such as **seborrhoeic dermatitis** or **rosacea** [1].

Patients with swollen eyelid and associated feeling of being unwell required referred [1].

B-Duration:

A long standing history of sore eye is indicative of blepharitis which is a chronic persisting condition (although it may be intermittent with period of remission) [1].

C-Eye involvement:

Conjunctivitis is a common complication of blepharitis [1].

D-Recent use of products:

Many products (especially cosmetics) can results in itching and flaking skin that mimics blepharitis [1].

E-Medication:

Failed medication required referred [1].

Management

The goals of treatment are to reduce the discomfort and inflammation associated with blepharitis and to reduce the risk of recurrence of severe symptoms [8].
The mainstay of treatment for blepharitis is improved **lid hygiene** [1].

1-First, the eyelids should be cleaned using a warm compress applied to closed eyelids for 5-10 minutes [1, 8] (This step softens gland secretions and promotes evacuation and cleansing of secretory passages) [10]. A diluted mixture of baby shampoo (1:10) with warm water should then be applied to the eyelids using a cotton bud. This should be done twice a day initially and can be reduced to once a day if symptoms improve [1].

2-Failure to respond to hygiene measures requires referral [1] (an improvement would be expected **after four weeks**) [6].

4-Subconjunctival hemorrhage

The rupture of a blood vessel under the conjunctiva causes Subconjunctival hemorrhage. A segment or even the whole eye will appear **bright red**. Most sub-conjunctival hemorrhages are **idiopathic** (It occurs **spontaneously**) but can be precipitated by coughing, straining or lifting [1]. The patient will wake up with the hemorrhage, which is not noticed until he or she looks in a mirror [11].

The condition appears alarming but is usually harmless [11]. There is no pain and the patient should be reassured that **symptoms will resolve in 10 -14 days without treatment**. However, a patient with **history of trauma should be referred** to exclude ocular injury [1].

Hypertension is also a possible cause so pharmacists can advise patients to have their **blood pressure checked**. Anticoagulant or antiplatelet drugs (e.g. warfarin, aspirin, clopidogrel) can also cause a hemorrhage so patients should **be asked about their medicines** and those taking warfarin should have their international normalized ratio (INR) measured [(11)]

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د. ضياء جبار

Gastrointestinal conditions

5-Heartburn

Background

1-Gastro-esophageal reflux disease (GERD), also known as reflux esophagitis, and commonly called heartburn [1]. Symptoms of heartburn are caused when there **is reflux of gastric contents**, particularly acid, into the esophagus, which irritate the mucosal surface [2].

2-Unlike the stomach lining, the esophageal mucosa has no protection against gastric acid and readily irritated by acid) [1, 2].

Patient assessment with GERD

A-Signs and symptoms

Heartburn is a common symptom of GERD [3] which is described as:
A burning sensation or pain experienced in the upper part of the stomach [2] (i.e. the lower chest [3]) in the Medline (epigastrium) [2].
The burning feeling tends to move upwards behind the breastbone . The pain may be felt only in the lower area or may be felt right up to the throat causing an acid taste in the mouth [2]. (Figure1-3)[4].

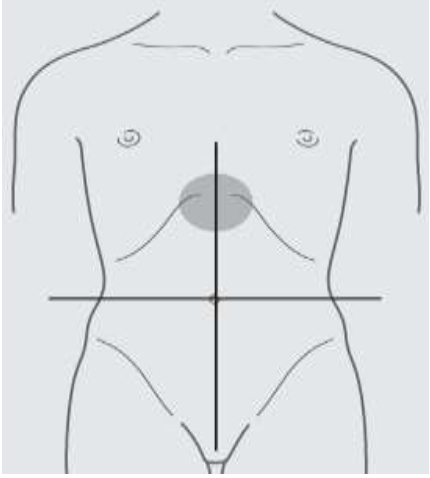

Figure 1-3: The position of pain in GERD[4]

B-Precipitating or aggravating factors.

Diagnosis of GERD can be helped greatly by asking about the Precipitating factors. These are [2]:

A-Bending **or lying down**.
B-**Overweight**.
C-After **large meal.**
D-**Pregnancy**(mechanical and hormonal influence).
E-It can be aggravated or even caused by **belching.**

C-Severity and location of pain:

Patient who have **severe pain** should be referred [3] as well as pain that radiate to the back and arm (possible heart attack) [2].

D-Difficulty in swallowing and regurgitation:

The sensation that food sticks as it is swallowed or it does not seem to pass directly into the stomach (**dysphagia**) is an indication for immediate referral.(It may be due to obstruction of the esophagus for e.g. by tumor). **Regurgitation** can be associated with difficulty in swallowing. It occurs when recently eaten food sticks in the esophagus and is regurgitated without passing into the stomach. This is due to a mechanical blockage in the esophagus and required referral [2].

E-Age:

Heartburn is not normally experienced in childhood; therefore, **children** with symptoms of heartburn should be referred for further investigations [2].

F-Medication: To know:

1-What had been tried to treat the condition (**failed medication** required referral) [2].

2-The use of **some drugs may cause GERD** and may also lead to an increase in existing GERD symptoms and signs. The mechanisms by which drugs cause reflux include a reduction in lower esophageal sphincter pressure (LESP) and delayed gastric emptying; drugs may also directly cause GERD by causing damage or inflammation in the esophageal mucosa (**Figure1-4**) [5].

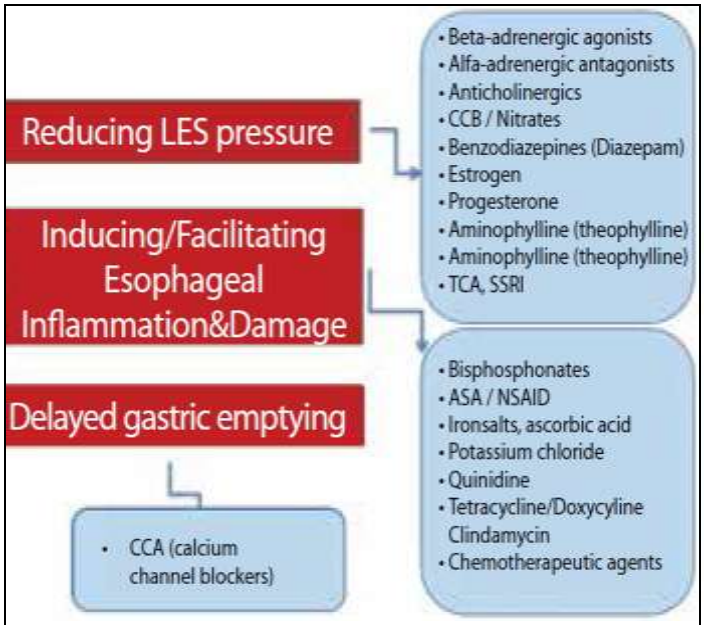

Figure 1-4. Drugs and GERD [5].

Treatment timescale

If symptoms have not responded to treatment **after 1 week** the patient should see a doctor [2].

When to refer [2]
-Failure to respond to antacids
-Pain radiating to arms
-Difficulty in swallowing
-Regurgitation
-Long duration
-Increasing severity
-Children

Management:

Non-pharmacological advices:

1-Eat **small and frequent meals** (to avoid distending the stomach) [2].

2-The **evening meal is best taken several hours before going to bed** [2] (Avoid lying down within 3 hours of a meal [3]).

3-Use **extra pillow** to elevate the head of the bed [2]. [using GERD pillow since the use of traditional pillows may worsen symptoms because they cause the individual to bend at the waist, which contributes to an increase in intragastric pressure] [3]. (Using extra pillows is not as effective as raising the head of the bed. The reason for this is that using extra pillows raises only the upper part of the body, with bending at the waist, which can result in increased pressure on the stomach contents [2].

4- **Wear loose fitting clothing** [3]. (Tight, constricting clothing, especially waistbands and belts, can be an aggravating factor and should be avoided) [2].

5-**Avoid smoking** and foods that exacerbate symptoms of GERD. If alcohol or caffeine consumption is a contributing factor individuals should be advised to limit or discontinue use [3]. (Smoking, alcohol, caffeine and chocolate have a direct effect by making the esophageal sphincter less competent by reducing its pressure and therefore contribute to symptoms) [2].

6-**Weight reduction s**hould be advised [2].

Pharmacological Therapy:

A-Antacids (AL salts, Mg salts, Ca-carbonate, Na-bicarbonate, …):

Practical points:

1-Best time for taking Antacids :

Antacids are best taken about 1 h after a meal because the rate of gastric emptying has then slowed and the antacid will therefore remain in the stomach for longer. Taken at this time antacids may act for up to 3 h compared with only 30 min–1 h if taken before meals. [2]. Although antacids may be taken on when-needed basis [3].

2-Dosage form [4]:

Liquids and powders generally provide faster relief and have greater neutralizing capacity than tablets, as they are mixed very quickly with the stomach contents and their small particle size provides a large contact surface area for neutralizing activity [6]. Advantages of tablets over liquids include ease of portability and administration [6].
It might be appropriate for the patient to have both; the liquid could be taken before and after working hours, while the tablets could be taken during the day for convenience [2].
Tablets should not be swallowed whole; they should be chewed to initiate disintegration or sucked to provide a relatively slow but sustained delivery of antacid to the stomach [6].

3-Interactions:

A-Antacids can affect the **absorption of a number of drugs** (via chelation and adsorption) [4] . This interactions can usually be avoided when potentially interacting drugs are separated by at least 2 hours [3].

B- Antacids also interact with enteric-coated tablets, capsules and granules. These products are formulated to resist gastric acid and dissolve in the more alkaline medium of the duodenum, releasing the drug there. Enteric coatings may be disrupted prematurely in the presence of antacids, causing unwanted release of the drug in the stomach [6].

4-Side effects of antacids

A- AL-containing antacids tend to be **constipating.**
Mg-containing antacids tend to cause osmotic **diarrhea** and are useful in patients who are slightly constipated. Thus **combination** products of AL and Mg salts cause minimum bowel disturbances [2].
B-Antacids containing sod. Bicarbonate should be avoided in patients if sodium intake should be restricted (e.g. in patient with CHF, hypertension,…..) [2] and during pregnancy [7] .
C-Calcium carbonate: It acts quickly, has a prolonged action and is a potent neutralizer of acid. It can cause **acid rebound** and, if taken over long periods at high doses, can cause **hypercalcaemia** and so should **not be recommended for long-term use** [2].

B-Alginates (Gaviscon ®):

Alginate-containing antacids form **a sponge –like matrix** that float on the top of the stomach contents [4]. Alginate-containing antacids can form a ‘raft’ that floats on the surface of the stomach contents to reduce reflux and protect the oesophageal mucosa [8].

Some alginate-based products contain sodium bicarbonate. If a preparation low in sodium is required, the pharmacist can recommend one containing potassium bicarbonate instead. Alginate products with low sodium content are useful for the treatment of heartburn in patients on a restricted sodium diet [2].

Practical points:

1-They are best given **after each main meal and before bedtime**. Although it may be taken on when-needed basis [4].

2-They can be given in pregnancy and breastfeeding [4].

C-Histamine 2 receptor antagonists (H2RA):

1-They can be used for the short-term treatment of dyspepsia, hyperacidity and heartburn in **adults and children over 16 years** [2].

2-Duration for OTC H2RA: Treatment with **OTC H2RA** is limited to a maximum of 2 weeks [6]. The treatment limit is intended to ensure that patients do not continuously self-medicate for long periods [2].

3-When to take H2RA (regarding OTC use for GERD only):

Patient can take 1 tablet when symptoms occur and if the symptoms persists, another tablet may be repeated after more than 1hour [4], but when food is known to precipitate symptoms, H2RA should be taken an hour before food[2]. (Table1-9) [8].

> **Note**: **Tolerance** to the gastric antisecretory effect may develop when H2RAs are **taken daily** (versus as needed) and may be responsible for diminished efficacy. Therefore, it is **preferable to take an H2RA on an as needed basis** rather than regularly every day [3].

4-Side effects of H2RA: Headache, dizziness, diarrhea and skin rashes have been reported as adverse effects but they are not common [2].

5-The OTC H2 antagonists are not licensed for sale to pregnant or breastfeeding women [6].

Table1-9: OTC H2RAs [8]

	H2RA	OTC dosage form	Max. single dose	Max. daily dose
1	**Cimetidine**	200 mg tablet	200 mg	800 mg
2	**Famotidine**	10 mg tablet	10 mg	20 mg
3	**Nizatidine**	75 mg tablet	75 mg	150 mg
4	**Ranitidine**	75mg tablet	75 mg	300 mg

D-Proton pump inhibitors (PPIs):

1-PPIs are amongst the most effective medicines for the relief of heartburn [2]. PPIs available OTC are:

United kingdom	**Omeprazole** (10 mg tablet), and Pantoprazole (20 mg tablet) [8].
USA	**Omeprazole (**20 mg capsule**), Lansoprazole** (15 mg capsule) and **esomeprazole** (20 mg capsule**)** [3].

2- OTC PPIs can be used for the relief of **heartburn symptoms associated with reflux in adults** [(2)] **over 18 years** [(8)]. PPIs should not be taken (**as an OTC**) during **pregnancy** or whilst **breastfeeding** [(2)].

3-Onset of symptomatic relief following an oral dose may occur in 2-3 hours, but complete relief may take 1-4 days [(3)]. During this period a patient with ongoing symptoms may need to take a concomitant **antacid** [(2)].

4-Treatment with OTC PPIs is limited to a maximum **of 4 weeks** [(8)] (2 weeks in USA).This course of therapy must not be repeated more often than every 4 months [(3)].

5-OTC Doses of PPIs (table1-10):

Table1-10: OTC Doses of PPIs			
USA	**1**	**Esomeprazole** (20 mg capsule)	Single dose each day before breakfast for 14 days [(3)].
	2	**Lansoprazole** (15 mg capsule)	Single dose each day before breakfast for 14 days [(3)].
	3	**Omeprazole** (20 mg capsule)	Single dose each day before breakfast for 14 days [(3)].
UK	**1**	**Omeprazole** (10 mg tablet)	The initial dose is two 10 mg tablets (i.e. 20 mg) once daily, swallowed whole before a meal, with plenty of liquid, until symptoms subside. Thereafter, a dose of 10 mg once daily can be taken, increasing to 20 mg if symptoms return. If no relief is obtained within 2 weeks, or if continuous treatment for more than 4 weeks is required to relieve symptoms, the patient should be referred to their doctor [(6)].
	2	**Pantoprazole** (20 mg tablet)	Single dose each day before breakfast [(8).]

Note: Immediate release omeprazole (Zegerid®) is formulated with [omeprazole 20 mg and sodium bicarbonate 1100 mg]. The sodium bicarbonate in Zegerid® raises intragastric pH, permitting **rapid absorption of omeprazole from the duodenum** [(3).]

6-Drug-interaction of PPIs:

PPIs-Clopidogrel drug interaction: the proton pump inhibitors esomeprazole, and omeprazole are predicted to decrease the efficacy of clopidogrel. Avoid [(8)].

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6-Indigestion

Indigestion (dyspepsia) is commonly presented in community pharmacies and is often self-diagnosed by patients, who use the term to include anything from pain in the chest and upper abdomen to lower abdominal symptoms. Many patients use the terms indigestion and heartburn interchangeably [(1)].

However, Heartburn should not be confused with dyspepsia. The discomfort of dyspepsia is variably described as a **pain**, **distension**, or feeling of **fullness**, but is **generally not burning in nature** [(2)]. (figure 1-5)

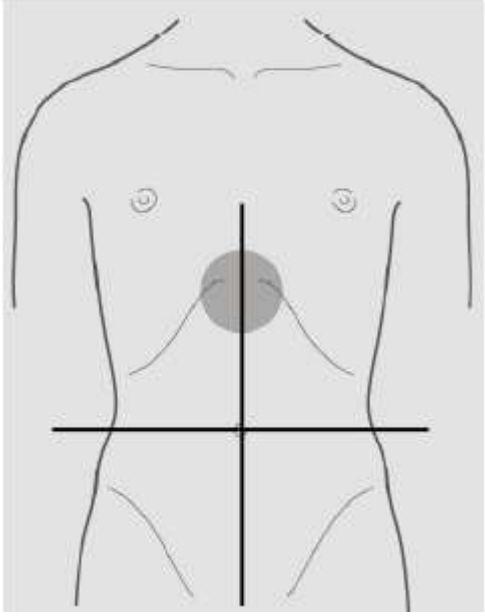

Figure1-5: The position of pain in dyspepsia [(4)].

Patient assessment with indigestion

A-Age

Indigestion **is rare in children**, who should be **referred** to the doctor. Be cautious when dealing with **first-time indigestion** in patients **aged 45 years or over** and **refer** for a diagnosis [(1)].

B-Symptoms

The symptoms of typical indigestion include poorly localized **upper abdominal discomfort**, which may be brought on by particular foods, excess food, or medication (e.g. aspirin) [(1)].

C-Duration/previous history

Indigestion that is **persistent** or **recurrent** should be **referred** to the doctor. Any patient with a previous history of the symptom which has **not responded to treatment**, or which has **worsened**, should be **referred** [(1)].

D-Diet and Smoking habit

Fatty foods and alcohol can cause indigestion, aggravate ulcers and precipitate biliary colic. **Smoking** predisposes to, and may cause, indigestion and ulcers. The pharmacist is in a good position to offer advice on smoking cessation, perhaps with a recommendation to use nicotine replacement therapy [(1)].

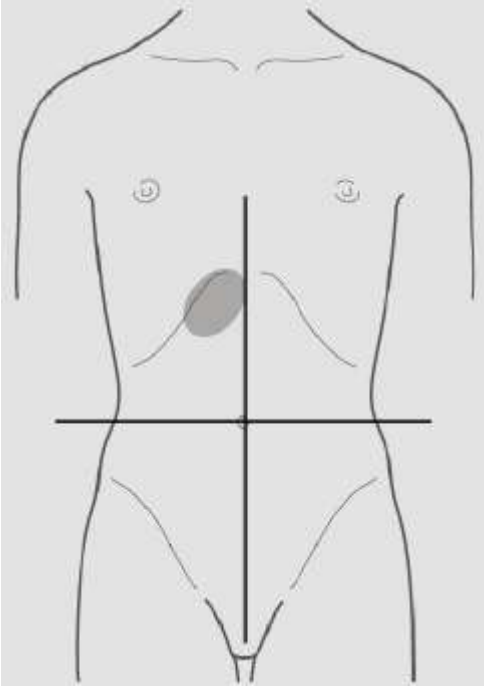

Figure1-6: The position of pain in ulcers [(4)].

E-Details of pain/associated symptoms

A few medical conditions that may present as indigestion described below:

1-Ulcer

Ulcers may occur in the stomach (gastric ulcer) or in the first part of the small intestine (duodenal ulcer). Typically the pain of a **duodenal ulcer** is localized to the upper abdomen, slightly to the right of the midline. It is often possible **to point to the site of**

pain with a single finger [1]. (figure 1-6). The pain is most likely to occur when the **stomach is empty, especially at night. It** is relieved **by food** and antacids.
The pain of a **gastric ulcer** is in the same area but **less well localized**. It is often **aggravated by food and may be associated with nausea and vomiting.** Appetite is usually reduced and the symptoms **are persistent and severe** [1].

2-Gallstones

Single or multiple stones can become temporarily stuck in the opening to the bile duct as the gall bladder contracts. This causes **severe pain (biliary colic)** in the upper abdomen below **the right rib margin**. Sometimes this pain can be confused with that of a duodenal ulcer. Biliary colic may be precipitated by a **fatty meal** [1]. (figure 1-7)

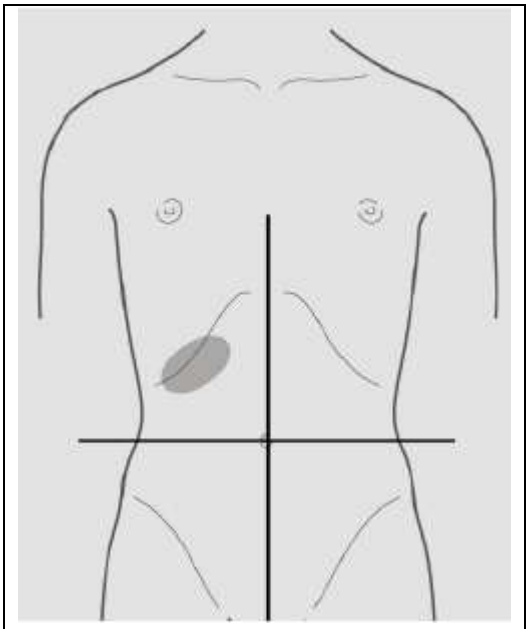

Figure 1-7 The position of pain in gallstone [4].

3-Gastro-Esophageal reflux

The symptoms are typically described as **heartburn** arising in the upper abdomen passing upwards behind the breastbone. It is often precipitated by a large meal or by bending and lying down [1].

4-Irritable bowel syndrome

Irritable bowel syndrome (IBS) is a common condition in which symptoms are caused by colon spasm. There is usually an alteration in bowel habit, often with alternating constipation and diarrhea. The diarrhea is typically worse first thing in the morning [1].

5-Myocardial ischemia

The pain is likely to be **precipitated by exercise** or exertion [1] and it **radiates** to jaw, neck, shoulder, arm [3]. Not all cases of angina have classical presentation. Patients can complain of dyspepsia-like symptoms and feel generally unwell (*Atypical angina*). These symptoms might be brought on by a heavy meal. In such cases antacids will fail to relieve symptoms and referral is needed [4].

6-Appendicitis

Starts **centrally** and radiates to **right iliac fossa** after some time [3] (figure 1-8).

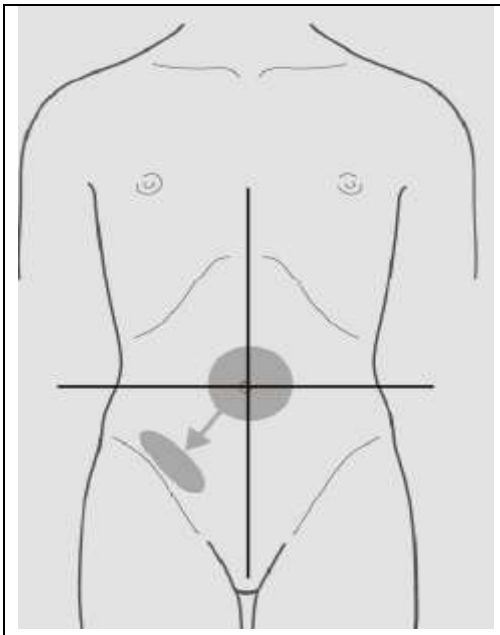

Figure1-8: The position of pain in appendicitis [4]

7-More serious disorders

Persisting upper abdominal pain, especially when associated with **anorexia** and unexplained **weight loss**, may herald an underlying **cancer** of the stomach or pancreas. Ulcers sometimes start bleeding, which may present with blood in the vomit (**haematemesis**) or in the stool (**melaena**). In the latter the stool becomes tarry and black. **Urgent referral** is necessary. [1]

F-Medication

A-Medicines already tried: Anyone who has tried one or more appropriate treatments without improvement or whose initial improvement in symptoms is not maintained should see the Doctor [1].

B-Other medicines being taken: Gastrointestinal (GI) side-effects can be caused by many drugs. NSAIDs have been implicated in the causation of ulcers and bleeding ulcers. Sometimes these drugs cause indigestion. **Elderly** patients are particularly prone to such problems and pharmacists should bear this in mind. **Severe or prolonged indigestion in any patient taking an NSAID is an indication for referral** [1].

Summary of Symptoms and circumstances for referral [1, 3]:

1-Age over 45 years if symptoms **develop for first time**.
2-Symptoms are persistent or recurrent.
3-Pain is severe. 4-Blood in vomit or stool. 5-Pain worsens on effort.
6-Persistent vomiting. 7-Treatment has failed. 8-Adverse drug reaction is suspected.
9-Associated weight loss. 10-Children.
11- Indigestion between meals or at night.
12-Pain radiating from central or epigastric areas.

Treatment timescale

If symptoms have not improved **within 5 days**, the patient should see the doctor [1].

Management

Smoking, alcohol and fatty meals can all aggravate symptoms, so the pharmacist can advise appropriately [1].

A-Antacids: as in GERD

B-Famotidine and ranitidine: as in GERD.

C-Dimeticone (dimethicone): Dimeticone is sometimes added to antacid formulations for its defoaming properties. Theoretically, it reduces surface tension and allows easier **elimination of gas** from the gut by passing flatus or belching. **Evidence of benefit is uncertain** [1].

D-Domperidone

Domperidone 10 mg previously was used as an OTC for the treatment of **postprandial stomach symptoms** of excessive fullness, nausea, epigastric bloating and belching, occasionally accompanied by epigastric discomfort and heartburn. It increases the rate of gastric emptying, and also increases the strength of contraction of the esophageal sphincter [1]. Unfortunately in 2014 domperidone was reclassified back to prescription-only status over fears over its potential cardiac side effects [4].

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1-Alison Blenkinsopp, Paul Paxton and John Blenkinsopp. Symptoms in the pharmacy . A guide to the managements of common illness. 7th edition. 2014.
2-John W. Devlin. Exploring the Role of the Pharmacist in OTC PPI Use for Frequent Heartburn. US Pharm .April 30, 2010.
3-Nathan A. fasttrack. Managing Symptoms in the Pharmacy. Pharmaceutical Press. 2008.
4-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017.

Lecture No. : 1
م.د : ضياء جبار

College of Pharmacy /University of Baghdad
Fourth Year. Clinical Pharmacy

Introduction to Community Pharmacy Practice and Responding to Symptoms

Background

1- Community pharmacists are the **most accessible healthcare professional,** where no appointment is needed to council a pharmacist and the patient can receive a free advice anywhere without long waiting times at clinics or at other health facilities.

2-Medications include Over-The-Counter medications (OTC) as well as prescription only medications (POM). Nonprescription (or OTC) products are a group of pharmaceuticals considered to be **sufficiently safe for use without the intervention of a physician**.

Note: in UK. They refer to prescribed medicines as prescription-only medicines (**POMs**), while medicines provided by a pharmacy without a prescription but under the **supervision of pharmacists** are under the "**P**" classification. In addition, medicines **sold without a pharmacist's supervision** (e.g. Paracetamol and ibuprofen) classified as **General Sale List** (**GSL**) so they can be sold anywhere, such as supermarkets).

3-Because over-the-counter medications are used so frequently. It is important to know the **differences** between prescription and over-the-counter medications.

Table 1: differences between prescription and over-the-counter medications.

POM medications	OTC medications
Require a **written order or prescription** from a physician, dentist, or nurse practitioner.	Can be bought **without a prescription.**
Are prescribed for the treatment of a **minor or major** medical problem.	Are intended for relief of **minor ailments.**
Are usually **more powerful** and have more side effects than OTC medications.	Are considered **safe** if warnings and directions are followed.

4-For pharmacists to safely and effectively manage minor ailments requires considerable **knowledge** (**about the diseases and their clinical signs and symptoms)** and **skill** (mainly **communication** skills).

The switch of prescription -only –medicine (POM) to OTC status.

The availability of drugs over the counter **varies from country to country**. Generally drugs will be accorded OTC status if they fulfill various criteria:

1-The **condition** for which they are used can be reliably **self-diagnosed.**
2-Where there is **no evidence of irreversible or serious adverse reactions.**
3-Where **their use does not require medical supervision or monitoring by a doctor.**

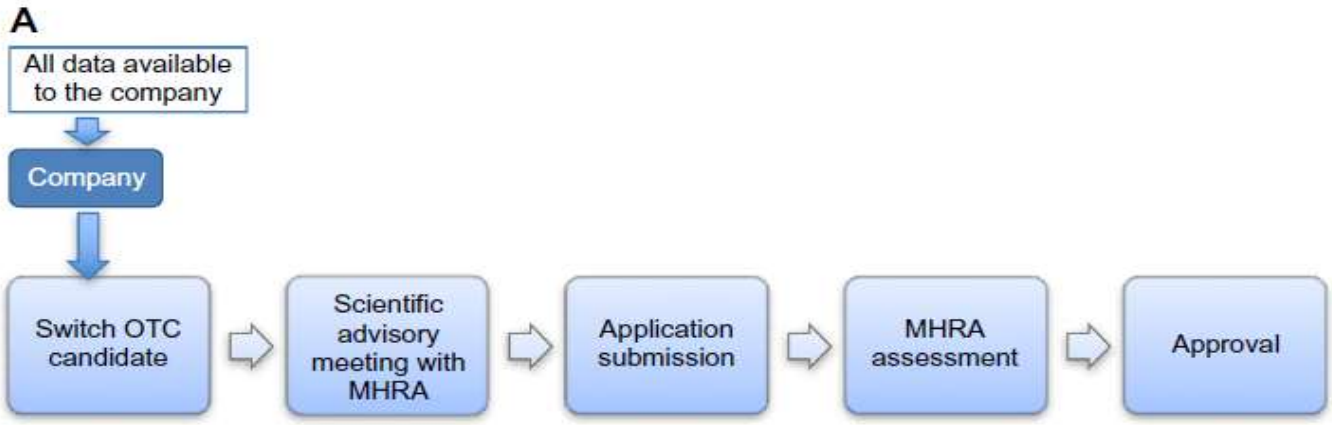

Figure 1 OTC Approval processes in the UK. (MHRA: Medicines and Healthcare products Regulatory Agency)

Table 2: History of switching from POM to OTC. (للاطلاع)

Year	Examples
1983	Oral ibuprofen, **Loperamide**.
1991	Nicotine gum.
1992	Vaginal imidazoles, Nicotine patches.
1994	H2 antagonists , Minoxidil , Beclomethasone nasal spray.
2001	Emergency hormonal contraceptive.
2004	Omeprazole, **Simvastatin***.
2005	Chloramphenicol eye drop.
2006	Sumatriptan.
2010	**Tamsulosin**.
2013	FDA approved **Oxybutynin** transdermal patch for women with **of** overactive bladder (OAB).
2014	Nexium 24 HR (esomeprazole magnesium)
2016	The FDA has approved **adapalene** (a **retinoid-like drug**) (Differin® Gel 0.1%) for OTC use. It is the first **retinoid-based acne** treatment to be made available OTC.
2017	-Reclassification of Viagra (**sildenafil**) in the UK o treat erectile dysfunction. (New Zealand made the move in 2014, and Poland in 2016). -Reclassification of (a**tovaquone/proguanil**) in the UK for malaria prevention.

*Simvastatin represents a milestone in the deregulation of drugs to OTC status, in that it is the **first drug licensed to <u>prevent</u> <u>serious</u> <u>chronic</u> condition.**

Note: when certain drug being OTC, not means that it is OTC in all **strength**s, in all **dosage forms**, for all **indications**, for all **ages**, in all **countries**, and in the same **maximum dose** or **duration** as when it is use by Rx (as POM) (table 3)

Table-3

	Examples
Not in all **strengths**	Omeprazole 10 and 20 mg are OTC while 40 mg is POM
Not in all **dosage forms**	Omeprazole tablet and capsule are OTC while injection is POM
Not for all **indications**	Omeprazole is OTC for gastro-esophageal reflux disease (GERD) while for ulcer it is POM
Not for all **ages**	Omeprazole is OTC for adults over 18 years. However, it can be used by Rx (as POM) below this age.
Not in all **countries**	Simvastatin (10 mg tablet) is OTC in UK but not in USA, Canada…
The **maximum dos**e and **duration** of the drug may be lower than that allowed with its POM use	The max. Daily dose for OTC Omeprazole is 20 mg for max. 4 weeks. However, larger doses for longer duration are allowed with its POM use.

Note: the process of switching may occur in **reverse way** (i.e. **from OTC** to **POM**).
The UK has had two recent reclassifications return to POM (domperidone and oral diclofenac) due to cardiac risks.

Drug	**Year of reverse switching**	**Reason**
Domperidone (Motilium)	Reclassified from OTC to POM in 2014 in **UK**	Studies found that domperidone was associated with a small increased risk of serious cardiac side effects including QT-prolongation, **arrhythmia** and sudden death.
Diclofenac tablets	Reclassified from OTC to POM in 2015 in **UK**	In 2013, a Europe-wide review concluded that systemic diclofenac is associated with a small increased risk of arterial **thromboembolic events**, similar to that of COX-2 inhibitors particularly if used **at high doses** and for **long-term** treatment. [Cyclo-oxygenase-2 selective inhibitors, Diclofenac (150 mg daily) and ibuprofen (2.4 g daily) are associated with an increased risk of thrombotic events] (BNF-70).

Future deregulations

The following table (highlights some future candidates that are potential POM to OTC switches in UK)

الجدول للاطلاع

Oral contraception	Low risk of side effects Fits in with government sexual health policies, especially those tackling teenage pregnancy
Salbutamol	Already OTC in some countries, e.g. Singapore, New Zealand ASDA started to sell salbutamol in July 2012 under a PGD
Doxycycline (and possibly others) for malaria prophylaxis	Given current resistance to proguanil and chloroquine deregulation seems likely
Topical antibiotics for impetigo (e.g. fusidic acid, mupirocin)	Strong support from a number of studies gaining GP opinion Condition easy to identify Low risk of side effects
Metoclopramide	Low risk of side effects Available OTC in some countries already

Note: Trials in UK to switch some oral antibiotics to OTC (Trimethoprim and Nitrofurantoin to treat uncomplicated cystitis in women) were ultimately withdrawn in 2010 due to concerns over increasing antibiotic **resistance**.

Responding to symptoms in Community pharmacy

Responding to symptoms is a major activity for the community pharmacist. Many customers visit the community pharmacies each day with various symptoms for which they are seeking advice. This requires a **greater focus from the pharmacists on illness management, rather than on product selling**.

Pharmacists will consider 1 of 3 recommendations during each encounter involving symptom presentation:

(1) Provide assurance that **drug therapy is unnecessary.**
(2) Suggest **treatment with non-drug measures, OTCs, or both.**
(3) **Refer the patient to appropriate medical personnel.**

As a general rule, the following **indicate a higher risk of a serious condition** and should make the pharmacist **consider referring the patient to the doctor**:

1-**Long duration of symptoms.**
2-**Recurring or worsening problems.**
3-**Severe symptoms.**
4-**Failed medication** (one or more appropriate medicines used already, without improvement).
5-**Suspected adverse drug reactions** (to prescription or OTC medicine).

6-**Danger symptoms** (Blood in the sputum, vomit, urine or faeces would be examples of such symptoms, as would unexplained weight loss).

Getting information from the patient:

The following **steps** highlight the key considerations you should think about when someone asks for your advice (as a pharmacist) about a particular symptom or condition they have**.**

1-Picking up on non-verbal cues:

Assessment of the patient begins the moment the patient enters the pharmacy and this 'first impression' can be very helpful in giving you clues to **their state of health.** For example, does the patient **look well** or **poorly**? For people who appear in discomfort or look visibly poorly, this might influence your decision to treat or refer.

2-Questioning:

Arriving at a diagnosis is a complex process. In medicine it is based on three kinds of information: patient history; physical examination; and the results of investigations. Currently, physical examination and using diagnostic tests are rarely used in community pharmacy practice. **Pharmacists rely almost exclusively on questioning patients** when deciding whether to offer treatment or perhaps refer the patient for further evaluation.

Studies have shown that an accurate patient history (gained from asking questions alone) is a powerful diagnostic tool. The ability to ask good questions to gain the appropriate information is therefore critical.

Acronyms

Acronyms have been developed to help pharmacists remember which questions should be asked. **WHAM** is the best known and simplest acronym to remember and has been advocated by many as a useful tool in gaining information from patients.

W–Who is the patient and **What** are the symptoms?

H–How long have the symptoms been present?

A–Action taken? (Any action taken by the patient should be established, including the use of any medication to treat the symptoms).

M – Medication being taken? There are four obvious reasons for this:

- A medicine may **be causing** the symptoms
- A medicine may **indicate a disease state the patients have.**
- The patient may already be taking a medicine the pharmacist is about to recommend and which is **not providing relief.**
- Medications that are recommended may **interact** with existing treatment

Some patients do not yet understand why the pharmacist needs to ask questions before recommending treatment.

3-Outcomes from the consultation:

The final step in prescribing for minor ailments is telling the patient what course of action you feel is most appropriate. This could be **referral** to another healthcare professional, giving **advice** or supplying a **product**.

إذا استطعت أن تعالج بالغذاء فلا تعالج بالدواء ....وإذا استطعت أن تعالج بدواء واحد فلا تعالج بدوائين ....وإذا استطعت أن تعالج بدواء بسيط فلا تعالج بدواء مركب...

أبو بكر الرازي

A-Treatment and advice:

For many therapeutic groups there is a wide variety of products available, often in various combinations. The pharmacist should take into account the efficacy, potential side-effects, interactions, cautions and contraindications.

When selecting a product, **the patient's needs** should be borne in mind. Factors such as prior use, formulation and dosage regimens should be considered. For example, antacids are available in both tablets and liquid form. Liquids tend to have a quicker onset of action than tablets but can be inconvenient for a patient to carry around with them or take to work.

Non-drug treatment should also be offered where appropriate. For example, advice on increasing dietary fibre and fluids is an essential part of the management of conditions such as constipation and hemorrhoids.

B-Timescales:

One of the key things is telling the patient what **action to take if the symptoms do not improve.** Here, a defined treatment timescale should be used **(this is the length of time for which the problem might be treated before the patient sees the doctor).**

The timescales given to each condition can vary.(The patient should seek medical attention if the cough does not improve in 7-10 days. While adult patient with diarrhea seek medical attention if the diarrhea does not improve in 2 days).

Children and the elderly

These two patient groups have the highest usage of medicines per person compared with anyone else. Care is needed in assessing the severity of their symptoms as both groups can suffer from complications. For example, the risk of dehydration is greater in children with fever or the elderly with diarrhoea.

Children should be offered sugar-free formulations to minimize dental decay and elderly people often have difficulty in swallowing solid dose formulations. It is also likely that the majority of elderly patients will be taking other medications for chronic disease and the possibility of OTC-POM interactions should be considered.

Pregnancy

The potential for OTC medicines to cause teratogenetic effects is real. The safest option is to avoid taking medication during pregnancy, **especially in the first trimester.**
Many OTC medicines are not licensed for use in pregnancy and breastfeeding because the **manufacturer has no safety data or it is a restriction on their availability OTC.**

Table 3: examples of some OTC Medicines to be avoided during pregnancy (للاطلاع)

Medicines	Advice in pregnancy
Antihistamines - non-sedating	Manufacturers advise avoidance as limited human trial data, but animal data suggest low risk
Fluconazole	Avoid
Systemic sympathomimetics	Avoid in first trimester as mild fetal malformations have been reported
Minoxidil (e.g. Regaine)	Avoid
Selenium (e.g. Selsun)	Manufacturers advise avoidance

Interactions of OTC medicines with other drugs:

Medicines that are available for sale to the public are relatively safe. However, there are some important drug-drug interactions to be aware of when recommending OTC medicines. These are listed in Table 4.

Table 4: Some examples of interactions of OTC drugs (للاطلاع)

Medicine	Possible interactions	Outcome
Antihistamines - sedating	Opioid analgesics, anxiolytics, hypnotics and antidepressants	Increased sedation
Antacids (containing Ca, Mg, and AL)	Tetracyclines, quinolones, ACE inhibitors	Decreased absorption
Fluconazole	Anticoagulants Rifampicin Atorvastatin	Enhanced anticoagulant effect Decreases fluconazole levels Increased atorvastatin levels that can lead to muscle pain/myopathy .
Systemic sympathomimetics	Beta-blockers	Antagonism of antihypertensive effect

Evidence-based medicine (EBM) and over-the-counter (OTC) drugs

1- Evidence-based medicine (EBM) emphasizes the use of evidence from well designed and conducted research in healthcare decision-making.

2-Although evidence-based medicine (EBM) is widely used for prescribed drugs**, it is not currently utilized for OTC medicines in community pharmacies.**

3-With regard to efficacy, pharmacists should be aware that **many OTC medicines have little or no evidence base**. **Therefore, products with proven efficacy should constitute first-line treatment.** Community pharmacists should stop selling over-the-counter (OTC) medicines that have little evidence of efficacy if they want to ensure the best treatment for patients.

4-The OTC products sold in pharmacies can be split into three categories.

A-The products for which **scientific evidence is lacking** like: اللاصقة السحرية، سوار ابن سينا

B-The second category is OTC medicines with a basis in science but which lack clear evidence of effectiveness. One example is the use of cough medicines (drug combinations can be illogical such as an expectorant with a cough suppressant).

Systematic reviews of **cough medicines show a lack of effectiveness**. Although products in the second category may often be requested by the public, certainly, the lack of evidence of effectiveness must be communicated clearly to patients.

ومثال آخر هو استعمال دواء Cyproheptadine كفاتح للشهية وبالتالي مسمن ولكن انظر ما يقول كتاب معتمد ككتاب

Martindale عن هذا الاستعمال:

Cyproheptadine has been widely used as an appetite stimulant, but in **the long-term appears to have little value in producing weight gain and such use is no longer generally recommended**. There has been concern that cyproheptadine was being promoted and used inappropriately as an appetite stimulant in some developing countries.

C-In the third group are OTC medicines for **which there is clear evidence of effectiveness**, and which can be sold with confidence. Many of these have been used for many years and have data to support their use, such as antifungal creams, painkillers, triptans, and chloramphenicol eye drops.

Current situation in Iraq:

In many countries including Iraq (**which contain more than 8500 community pharmacy)** it was found that in many cases the Iraqi pharmacist was **not asking enough or appropriate questions** and therefore had **insufficient information t**o advice optimally the patient about their symptoms.
It was also found that the pharmacists do not employ a safe and structured approach when responding to patients' symptoms and they **fail to differentiate between a symptom that might suggest a more serious pathology or one which can be easily managed with an OTC product.**

Useful references that regulate the managements of common illness by OTC drugs

1- Community Pharmacy: A Guide to the Management of Minor Ailments. Dheyaa Jabbar Kadhim. 2018.

2-Symptoms in the pharmacy. **A guide to the managements of common illness.** 7th edition By Alison Blenkinsopp and Paul Paxton .2014

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وهو الكتاب الامريكي المعتمد بهذا الخصوص الا انه يميل الى التفصيل الكثير (والمعقد) نوعا ما .

5-Nathan A. **Non-prescription medicines.** 4th edition. London: Pharmaceutical Press; 2010.

6-**Community Pharmacy.** Symptoms, Diagnosis and Treatment. By Paul Rutter.4th edition.

ملاحظة: جميع هذه المصادر متوفرة بنسخ الكترونية حديثة (سيتم تزويد الطلاب بها) إن شاء الله.

المنهج المقرر

No	Lecture title	hours
1	**Introduction to community pharmacy.**	1
2	**Respiratory problems: Cough, Common cold, allergic rhinitis, Otitis media, Laryngitis & Pharyngitis**	3
3	**G.I.T problems: Diarrhea, Constipation, Heart burn and indigestion, IBS and Hemorrhoids**	4
4	**Pediatric care practice : Oral thrush, pinworms and head lice**	2
5	**Skin conditions: Acne, Scabies, Psoriasis, Hair loss, Fungal infection, Eczema and Dermatitis , Dandruff, Cold sore, Corns and Callus.**	5
6	**Women's health care: Cystitis and vaginal thrush, primary dysmenorrhea and Premenstrual syndrome.**	2
7	**CNS related problems: Headache, Insomnia, Motion sickness, Nausea and vomiting**	3
8	**- Eye problems**	1
9	**ENT problems**	1
10	**Oral hygiene, mouth ulcer**	1
11	**Obesity and body weight control.**	1
12	**Pain and musculoskeletal disorders**	1
13	**Nicotine replacement therapy (NRT).**	1
14	**Dietary supplements**	1
15	**An update in reclassification of OTC drugs (simvastatin, Tamusotisin & azithromycin).**	2
16	**Medication adherence and errors.**	1

صيدلة سريرية
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College of Pharmacy.
Fourth Year. Clinical Pharmacy

Nicotine Replacement Therapy (NRT)

1- Tobacco use remains the single largest preventable cause of mortality [1]. Globally, nearly 6 million deaths attributable to tobacco occur annually; unless tobacco control efforts are able to reverse this trend, the number of annual deaths is likely to exceed 8 million by 2030 [2].

2-Cigarette smoke, is a complex mixture of thousands of compounds—including nitrogen, carbon monoxide, ammonia, hydrogen cyanide, benzene, and nicotine—in gaseous and particulate phases. The particulate fraction, excluding the nicotine and water components, is collectively referred to **as tar** [2].

3-Three compounds of real clinical importance have been identified in tobacco smoke, these are:

A-Tar-based products: which have ***carcinogenic properties*** (about 43 carcinogenic compounds).

B-CO: Which reduce the O2 carrying capacity of RBCs.

C-Nicotine: which produce ***dependence*** [3].

4-In the brain, Nicotine leads to the activation of many receptors and release of numerous neurotransmitters, which induce a range of effects such as pleasure, arousal, cognitive enhancement, appetite suppression, learning and memory enhancement , mood modulation, and reduction of anxiety and tension [2]. Withdrawal symptoms are relieved by the next cigarette [4].

5-Light and **ultra-light** cigarettes may deliver **the same amount of nicotine** as regular cigarette regardless of the reported nicotine content**, and are not safer than regular cigarette** [5].

6-All forms of tobacco us**e (pipe tobacco, cigars and hookah)** have **harmful** effects [5].

Health risks from smoking [6]

Cigarette smoking substantially increases the risk of

(1) **Cardiovascular diseases** such as stroke, sudden death, and heart attack.

(2) **Nonmalignant respiratory diseases** including asthma and chronic obstructive pulmonary disease (COPD).

(3) **Lung cancer**, and **other cancers** (e.g., mouth, pharynx, larynx, esophagus, stomach, pancreas, uterus, cervix, kidney, ureter, and bladder).

In addition there are many compounds in tobacco that **induce hepatic enzyme** causing increase in the clearance (reduce half-life) of many drugs e.g. (**theophylline** clearance increased by about 60-100%).

Other forms of tobacco [7].

Other forms of tobacco include cigar, hookah/water pipe, and smokeless tobacco (SLT),

A-Cigars and pipes

The smoke from cigars and pipes is **not typically inhaled as deeply into the lungs** as is cigarette smoke and, for this reason, **the risk of developing lung cancer** from smoking

cigars and pipes **is lower** than the risk from smoking cigarettes but higher than the risk for a non-smoker.

B-Water pipes or hookahs

1- This is a traditional form of tobacco use in the **Middle East**.

2-The amount of nicotine and toxins varies based on the type of tobacco used and how it is smoked. **Water pipe smoking is associated with lung cancer and other respiratory diseases**[).

3-Studies found that **water pipe smoking negatively affects lung function**, particularly in reducing forced expiratory volume in one second (FEV1). Water pipe smoking is likely to be a cause of obstructive lung disease.

C-Smokeless tobacco

1-Smokeless tobacco (SLT) products are put in the mouth and are available in several forms including chewing tobacco and **snuff/snus pouches**.

2-SLT products **provide sufficient nicotine exposure to cause nicotine addiction**.

3-SLT **causes cancer of the oral cavity** and may be associated with increased risk for **cardiovascular disease**. However, the health risks for certain diseases may be substantially less with SLT than with smoking.

Passive Smoking (second-hand smoke)

Second-hand smoke refers to involuntary exposure of non-smoker to smoke liberated from a cigarette that exhaled by the smoker [(2)]. There is an increased risk of lung cancer and Ischemic Heart Disease caused by passive smoking. Childhood asthma, middle ear diseases, sudden infant death syndrome (cot death)……and other diseases are strongly linked to parent smoking [(6)].

Facts about the benefits of smoking giving up [(6)]. للاطـــــــلاع

1-In **20 minutes**, blood pressure and pulse rate return to normal.
2-In **8 hour**s, CO level reduce by half and oxygen level returns to normal.
3- After:

1 day lung start to clear the mucus.
2 days, the sense of taste and smell improve
3 days, breathing become easier and bronchioles begin to relax.
2-12 weeks, circulation improves.
3-9 months, lung function increase by up to 10 %.
5 years , the risk of heart attack falls to half that of smoker.
10 years, the risk of lung cancer falls to half that of smoker and the risk of heart attack falls to the same as someone who never smoked.

Research has shown that **people who stop smoking before the age of 35 years survive about as well as lifelong non-smokers.**

Physiological effect of giving up [6]

1-***Cough may initially worse***n as ciliary's clearance begins.
2-Some people ***feel light headed*** or ***dizzy*** as the O2 supply to the brain increase.
3-Improved peripheral circulation may cause ***tingling in the hand and the feet***.
4-***Diarrhea*** and ***constipation*** may occur.
5-***Mood swin***g and ***irritability*** are common.

Theoretical Model of Smoking Cessation

1-Before instigation of any treatment it is important that the patient does want to stop smoking (motivation is a major determinant for successful smoking cessation) and interventions based on the theoretical model of change have proved effective [4].
The model identifies six stages and patients need varying types of support and advice at each stage (Fig. 6-3). [3].

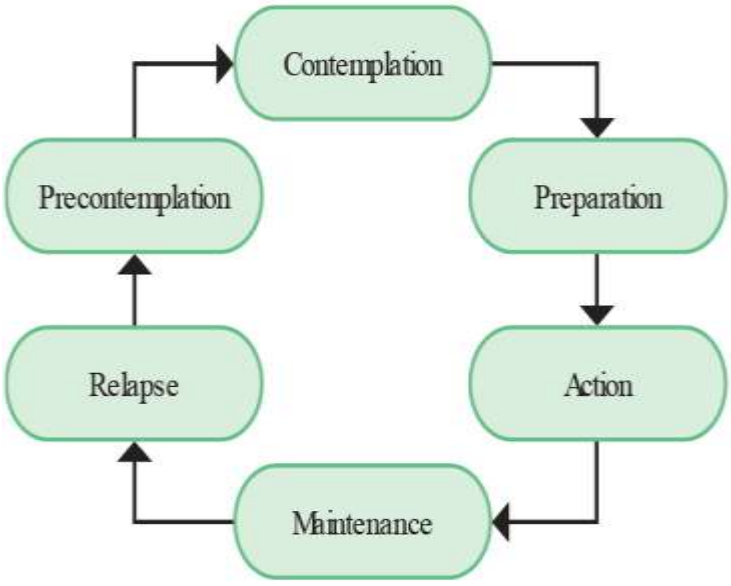

Fig. 6-3: Stages of Change Model [4].

1-**Precontemplation** : During the precontemplation stage, **smokers are not seriously considering smoking cessation in the next six months**. They overestimate the benefits of smoking, underestimate the risks.
In this stage, providing patients with awareness of the **adverse effects of smoking is helpful [2]. Empower patients with belief in their ability to quit** [5].

2- **Contemplation:** during this stage patients **intend to change within the next six months but have not set a quit date**. They recognize that the risks of smoking outweigh the benefits. In this stage, it is important to emphasize the adverse effects of smoking to the patient [1]. Provide **encouragement and positive reinforcement** (it is great that you are thinking about quitting. This is the first step towards success) [5].

3-**Preparation**: In the preparation stage, there is intent to take action **within the next month, but no action has been taken at this point** [1]. During this stage, assistance in moving the patient toward smoking cessation (by giving NRT) is useful [2]. Help patients set quit date (ideally within the next 2 weeks) [5].

4-**Action:** Smokers move into this stage when they **take steps to stop smoking. Interventions that prevent relapse** are most effective in this stage and help reduce the high initial relapse rate [5].
Suggest strategies to deal with craving (e.g., distraction such exercise), **suggests avoiding triggers** (by removing ashtrays, lighters) from the home and vehicle and cleaning areas to remove the smell of smoke. **Continue to provide reinforcement** [5].

5-After six months in the action stage, patients move into the **maintenance** phase. Typically, patients are more confident in their smoking cessation and are **at less risk of relapse**, compared to patients in the action stage [(1)].

6-Relapse: Individual is unable to maintain the changes. View as part of the learning process, not as a failure. Help individual understand the circumstances that caused the relapse and make a plan to avoid relapse in the future [(8)].

Nicotine Replacement Therapy (NRT)

Nicotine produce dependence rapidly, therefore, once plasma nicotine level fall below a threshold, patient begin to suffer nicotine withdrawal symptoms and will crave another cigarette. **Treatment is therefore bases on maintaining plasma nicotine just above this threshold using NRT** [(3)] which provide much **lower doses of nicotine** than are obtained by smoking and are **not complicated by the additional toxic effects of tar and CO** generated in tobacco smoke [(9)].

NRT is formulated as a **Gum**, **Lozenges**, **Patches**, **Nasal spr**ay, **Inhalator**, **Sublingual tablets**, **Mouth (oral) spray**, **and Orodispersible tablets** [(3, 10)] .

Notes :

1-**Low dependency smokers** (fewer than 10 cigarettes /day) who are highly motivated to give up probably **do not need any kind** of NRT [(9)].

2-There is a **little difference in efficacy overall between the various forms of NRT**, but a particular strength or dosage form may be best suited to a particular type of smokers [(9)].

3-**Smokers should stop smoking completely while using any NRT product**, although some products are licensed for use **for smoking reduction** before a quit attempt [(4)]. (Between cigarettes to prolong the smoke-free period) [(3)].

4-Different NRT presentations **should not be used together** [(4)].

5- Nicotine replacement therapy usage guidelines are summarized in (able 6-9).

A-Nicotine patches:

1-Transdermal patches have the convenience of a **once-daily application** and may be most suitable for people in whom the **behavioral aspects of smoking are less important** [(4)].

2-All brands are available in **three strengths** to allow for a smooth reduction in nicotine intake [(4)].

3-The recommended starting strength is generally the highest (step 1), except for **light smokers** for whom the medium (step 2) strength should be used first [(4)].
(Patients smoking more than 10 cigarettes daily begin with Step 1, and those smoking 10 or fewer daily begin with Step 2) [(11)].

4-The recommended treatment period and the length of time on each strength vary between **brands**, but the overall strategy is a stabilization period on the high strength for 4–8 weeks, followed by a progressive stepping down of strength over a further 2–8 weeks, before stopping altogether [(4)].

5- 16-or-24 h patches?

There are two types, both changed daily: one left on for 24 hours and the other used for 16 hours [4].

A 16 h patch will be suitable for most patients, however, if a patients **required a cigarette within the first 20 to 30 minutes of waking then a 24-h patch should be given** .If sleep disturbances are experienced with the 24-h patch then the patients can switch to a 16-h patch or alternatively remove the 24–h patch at bed time [3].

B-Nicotine Gum (2 and 4 mg):

1-The contents of a piece of gum are intended to be **released over about 30 minutes** [9].

2-Nicotine from the gum is released using the "chew and park" method (table 6-10) [2].

Table 6-10: Chewing technique [2] **للاطلاع**

1-Chew each piece of gum slowly several times.
2-Stop chewing at the first sign of a peppery, minty, fruity, or citrus taste, or after experiencing a slight tingling sensation in the mouth. This usually occurs after about 15 chews, but the onset varies.
3-Park the gum between the cheek and gum to allow absorption of nicotine across the lining of the mouth.
4-When the taste or tingling dissipates (generally after 12 minutes), slowly resume chewing.
5-When the taste or tingle returns, stop chewing and park the gum in a different place in the mouth. This will decrease the incidence of mouth irritation.
6- The chew and park steps should be repeated until most of the nicotine is gone, which is when the taste or tingle does not return after continued chewing. On average, each piece of gum lasts 30 minutes.

C-Nicotine Sublingual Tablet:

One sublingual tablet is bioequivalent to one piece of nicotine 2mg chewing gum, and the recommended dosage is comparable. Like lozenges, sublingual tablets may be a useful method for smokers **who do not like or have difficulty in chewing gum**. Placed under the tongue, the tablet slowly disintegrates in about 30 minutes [4].

D-Nicotine Lozenges (2 and 4 mg):

1-Lozenges may be preferred by those who do not like or have difficulty chewing gum, such as denture wearers [4].

E-Inhalation Cartridge:

1-The device is composed of a two-part plastic mouthpiece and holder, into which is inserted a cartridge impregnated with nicotine [9].**The inhaler is intended to address both the physical and behavioural components of smoking** (i.e. hand-to-mouth movement) as it involves putting the inhaler to the mouth, as in smoking, and inhaling as desired [4].

2-It may be particularly useful for the **highly behaviour-dependent smoker**. The plug is flavoured with menthol, and the disappearance of the flavour indicates that the nicotine is exhausted [9].

F-Nicotine Nasal Spray

This presentation provides a fast acting and flexible method of nicotine delivery for **highly dependent smoker** [4].
Side effects, including nose and throat irritation, watering eyes and coughing, are fairly common especially in the first couple of weeks [4].

G-Orodispersible Tablets

1-They are indicated to aid smokers wishing **to quit or reduce** prior to quitting [12].
2-It is suitable for smokers who have their first cigarette of the day **more than 30 minutes** after waking up [12].

H-Mouth (Oral) spray (oromucosal spray)

1-The mouth spray can be used for either **smoking cessation or smoking reduction** [4].
2-Smokers wanting to **reduce the number of cigarettes smoked** should use the mouth spray, as needed, between smoking episodes to prolong smoke free intervals [3].
3-For **smoking cessation**, one spray should be used when cravings emerge. If this first spray fails to control cravings a second spray can be used [3].

NRT Cautions and contraindications [4].

Note : NRT products provide much lower doses of nicotine than are obtained by smoking, are free from the toxic effects of tar and carbon monoxide, and **can be supplied without prescription** to people in the following 'risk' groups:
1-Pregnant and breastfeeding women.
2-Adolescents aged 12–18 years.
3-Smokers with underlying disease such as cardiovascular, hepatic and renal disease, diabetes mellitus and those taking concurrent medication.
They should be used with caution in these groups.
1-Smokers with any chronic or serious **skin condition** should **avoid patches** as there is a possibility of localized skin reactions.
2-Nicotine can exacerbate symptoms of **peptic ulcer** or **gastritis**, particularly with **gum** or **lozenges**, as nicotine may enter the stomach directly.
Note: Transfer of dependence from smoking to NRT products is unlikely, but possible.

Interactions [4].

Tobacco smoke reduces serum levels of a wide range of drugs and dose adjustment may be necessary when smokers have given up, particularly with theophylline, beta-blockers, adrenergic agonists, nifedipine, tricyclic antidepressants, phenothiazines, benzodiazepines and insulin.

Electronic cigarettes

1-Electronic cigarettes: electronic cigarettes look and behave like cigarette but they contain battery–powered mechanism to heat and vaporize a liquid chemical mixture composed of varying amount of **nicotine**, **propylene glycol**, and other chemicals [5].
The user activates the atomizer, which heats the liquid and produces a vapor to inhale [13].

2-Across all brands, the main components in e-cigarette liquids are **nicotine**, **propylene glycol** or **glycerol**, and **flavorings**. A variety of other compounds have also been identified [13].

3-**The long-term health consequences of e-cigarette use are largely unknown** but are likely to be **considerably less than continuing to smoke conventional cigarettes** because e-cigarettes do not expose the user to many of the toxins in tobacco smoke [13].

4-E-cigarettes expose users to nicotine as well as heated and aerosolized propylene glycol and glycerol and other compounds. **The toxicity of chronic exposure to these and the other components of e-cigarettes is uncertain** [13]. in 2015 Public Health England concluded that e-cigarettes are 95% safer than smoking tobacco [3].

5-**The safety and efficacy of e-cigarette use for smoking cessation is unknown**. Clinicians should encourage smokers who seek to quit smoking and ask about e-cigarettes to use **FDA-approved smoking cessation aids** as a first choice [13].

6-If a smoker is not willing to use these evidence-based approaches and asks about using e-cigarettes, the clinician need not discourage e-cigarette use as long as the smoker is informed about the uncertainties of the devices' safety and efficacy [13].

7-Public health concerns regarding e-cigarettes include their potential to increase **youth initiation of tobacco products** and to **renormalize tobacco use in places where cigarette smoking is not acceptable**. **Accidental nicotine poisoning in children** has been reported. The health effects of secondhand vapor exposure are unknown [13].

8-**Regulation** for e-cigarettes varies worldwide and is changing [13]. In 2016, the **MHRA** (Medicines and Healthcare Products Regulatory Agency) **issued a license for an e-cigarette, paving the way for it to be prescribed by doctors** [3].

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Table 6-10: Nicotine replacement therapy usage guidelines		
Dosage form	**Practical points**	**Dose**
Nicotine Gum (2 and 4 mg)	1-If the time to first cigarette (TTFC) is 30 minutes or less, therapy should be initiated with the 4 mg gum. If the TTFC is more than 30 minutes, therapy should be initiated with the 2 mg gum [2, 3]. However BNF stated that **2-mg gum is used for** Individuals who smoke fewer than 20 cigarettes each day while 4-mg gum is used for individuals who smoke more than 20 cigarettes each day [10]. 2-Acidic beverages such as coffee, juices, wine, or soft drinks may transiently reduce the salivary pH, resulting in decreased absorption of nicotine across the buccal mucosa. Patient should not eat or drink anything (except water) 15 minutes before or while using the nicotine gum [2]. 3-To minimize withdrawal symptoms, use the nicotine gum on a scheduled basis rather than as needed [3]. However BNF stated that (chew 1 piece of gum when the urge to smoke occurs) [10].	Weeks 1-6: 1 piece every 1-2 Hours. Weeks 7-9: 1 piece every 2-4 Hours. Weeks 10-12: 1 piece every 4-8 hours [2].
Nicotine Lozenges (2 and 4 mg):	1-As with nicotine gum, dosing for the lozenge is based on the time to first cigarette (TTFC) of the day. If the TTFC is 30 minutes or less, therapy should be initiated with the 4 mg lozenge. If the TTFC is more than 30 minutes therapy should be initiated with the 2 mg lozenge [2]. However BNF stated that Individuals who smoke less than 20 cigarettes each day should usually use the lower-strength lozenges; Individuals who smoke more than 20 cigarettes each day should use the higher-strength lozenges [10]. 2-Place the lozenge in the mouth and allow it to dissolve slowly (20-30 minutes for standard lozenge; 10 minutes for mini lozenge) [2]. 3-As the nicotine is released from the lozenge, you may experience a warm, tingling sensation [2]. 4-Occasionally rotate the lozenge to different areas of the mouth to decrease mouth irritation. 5-To minimize withdrawal symptoms, use the nicotine lozenge on a scheduled basis rather than as needed [2]. 6-Follow the same guidelines regarding use of the lozenges with food and beverages as they would with nicotine gum [2].	Weeks 1-6: 1 lozenge every 1-2 Hours. Weeks 7-9: 1 lozenge every 2-4 Hours. Weeks 10-12: 1 lozenge every 4-8 hours [2].
Nicotine Sublingual Tablet (2 mg)	Each tablet should be placed under the tongue and allowed to dissolve [10].	**Individuals who smoke more than 20 cigarettes each day** : 2 tablets every 1 hour, if attempting smoking cessation, treatment should continue for up to 3 months

		before reducing the dose; maximum 40 tablets per day [10]. **Individuals who smoke less than 20 cigarettes each day :** 1 tablet every 1 hour, increased to 2 tablets every 1 hour if required, if attempting smoking cessation, treatment should continue for up to 3 months before reducing the dose; maximum 40 tablets per day [10].
Nicotine patches (10 mg, 15 mg, and 25 mg patches /16 hours) **(7 mg, 14 mg, and 21 mg patches /24 hours)**	1-Patches should be applied on waking to dry, non-hairy skin on the hip, trunk, or upper arm and held in position for 10–20 seconds to ensure adhesion [10]. 2-To minimize the possibility of localized skin reaction, a new site of application should be chosen each day, and several days should be allowed to elapse before a patch is reapplied to the same area [9]. 3-Used patches should be folded in half with the adhesive side inwards and disposed carefully, as they still contain enough nicotine to poison a child [9].	Individuals who smoke more than 10 cigarettes daily should apply a high-strength patch daily for 6–8 weeks, followed by the medium-strength patch for 2 weeks, and then the low-strength patch for the final 2 weeks. Individuals who smoke fewer than 10 cigarettes daily can usually start with the medium strength patch for 6–8 weeks, followed by the low strength patch for 2–4 weeks [10].
Nicotine inhalation Cartridge (10-mg and 15-mg)	1-Insert the cartridge into the device and draw in air through the mouthpiece; each session can last for approximately 5 minutes. The amount of nicotine from 1 puff of the cartridge is less than that from a cigarette, therefore it is necessary to inhale more often than when smoking a cigarette [10]. 2-A single 10 mg cartridge lasts for approximately 20 minutes of intense use; a single 15 mg cartridge lasts for approximately 40 minutes of intense use [10]. 3-Patient with severe asthma or chronic bronchitis may find inhalation from the inhaler difficult , and should therefore avoid this product [9].	As required, the cartridges can be used when the urge to smoke occurs or to prevent cravings, individuals should not exceed 12 cartridges of the 10-mg strength daily, or 6 cartridges of the 15-mg strength daily [10].
Orodispersible Tablets 2.5 mg Oral Film	Place one film on the tongue. Close the mouth and press the tongue gently to the roof of the mouth until the nicotine film dissolves (**approximately 3 minutes**). The film should not be chewed or swallowed whole [12]	Weeks 1-6: 1 film every 1-2 Hours. Weeks 7-9: 1 film every 2-4 Hours. Weeks 10-12: 1 film every 4-8 hours [12].

Nicotine Nasal Spray 500 mcg/ spray	Initially 1 spray should be used in both nostrils but when withdrawing from therapy, the dose can be gradually reduced to 1 spray in 1 nostril [10].	1 spray as required, individuals can spray into each nostril when the urge to smoke occurs, up to twice every hour for 16 hours daily, if attempting smoking cessation, treatment should continue for 8 weeks before reducing the dose; maximum 64 sprays per day [10].
Mouth (Oral) spray	The oral spray should be released into the mouth, holding the spray as close to the mouth as possible and avoiding the lips. The patient should not inhale while spraying and avoid swallowing for a few seconds after use. If using the oral spray for the first time, or if unit not used for 2 or more days, prime the unit before administration [10].	1–2 sprays as required, individuals can spray in the mouth when the urge to smoke occurs or to prevent cravings, individuals should not exceed 2 sprays per episode (up to 4 sprays every hour); maximum 64 sprays per day [10].

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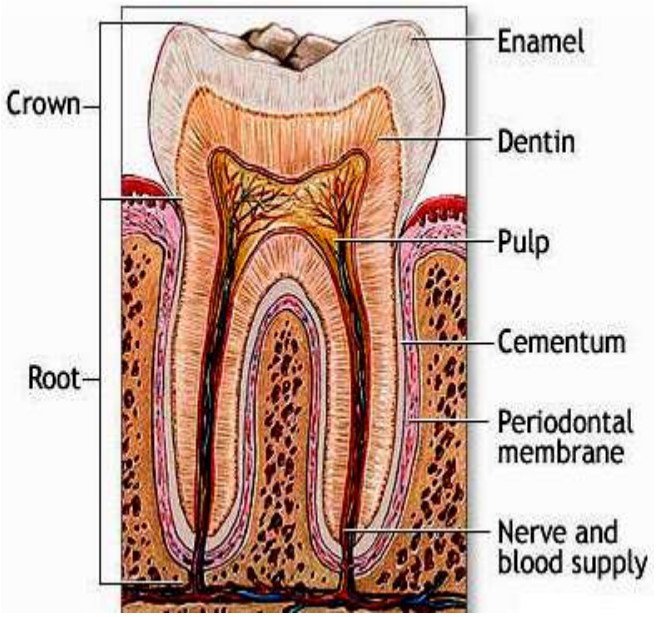
Oral Care

Nearly all dental diseases are **preventable**, and by far the most important factor in prevention is an effective daily oral hygiene regimen [(1)].



General Oral Care

A-Toothbrushes:

1-Teeth should be brushed **twice daily**. Once should be before **going bed** because **salivary flow decrease during sleep** and its **natural cleansing action is correspondingly reduced**, but the precise timing of the 2nd brushing is important [(1)].

2-It is, however better **not to brush within 20 minutes of consuming acidic food or drink** (e.g. fruit juice), when the **enamel is particularly susceptible to wear** [(1)].

3- There are some widely accepted principles about the design of manual [(1)]:

A-**Nylon bristles are better** than natural bristles, which soften when wet and readily harbour bacteria.

B-**Medium texture bristles are appropriate for most people**. Soft bristles are less effective in removing plaque, while hard ones may damage the gums and abrade the teeth.

C- **Round ended bristles cause less damage to gums** than angular-ended bristles

D- A straight rather than an angled handle is easier to manipulate.

4-Toothbrushes should be **changed** as soon as the bristles start to splay outwards, for most people this happened after **about 10 weeks** [(1)].

5-There are almost many tooth brushing methods, but:

A-Whatever the method is employed, it must ensure that **every accessible surface of every tooth is cleansed** without damaging the teeth or soft tissues [(1)].

B-**Don't use excessive force** that may cause bristle damage and irritation of the gingival tissues [(2)].

C-Gently **brush the upper surface of the tongue** to reduce debris, plaque, and bacteria that can cause oral hygiene problems [(2)].

B-Toothpaste:

As a general rule, people **should use a fluoride containing toothpaste** to reduce susceptibility to decay (Fluoride converts the calcium hydroxyapatite in enamel to

calcium fluoroapatite and reduce susceptibility to decay). Some patient with **exposed dentine** may have been advised by the dentist to use desensitizing **toothpaste, and again should use a brand containing fluoride** [1].

C-Dental floss:

1-Toothbrushes bristles are unable to remove plaque from **area directly between the teeth**. These inaccessible areas should be **cleansed once a day using dental floss** [1].

2-Dental floss usually available in waxed and unwaxed, however, there is **no clinical difference between both type** and it is a matter of personal choice which one is used [1].

3-**Correct technique is vitally important** and the in and out movement should not employed because this can damage the periodontal ligament and severely traumatize the gum [1]. (Table 10-1)

Table 10-1: Guideline for proper use of dental floss
1-Pull out approximately 30 cm of dental floss, and wrap most of it around the middle finger [2]. 2-Wrap the remaining floss around the same finger of the opposite hand. About 3 cm of the floss should be held between the thumbs and forefingers [2]. 3-Do not snaps the floss between the teeth: instead, **use a gentle, sawing motion to guide the floss to the gumline** [2]. 4-When the gumline is reached, **curve the floss into C-shape against one tooth**, and gently slide the floss into the space between the gum and tooth until you feel resistance [2]. 5-hold the floss tightly against the tooth, and gently scrape the side of the tooth while moving the floss away from the gums (repeat it several times) [2]. 6-Curve the floss around the adjoining tooth, and repeat the procedure [2]. 7-Change the section used for cleaning once it becomes soiled [1]. 8-On completion, the mouth should be vigorously rinsed with water or mouthwash [1].

4-**Note**: it is common for people who **are new to flossing to experience bleeding gums** afterwards, but this should stop if a good technique is developed [1].

D-Diet:

Food may be involved in two dental problems: **dental caries** and **dental erosion**
Dental caries: in which the **bacterial** plaque on the **teeth ferment the sugar in food to produce lactic acid**, which in turn dissolve (dematerializes) tooth surface creating a carious cavity [1].

Dental erosion: it is loss of tooth tissue caused by a **chemical process not involving bacteria**. But it caused mainly by acidic drink (or even from gastric reflex) [1].

The greatest benefits are obtained by observing the following guidelines [1]:

1-**Overall sugar consumption should be reduced** as much as possible (table sugar, fruit juice with added sugars, honey…)
2-The **frequency of sugar consumption should be minimized**
(Because the number of times the sugar enter the mouth is very important factor in tooth decay since teeth are exposed to lactic acid for approximately 20 minutes on each occasion). And it is therefore better for a child with a packet of sweets (to eat them all at once rather than gradually throughout the day).
3-**Sticky, sweet food should be avoided** because they adhere to teeth and prolong exposure to bacterial acids.
4-**Sweet should be consumed as a part of meal rather than as a snack,** this is because salivary flow is higher at this time and recovery from an acidic attack is quicker.
5-**Fruit and vegetables** should be eaten in preference to cakes and biscuits.
6-Any necessary **medications should be sugar free** if possible.
7-**Reduce exposure to acidic drinks** (such as fizzy, colas, citrus juice ...), limiting consumption to meal-times, chilling drinks (to slow the rate of reaction between acid and teeth tissue) and using a straw.

E-Fluoride:

1-Topical fluoride is proved to prevent dental cries where fluoride-containing toothpaste is the main reason for decreasing caries in the last 20 years [(1)].

2-Systemic fluoride is less significant in preventing decay than topical fluoride [(3)].

3-**If oral tablet is recommended by dentist**, then tablets should be sucked or dissolved in the mouth and taken preferably in the evening [(4)].

F-Dentures:

Dentures are one of the most widely abused medical devices. The following are some of the guideline points:

1-When being not worn, **dentures should be kept in cold water** to avoid distortion and loss of fit. Hot water should not be used because it can cause warping [(1)].

2-It essential to **brush dentures thoroughly once or twice daily**. Soap and water is preferably adequate for this, but **denture toothpaste** is better. While **ordinary toothpaste should be avoided** because it is too abrasive and will damage denture surface. **Hard brushes should also be avoided** and either a soft brush or a denture brush is used [(1)].

3-Brushing should be carried **over a bowl of water or other soft surface** in case the dentures are accidentally dropped, this being a major cause of breakage [(1)].

4-People who have broken their dentures should advise not to attempt repair themselves but should be referred to dental laboratory [(1)].

G-Oral Hygiene for Children:

1-It is good idea to begin cleaning children teeth as soon as they appear. Young infants may object to having their teeth brushed and rubbing with **toothpaste –impregnated flannel may be more acceptable** [(1)].

2-Most children can not brush their teeth satisfactory until they **are about 6 years old**. And even in young children the effectiveness of their routine should be checked occasionally. In addition tooth brushing should be made into a fun habit [(1)].

3-Parents must also ensure that the **amount of toothpaste used is no more than the size of a small pea**, because about 70% of it may swallowed , increasing the risk of **fluorosis** and consequent **mottling of enamel** [(1)].

H-Regular check up:

Although the home oral hygiene is important to prevent dental diseases, **everyone, should have an oral examination once a year**. In order to detect and treat any oral problem as soon as possible. In the early stage, both caries and periodontal (Gum) diseases are reversible, but the treatment of caries become more complex and extensive the longer tooth destruction is allowed to continue [(1)].

Some oral problems

A-Bleeding socket [(4)]:

After tooth extraction, patient may be concerned that the socket is still oozing blood. In this event, they:

1-**Should roll a piece of gauze to form a pad**. Place it over the socket and **bite firmly for about 15 -20 minutes**. This is usually sufficient to affect haemostasis, but if bleeding continued for **more than one hour** it is necessary to return to the dentists.

2-The patient may be advised to a**void rinsing the mouth, spitting, smoking, or drinking hot drink for 24 hours after an extraction** to avoid dislodging the clot.

3-**After 24 hours, the socket can be gently rinsed with salt and water** (one teaspoon of salt in a cup of warm water) **after meals and at bedtime**.

B-Sensitive teeth (Tooth hypersensitivity):

1-**Cold**, **hot**, **sweet** or **sour foods** and **drinks** can **trigger sharp**, **sudden pain** in **sensitive teeth**. The most common cause of hypersensitivity is that the **dentine has become exposed** .This can be due to, for example, **brushing too vigorously** [(5)].

When **stimuli** such as heat, cold, pressure, or acid **touch exposed dentin,** the underlying nerves are stimulated, **resulting in pain** [(2)].
The etiology of dental erosion is primarily attributed to the presence of extrinsic or intrinsic **acid**. (Enamel, which covers the anatomic crowns of the teeth, is resistant to abrasion by normal toothbrushing, but **excessive brushing** with abrasive toothpaste or a medium- or **hard**-bristled toothbrush can be problematic) [(2)].

Treatment of tooth hypersensitivity

1-A person with sensitive teeth needs to maintain good oral hygiene, but may be advised to avoid acidic food and drinks, switch to a softer toothbrush and used desensitizing toothpaste [(5)].

2-Pharmacologic treatment of tooth hypersensitivity involves the use of desensitizing toothpaste that contains a **potassium salt**. Potassium diffuses along the dentinal tubules to decrease **the excitability of intradental nerves and alter their membrane potential**. A tooth desensitizer acts on the dentin to block the perception of stimuli that patients with normal teeth usually do not experience [(2)].

3-Combination products containing **potassium nitrate 5% and fluoride** are available. When used as directed, these products can **relieve tooth hypersensitivity and prevent dental caries** [(2)]. (table 10-2)[(2)].

Table 10-2: Selected Nonprescription Desensitizing Toothpastes [(2)].	
Trade Name	**Primary Ingredients**
Colgate Sensitive Multiprotection	Potassium nitrate 5%; sodium fluoride 0.24%
Crest Sensitivity: Clinical Sensitivity Relief Extra Whitening	Potassium nitrate 5%; sodium fluoride 0.243%
Sensodyne Maximum Strength with Fluoride	Potassium nitrate 5%; sodium fluoride 0.15%

4-A **single application** of these toothpastes **has no effect**; for some patients, long-term **use (**twice daily **for 2-4 weeks) may be necessary to relieve the symptoms** [(2)].

5-The desensitizing toothpaste should be used until **the sensitivity subsides** or as long as a dentist recommends its use. In about 25% of adults, hypersensitive teeth are a chronic problem and require long-term treatment provided by a dentist [(2)].

C-Bleeding Gum:

1-Periodontal disease is extremely wide spread, **initially** it affects the gums (Gingiva), but if left untreated it can spread to the **periodontal ligament** and bony socket, leading to the loss of teeth [(5)].

2-When only the gums are involved the condition is termed **gingivitis**, but once the supporting structures are affected it is called **periodontitis** [(5)].

Periodontitis.

Gingivitis

3-A number of risk factors are associated with gingivitis and periodontitis, and include diabetes mellitus, cigarette smoking, poor nutritional status and poor oral Hygiene [6].

4-The cause of booth condition **is toxins and enzymes, produced by plaque bacteria,** which damage the tissue [3]. Other possible etiologies include **medications** such as calcium channel blockers, cyclosporine, and phenytoin [2].

5-Progress is slow and painless, but even during early chronic gingivitis, patients may **notice that their gums tend to bleed** (especially when brushing**) and halitosis** (mouth odor) is present. The gums also appear red and swollen [5].

6-Pharmacist can make the patient aware that treatment **at this stage consists essentially of a thorough oral hygiene (Brushing and flossing).** This can prevent the condition progressing to the point where teeth become loose and cannot be saved [5].

7-**Changes in gingival color**, size, and shape, as well as the ease with which gingival bleeding occurs, are common indications of chronic gingivitis that both the patient and the practitioner can recognize [2].

8- Left untreated, chronic gingivitis may advance to the **periodontitis** [2]. Chronic periodontitis is usually treated by the **dentists** by scaling and root planing [5].

D-Halitosis

1- Halitosis, **oral malodor** usually known as bad breath. Causes of halitosis may be related to both systemic and oral conditions; however, about 85% of cases are generally related to an oral cause (**in 90% of cases, poor oral hygiene is the cause)** [2].

2-Oral causes may include dental caries, periodontal disease, oral infections, mucosal ulcerations, tongue coating, and impacted food or debris [2].

3- Most foul breath odors occur because of a breakdown of sulfur-containing proteins into **volatile sulfur compounds (VSCs)** including hydrogen sulfide, and dimethyl sulfide." [2].

4-**Xerostomia** can also cause mouth odor. Medications that have anticholinergic properties often cause xerostomia [(2)].

4-**Garlic**, **tobacco**, **onions**, and other substances commonly placed into the mouth have their own odors that are not always appreciated by others [(2)].

Prevention of Halitosis [(2)]

1-Brushing the teeth and tongue are helpful.

2-**Zinc salts** and **chlorine dioxide** are most effective in the chemical prevention of oral malodor. Zinc chloride, citrate, and acetate reduce the receptor binding necessary for VSC production. Chlorine dioxide breaks disulfide bonds and oxidizes the precursors of VSCs. The zinc-salts also kill gram-negative bacteria [(2)].

4-Any patient who complains of severe halitosis without a readily identifiable cause (e.g., smoking) should be advised to see a dentist for a thorough evaluation. Masking foul taste and odor with cosmetic mouth rinses may delay necessary dental or medical assessment and any needed treatment [(2)].

E-Xerostomia

Xerostomia, commonly referred to as **dry mouth**, is a disorder in which **salivary flow is limited or completely arrested**. A person with normal salivary flow reportedly produces **up to 1.5 liters of saliva every 24 hours**. Between 10%-50% of the population is said to be afflicted with persistent dry mouth [(2)].

Pathophysiology of Xerostomia

1-Patients with **certain disease states**, including **Sjögren's syndrome** (an autoimmune condition in which the salivary glands become partly or completely dysfunctional and patients typically present with dry mouth and/or dry eyes), diabetes mellitus, and Crohn's disease, are prone to xerostomia [(2)].

2-**Medications with anticholinergic activity** or that cause depletion of salivary flow volume (e.g., antihistamines, antidepressants,) can cause xerostomia.(If xerostomia is drug-induced and the medication can be discontinued, the condition may be reversed in some cases) [(2)].

3-Other causes of xerostomia include use of alcohol, tobacco, or caffeine: salivary gland stones (sialolithiasis); and mouth-breathing [(2)].

Clinical Presentation of Xerostomia [(2)]

1-Xerostomia can result in **difficulty talking and swallowing**, **stomatitis**, and **halitosis**.

2-**Unmoistened food cannot be tasted**; therefore, xerostomia can cause **loss of appetite** and eventual **decline in nutritional status**.

3-**Patients' teeth can become hypersensitive**, which can be related to a decrease in salivary flow and the lack of buffering capacity that saliva provides.

4-This disorder also can increase the incidence of **caries**, **gingivitis**, and more severe **periodontal disease**.

5-Furthermore, reduced flow of saliva can disturb the balance of microflora in the oral cavity and predispose it to **candidiasis**.

Nonpharmacologic Therapy

1-The patient should **avoid substances that reduce salivation, including tobacco** [(2)].

2-Modification of medication schedules, in consultation with the treating medical provider, to coincide with periods of natural stimulation should be considered. For example, **patients could take medications that cause dry mouth I hour prior to meals**, because **eating naturally stimulates an increase in salivary flow**. Consequently, **the duration of dry mouth would be reduced** [(2)].

3-**Chewing gum** sweetened with sugar alcohols (e.g., xylitol), may be beneficial. **Chewing gum increases salivary flow**, and xylitol has not been shown to be cariogenic. In mild cases, using sugarless sweets and chewing gums or sucking on ice chips can help to stimulate residual salivary flow [(2)].

4-**Increasing water intake** [(2)] (frequent sips of cool drinks) [(4)], especially if it is fluoridated, would also be of benefit [(2)].
5-Finally, the use of **very soft toothbrushes** will help prevent decay by minimizing tissue abrasion [(2)].

Pharmacologic Therapy (Artificial Saliva Products)

1-Artificial saliva products are the primary agents for relieving the discomfort of dry mouth [(2)].

2-They are designed to mimic natural saliva both chemically and physically. However, **they do not contain the many naturally occurring protective components** that are present in innate saliva [(2)].

3-Because they do not stimulate natural salivary gland production, however, they must be considered **replacement therapy, not a cure for xerostomia** [(2)].

4-Selected nonprescription saliva substitutes and other xerostomia products are shown in (Table 10-3) [(2)].

Table 10-3: Selected Nonprescription Saliva Substitutes and Other Xerostomia Product [2].	
Trade Name	**Primary Ingredients**
Biotene (Oral Balance Gel/Liquid) Biotene (Moisturizing Mouth Spray)	Glucose oxidase 10,000 units; lactoferrin 16 mg; Lactoperoxidase 15,000 units; lysozyme 16 mg; sodium monofluorophosphate 0.14% (w/v fluoride ion)
Entertainer's Secret Spray	Sodium carboxymethylcellulose; dibasic sodium phosphate; potassium chloride; parabens; aloe vera gel; glycerin
Biotene Dry Mouth Gum	Sorbitol; gum base; xylitol; maltitol syrup
Biotene (Dry Mouth Toothpaste)	Sodium monofluorophospate 0.14%

4-The **majority** of artificial saliva products **are available as a spray**. Some is also available as a gel (placed gel onto the tongue and spreading thoroughly in the mouth) [2].

5-These products can be used at any time (can be used on an **as-needed basis** in patients with little or no saliva); a minimum suggested use is **after meals and before going to bed** [2].

6-Patients on **low-sodium diets** should **avoid artificial salivas** that **contain sodium** [2].

F-Teething Discomfort

Teething is the eruption of the primary or baby teeth through the gingival tissues. **Usually, this normal physiologic process is uneventful** [2]. However, it can cause **pain**, **sleep disturbances**, or **irritability** in some individuals for whom nonprescription products can provide symptomatic relief [2].

Teeth eruption can begin as early as 6 months of age, and for each tooth that erupts, the teething period usually occurs over **an 8 day window** [2].

Clinical Presentation of Teething Discomfort

1-Mild **pain**, **irritation**, **reddening**, excessive **drooling**, low-grade fever or **slight swelling** of the **gums** may precede or accompany sleep disturbances or irritability.

2-Teething is **not associated** with **vomiting**, **diarrhea**, **fever**, or **rashes**, but these symptoms may be a sign of **infection** [2].

Nonpharmacologic Therapy

1-If possible, **massage the gum around the erupting tooth** to provide relief [2].

2-Babies may be made more comfortable by giving them a **teething ring** [2].

Pharmacologic Therapy

1-Pharmacologic management of infant teething discomfort is limited to **pediatric doses of systemic analgesics** (e.g., acetaminophen).

(Nonpharmacologic management and systemic analgesics, given at the appropriate pediatric doses, should be used for symptom management) [(2)].

2- The FDA that prescription oral viscous lidocaine 2% solution should not be used to treat infants and children with teething pain [(2)].

3-In 2018, the FDA announced that OTC oral health products containing the pain reliever benzocaine for the temporary relief of sore gums due to teething in infants or children **should no longer be marketed** and is asking companies to stop selling these products for such use Because of the lack of efficacy for teething and the serious safety concerns with OTC benzocaine oral health products (risk of methemoglobinemia) [(7)].

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College of Pharmacy.
Fourth Year. Clinical Pharmacy

Seasonal Allergic Rhinitis

Rhinitis is simply inflammation of the nasal lining. It is characterized by **rhinorrhoea**, nasal **congestion**, **sneezing**, and **itching** [1].

Seasonal allergic rhinitis (SAR) and/or **conjunctivitis**, more commonly known as **hay fever**, are **allergic reactions** in the nasal mucosa and the conjunctiva of the eye associated with the **presence of pollens in the atmosphere**.
Hay fever occurs at certain times of year. The most common causes are:

- **Tree** pollens in **spring**.
- **Grass** pollen in **summer** [2].

Patient Assessment with Allergic Rhinitis:

A-Symptoms:

1-The patient usually have all ***four*** classical symptoms of nasal **itch, sneeze, rhinorrhoea, and nasal congestion** , however, the patient might also suffer from ocular irritation , giving rise to **allergic conjunctivitis** [1].

2-The nasal discharge is often thin, watery, and clear, but it may be change to colored and purulent one which may indicate secondary infection**. However the treatment is not altered and Antibiotic are usually not needed** [3].

3-Symptoms of allergic rhinitis may be **confused with that of common cold;** the two conditions may be distinguished by the following points (table 2-3) [2]:

Table 2-3: Differential diagnosis of allergic rhinitis and the common cold [2]

Allergic rhinitis	Common cold
Ocular symptoms present	Usually **no ocular** symptoms
Symptoms continue for as long as the patient is exposed to the allergens , **often for several weeks**	Symptoms last for about **4-to several days**
Symptoms occur at **the same time Each year**.	Can occur at any time of the year but more usually in the **winter months**
Only affect **isolated individuals**.	**Highly contagious** (affects other family members and may be common within the community.

B-Associated symptoms:

1-Earache and facial pain: As with cold and flu, allergic rhinitis can be complicated by secondary bacterial infections in middle ear (**otitis media**) or the sinuses (**sinusitis**), therefore patients with painful ear or painful sinuses required referral [3].

2-When associated symptoms such **as wheezing, tightness of the chest, shortness of breath** (SOB)are present, immediate referral is advised. These symptoms may herald the onset of an asthmatic attack [3].

3-Eye symptoms:
The eyes may be **itchy** and also **watery (allergic conjunctivitis)**, occasionally, this may be complicated by a secondary bacterial infection in which the discharge change from clear watery to **sticky colored (purulent)** [3]

C-Seasonal variation:

Repetitive and predictable seasonal symptoms characterize **SAR** [4].

D-Triggers:

Classically symptoms of hay fever **are more severe in the morning and evening** this is because pollen rises during the day after being released in the morning and then settled at night. Hay fever symptoms worsen also on **windy days**. While symptoms **may be reduced after rain** [3] and when the patient stay indoors [1].

E-Family history:

If a first degree relative suffers from **atopy** then hay fever is the most likely cause of rhinitis [1].
(Atopy: A form of hypersensitivity characterized by a familial tendency**)** [1].

F-Medication:

When to refer [1, 3]
Wheezing and shortness of breath
Tightness of chest
Painful ear
Painful sinuses
Failed medication
Medicine-induced rhinitis

1-If one or more **appropriate** remedies have been tried **without success** (failed medication), referral is required [3].
2-Medication of other condition:
-To avoid drug-drug interactions between the recommended OTC and this drugs [3].
- A number of oral medications are implicated in causing rhinitis including alpha adrenoceptor antagonists (e.g. terazosin)(used for benign prostate hyperplasia) [1].

Treatment timescale:

If no improvement is noted after **5 days** of therapy, the patient should be referred [3].

Management:

A-Nonpharmacological advices for SAR [2]:

1-Stay **indoors** and keep all **windows closed**.
2-**Avoid going out**, particularly in the early **evening and mid-morning**.
3-Wear close-fitting **sunglasses** when outside, and a **mask** if symptoms are really severe.
4-In the car, **keep windows closed**, especially on motorways. Keep the air conditioning system on, if there is one.

B-Pharmacological therapy:

Pharmacists now possess a wide range of options to treat SAR. Medications used can be divided into two categories [1]:
Topical: corticosteroids, antihistamines, mast cell stabilizers, and decongestants.
Systemic: Antihistamine and decongestants.

1-Topical therapy:

A-Steroid nasal sprays: Beclometasone, fluticasone, and triamcinolone:

1-A steroid nasal spray is the **treatment of choice** for moderate to severe nasal symptoms [3] and superior to oral antihistamine [5].
2-They can be used in patients aged over 18 years **for up to 3 months** [3].
3-Ideally treatment should be start **at least 2 weeks before symptoms are expected** [2].
4-Regular use is essential for full benefit [3] and **it should be continued throughout the hay fever season** and repeated each year [2. If symptoms are already present, the patient needs to know that **it take several days** before full effect is reached [3].
5-**Side effects:** are (nosebleed, dryness and irritation of nose and throat) [3] but these are mild and transient [5].
Note: Patient sometimes **alarmed by the term (steroid)** therefore the pharmacist needs to take account of these concerns [3].

Further reading 1

B-Mast cell stabilizers (Sodium cromoglicate):

1-This is available OTC as nasal drop or spray (4%) and as eye drop [3]. Like Corticosteroids (CS) , sodium cromoglicate is a prophylactic agent, but their place in nasal symptoms of allergic rhinitis is **limited because it is less effective than steroids and it need more frequent administration** (4-6 times a day) [1].

2-It is preferably **started 1 week before the hay fever season** is likely to begin and then used continuously [3] .

Further reading 2

C-Topical Decongestants: see **common cold lecture**.

D-Topical antihistamine:
Azelastine is a nasal spray used in allergic rhinitis. Topical antihistamines are considered **less effective than topical corticosteroids** but probably more effective than cromoglicate. The BNF suggests that treatment should **begin 2–3 weeks before the start of the hay fever** season.

Further reading 3

E-Topical ocular preparations:
1-Most eye symptoms will be controlled by oral antihistamines, however if symptoms are persistent or particularly troublesome, topical ocular preparations are effective [5]:

2-**Ocular preparations** include sodium cromoglicate and decongestants-antihistamine (Naphazoline-Antazoline) (**see lecture of eye disorders**).

2-Systemic (oral) therapy:

A-Systemic (oral) decongestants: like Pseudoephedrine, phenylphrine and ephedrine which constrict the dilated blood vessels of the nose [3]. (**see common cold**)

B-Antihistamines:

1-Many pharmacists would consider these drugs to be the first-line treatment for mild to moderate and intermittent symptoms of allergic rhinitis. They are effective in reducing sneezing and rhinorrhoea, less so in reducing nasal congestion [3] . (see common cold).
Note 1 (important): The maximum effect of antihistamines is achieved if they are block histamine release before it occurs. **For maximum effectiveness, therefore, antihistamines should be taken when symptoms are expected rather than after they have started [5].**

2-**Breakthrough symptoms with one-a-day antihistamines:** Patients who suffer breakthrough symptoms using a once daily preparation (loratadine, cetirizine) may benefit from changing to acrivastine, as three-times-a-day dosing may confer better symptom control [1].

C-Combination products: sympathomimetics + Antihistamine (see common cold).

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Sore Throat

1-Most sore throat which present in the pharmacy will be caused by viral infection (90%). with only one in ten (10%) being due to bacterial infection so the treatment with **antibiotics is unnecessary in most cases** [1].
Clinically, differentiation between viral and bacterial sore throat is extremely difficult [2]. Causes of sore throat and their relative incidence are shown in (table 2-5) [2].

2-Patients will present with a sore throat as an **isolated symptom** or as part of a **cluster of symptoms** that include rhinorrhoea, cough, malaise, fever, headache and hoarseness (laryngitis) [2].

Table 2-5: Causes of sore throat and their relative incidence in community pharmacy [2]

Incidence	Cause
Most likely	Viral infection
Likely	Streptococcal infection
Unlikely	Glandular fever, trauma
Very unlikely	Carcinoma, medicines

Patient assessment with sore throat:

A -Age:

Although viral causes are the most common cause, streptococcal infections are more prevalent in people under the age of 30, particularly those of school age (5–10 years) and young adults (15–25 years old) [2].

B-Duration:

Most sore throats are self-limiting and will be better within 7-10 days [1]. Therefore, sore **throat lasting more than 2 weeks** should be referred [2].

C- Severity:

If the sore throat is described **as extremely painful**, especially in the absence of cold, cough or catarrhal symptoms, **then referral** should be recommended if there is no improvement within 24-48 hours [1].

D-Previous history:

Recurrent bouts of infection (**tonsillitis**) would mean that referral is best [1].

E-Associated symptoms:

A cold, catarrh and cough may be associated with a sore throat. There may also be a fever and general aches and pains (these are in keeping with a minor self-limiting viral infection) [1].

Symptoms that may need referral:

1-Dysphagia: Most patients with sore throat will find it less easily to swallow (not required referral) but this has to be differentiated from **actual difficulty inswallowing** (dysphagia) that required referral. True difficulty in swallowing (dysphagia) (i.e. not just caused by pain but mechanical blockage) should be referred [2].

2-Hoarseness: when hoarseness persist **for longer than 3 weeks**, referral is necessary [1].

3-Apperance of throat:

Unfortunately the appearance of throat can be the same in both viral and bacterial sore throat (Which may be normal appearance or the presence of white spots, exudates or pus on tonsils) [1].

However, **marked tonsillar exudates accompanied with high temperature and swollen glands** required referral (Possible bacterial cause and may require antibiotics) (table 2-6) [2] **Further reading 4**

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F-Present medications:

1-A rare complication of certain medication is **agranulocytosis** (suppression of WBC production in the bone marrow) [1] which can manifest as fever, **sore throat**, and ulceration t. The patient will probably present with signs of infection, including fever

and chills. Examples of drugs that cause this adverse event are: (**Captopril, carbimazole**, cytotoxics, pencillamine, sulfasalazine, neuroleptics e.g. clozapine) [2]

2- **Further reading 5**

Treatment timescale:

Patients should see a doctor in if the sore throat has not improved **in 1 week** [1].

Management:

The majorities of sore throats **are viral and are self-limiting.** Medication therefore aims to **relieve symptoms and discomfort while the infection runs its course** [2].

When to refer
-Duration of more than 2 weeks [2]. -Marked tonsillar exudate, accompanied with a high temperature and swollen glands[2]. -Adverse drug reaction [2]. -People taking medicines that can interfere with the immune response (e.g., immunosuppressants, disease-modifying antirheumatics) [2]. - Dysphagia [2]. -Associated skin rash [2]. - Hoarseness of more than 3 weeks' duration [1]. - Recurrent bouts of infection [1]. - Failed medication [1].

A-Oral analgesics:

Simple systemic analgesics such as Paracetamol, aspirin, and ibuprofen are effective in **reducing the pain associated with sore throat** [2].

The patient can be advised to take the analgesics **regularly** (**not on an 'as needed' basis**) to sustain the pain relief [1, 2].

Note: Flurbiprofen is a non-steroidal anti-inflammatory drug (NSAID) that is available as a lozenge formulation for the relief of sore throat [3]**.** It is used for adults and children aged 12 years and over [2].
The dosage is one lozenge is sucked or dissolved in the mouth every 3–6 h as required, to a maximum of five lozenges. Flurbiprofen lozenges can be used for up to 3 days at a time [1].

B-locally acting preparations (Lozenges and pastilles):

1-The action of sucking anything produces saliva, which lubricates and sooth the inflamed tissues. All lozenges (**regardless of ingredients**) produce this action and much (if not all) of their effectiveness is due to this [3].

2-Gargles or lozenges?
Gargles have very short contact time with inflamed mucosa and therefore any effect will be short lived. A lozenge or a pastille is preferable, as contact time will be longer [2].

3-Non medicated demulcents pastilles such as that containing lemon, honey, glycerin… may be as effective as anything for soothing the sore throat (as in the above note).They can be taken as **often as required t**o stop the throat feeling dry, thereby relieving discomfort. Some products contain volatile oil such **as menthol** , and

eucalyptus oil which produce a sensation of **clearing the blocked nose** which may accompany the sore throat [3].

4- **Further reading 6**

5-local anesthetic**s (e.g. benzocaine) are included in a number of marketed products (throat lozenges) and used** for patient who finds the swallowing uncomfortable. The Local anesthetics can **cause sensitization i**n some individuals with prolong use, so usage should be limited to **5 days**.
Local anaesthetics should not be used at all by children or elderly people [3].

References:

1-Alison Blenkinsopp, Paul Paxton and John Blenkinsopp. Symptoms in the pharmacy . A guide to the managements of common illness. 7th edition. 2014.
2-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017.
3-Nathan A. fasttrack. Managing Symptoms in the Pharmacy. Pharmaceutical Press. 2008.

Sun exposure and melanoma risk

Background

1-The ultraviolet spectrum is subdivided in to three regions: **UVA** (320 to 400 nm); **UVB** (290 to 320 nm); and **UVC** (200 to 290 nm). Light from the **UVA spectrum causes skin tanning** and **UVB light sunburn**, whereas UVC light is effectively filtered out by the ozone layer [1].

2-It is now well recognized that excessive or prolonged exposure to the sun's rays and inadequate skin protection can result **in pre-cancerous and cancerous neoplasms** [1].

3-There are many types of skin cancer, but three types are associated with sun exposure : **squamous cell carcinoma** (SCC), **basal cell carcinoma** (BCC) and **malignant melanoma** (MM)- and are responsible for **more than 95°/o of all skin cancers** [1].

4-**SCC and BCC result from chronic long-term exposure to sunlight whereas** MM is associated with acute, intense, and intermittent blistering sunburns. BCC and SCC are often grouped together as **non-melanoma skin cancer (NMSC)** [1].

Etiology

1-The body's response to the effects of UVA and UVB light is protective. **On exposure to ultraviolet light melanocytes increase production of melanin**, thus causing a darkening of the skin, the **melanin absorbs both UVA and UVB** and effectively protects the skin from damage, unfortunately melanin synthesis is slow and skin damage might well have already occurred manifesting as sunburn [1].

2-**Sunburn is an inflammatory response to excessive exposure to ultraviolet light** whereby an increase in inflammatory mediators results in capillary vasodilatation and increased capillary permeability [1].

3-In addition to melanin production, **epidermal hyperplasia occurs**, causing the skin to thicken; this provides further protection against the skin [(1)].

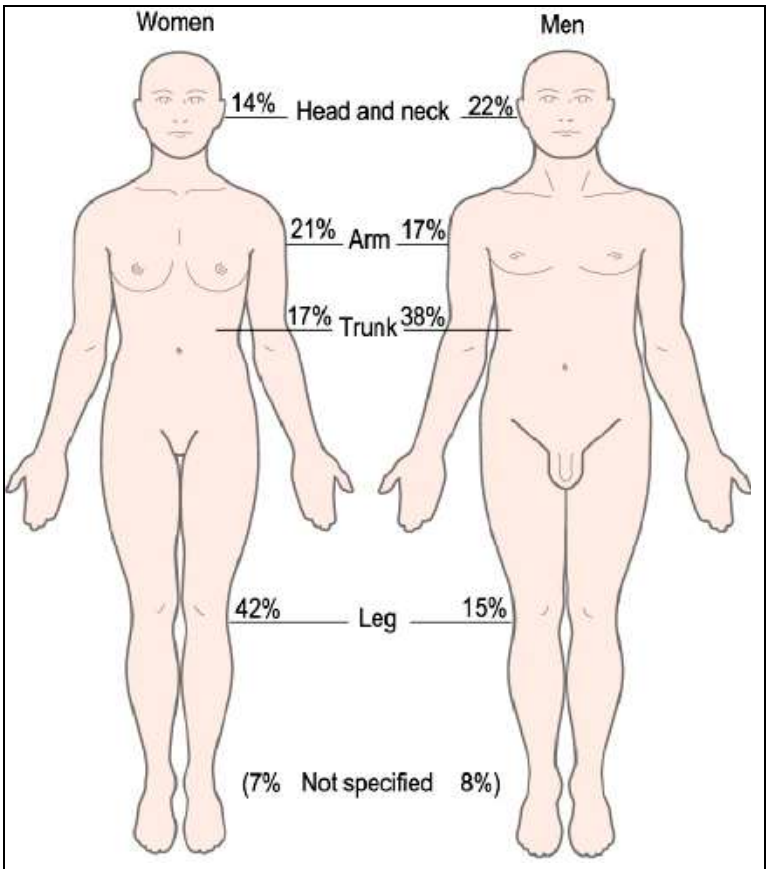


Figure 4-3: Distribution of malignant melanoma[(1)].

Clinical features of malignant melanoma

1-MM is one of the few cancers which is associated with young adults. It can appear on all body sites yet **their distribution between men and women does differ** (Fig. 4-3) [(1)].

2-The first sign of melanoma is often a **change in the size, shape, or colour of a mole**, although melanoma can also appear on the body as a new mole [(1)].

3-Early identification is essential and **two commonly used checklists are used to aid diagnosis**; the **'7 point'** check list and the '**ABCDE**' list [(1)].

A-The 7 point list .

This checklist consists of 3 major and 4 **minor points:**

Major (scores 2)

1-Change in **shape**
2-Change in **size**
3-Change in **color**

When to refer [(1)]
-Facial lesions, especially in people over 60 -Lesions that have become itchy, irritated or are prone to bleeding -Moles that have changed in size, shape or color

Minor (scores 1)

1-Largest diameter **7 mm or more** 2-**Inflammation** 3-**Oozing**
4-Change in **sensation** (e.g. itch or irritation)

Any lesion should be suspected **as MM with a score of 3 or more** [(1)].

B. The ABCDE Rule

In this checklist 5 points are used:

1-Asymmetry - Ordinary moles are usually symmetrical in shape. **Melanomas are likely to be irregular or asymmetrical.**

2-Border - Moles usually have a well-defined regular border. **Melanomas are more likely to have an irregular border** with jagged edges.

3-Colour - Moles are usually a uniform brown. **Melanomas tend to have more than one colour**. They may be varying shades of brown mixed with black, red, pink, white or a bluish tint.

4-Diameter - Moles are normally no bigger than the blunt end of a pencil (about 6mm across). **Melanomas are usually more than 7mm in diameter.**

5-Evolution - the symmetry, border, colour, or diameter of a mole has **changed over time.**

It is likely that patients will ask for advice and reassurance on skin lesions which they are concerned could be melanoma. It is essential that these people are given information, **regarding the changes that might subsequently suggest MM** and instructed to seek medical help as soon as they notice changes [(1)].

Non-Melanoma Skin Cancer (NMSC).

1-NMSC are associated with older people, with the average age of diagnosis in the early 70s. The cancers are rarely fatal but can cause substantial morbidity [(1)].

2-Both cancers commonly occur on skin surfaces that are exposed to a lifetime accumulation of UV radiation **such as the hands, face and scalp**. They are more common in people who have worked outdoors, and in fair skinned people [(1)].

3-BCC and SCC vary in their appearance. SCC initially present as raised lesions that exhibit a horny or scaly appearance that later become non-healing lesions often larger than 1 cm which can ulcerate; **BCC** starts as small translucent papule with obvious **telangiectasia over the surface**. Over time (growth can be very slow) the size of the papule increases and can ulcerate and crust over [(1)].

Avoidance measures

1-The most effective strategy for preventing skin damage/ sunburn and reducing the chance of developing cancers **is avoidance of UV light** [(1)].

2- The acronym SMART highlights the key sun avoidance measures that should be promoted to the public:

S-Spend time in the shade between 11 am and 3 pm [(1)](the rays of the sun are the most direct and damaging during this time, therefore the customer should avoid sun exposure during this time of day as much as possible) [(2)].
M-Make sure you never bum [(1)].
A-Aim to cover up with a T-shirt, hat and sunglasses [(1)]. Wear protective clothing such as long pants, a long sleeved shirt, and a hat with brim [(2)].
R-Remember to take extra care with children [(1)].
T-Then use factor 15+ sunscreen [(1)].

Sunburn can occur on a cloudy or overcast day; 70%-90% of UVR penetrates clouds [(2)].

Sunscreens

1-While sunscreens play an important role in sunburn protection, they should **never replace minimizing sun exposure** [1].

2-Sunscreens use the sun protection factor (SPF) system to indicate the level of protection against UV radiation. **It is a measure of the protection from UVB radiation** [1].

3-It is important that patients and consumers **do not assume a linear increase in protection as the SPF increases**. For example, a sunscreen with an SPF of 15 blocks 93% of UVB, whereas a doubling to SPF 30 only increases protection by 4 to 97% [1].

Practical prescribing and product selection

1-All products should be applied **20 minutes before exposure to the sun**, and reapplied every 2 to 4 hours and after swimming to ensure maximum protection [1] .

Further reading 7

References:
1-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017.
3-American pharmacists association. Handbook of Non-prescription drugs: An Interactive Approach to Self-Care. 18th edition. 2016.

1-They should not be recommended for anyone with **glaucoma** [1, 3]. Manufacturers recommend that they are not used during pregnancy and breastfeeding due to insufficient evidence to establish safety. However, exposure data do suggest that they are safe [2]. (They are considered to be safe for use during pregnancy) [7].
Corticosteroid nasal sprays are suspensions and the bottle should be shaken before use [1].
Recommended adult doses of nasal steroids are listed in (table 2-4) [7].

Table 2-4: Recommended adult doses of nasal steroids [7] للاطلاع

Drug	Dose
Beclometasone spray (50 mcg/ one spray)	100 mcg (2 sprays) twice daily, dose to be administered into each nostril, reduced to 50 mcg twice daily, dose to be administered into each nostril, dose to be reduced when symptoms controlled; maximum 400 mcg per day.
Fluticasone spray (50 mcg/ one spray)	100 mcg once daily, to be administered into each nostril preferably in the morning, increased if necessary to 100 mcg twice daily; reduced to 50 mcg once daily, dose to be administered into each nostril, dose to be reduced when control achieved.
Triamcinolone spray (55 mcg/ one spray)	110 mcg once daily, dose to be sprayed into each nostril, reduced to 55 mcg once daily, dose to be sprayed into each nostril, reduce dose when control achieved

2-There are no significant side effects although nasal irritation may occur. [3] It has no drug interactions and can be given to all patient groups. Clinical experience has shown cromoglicate to be safe in pregnancy, and expert opinion considers sodium cromoglicate to be safe in breastfeeding [1].

3-The dose: Apply twice daily; increased if necessary to 4 times a day, maximum duration of treatment 6 weeks [7].

4-

Table 2.6: Features of viral and bacterial sore throat [2].						
	Age	**Tonsillar/ pharyngeal exudate**	**Duration**	**Cervical glands**	**Cough present**	**Other symptoms**
Viral infection	Any age	Possible, but Generally limited	3–7 days	Normal	Common	Low-grade fever, headache
Bacterial infection	School children	Often present and can be substantial	3–7 days	Swollen	Rare	High-grade fever, possible rash

5-Steroid inhalers can cause hoarseness. Generally, they tend to do this at high doses. It is worthwhile checking the patient's inhaler technique. If you suspect this is the problem, discuss with the doctor [1].

6-Most products do contain a sugar base, but the amount of sugar is too small to substantially affect blood glucose control and therefore can be recommended to diabetic patients [2]. Several sugar-free throat lozenges are available [3].

7
Standard practice until recently was to match skin type with the level of SPF protection the person required. However, this approach whilst preventing sunburn does not prevent long-term skin damage. Rather than selecting a specific sunscreen for skin type it is advocated that all **white skinned people should use a sunscreen with an SPF of at least 15** because this level of protection is effectively a sun block [1].

Wet clothing and **water allow significant transmission of UV radiation**. Consider time in the water, even if the body is completely submerged, as part of the total time spent in the sun [2].

Snow and **sand reflect** UV **radiation,** therefore; proper precautions should be made such as wearing sunglasses and using sunscreens to protect exposed skin [2].

Two major causes of poor sun protection with sunscreen are the application of an adequate amounts and infrequent application [2].

A-Sunscreen must be applied to all exposed areas of the body including the nose ad lips but avoid contact with eye [2].

B-sunscreen should be reapplied as often as the product instruction leaflet directs [usually every 40 minutes or 80 minutes (as directed on the label) for water resistant sunscreens while swimming or sweating or after towel drying. Apply every 2 hours

for non-water resistant products or for water resistant products if you are not swimming or sweating] [2].

Useful tips relating to patients asking for advice about protection from the sun are given in (table 4-10) [1].

Chemical sunscreens

1-Chemical sunscreens work by **absorbing UV energy** and give protection against either UVA or UVB, although they tend to be more effective against UVB radiation [1].

The majority of marketed products contain a combination of agents including benzophenones, cinnamates, dibenzoyl-methanes and para-aminobenzoic acid. The latter is now infrequently used, as **para-aminobenzoic acid was frequently associated with contact sensitivity** [1]**.**

Physical sunscreens

Physical sunscreens are **opaque reflective agents** and offer protection against UVA and UVB radiation. Examples of physical sunscreens include **zinc and titanium oxide** [1]**.**

Table 4-10: Hints and tips about sunscreen and sun induced skin damage [1].	
Water-resistant sunscreens	These are claimed to be effective after immersion in water. However, studies have shown that sunscreen effectiveness decreases after water exposure. It would be prudent therefore, to re-apply sunscreens after swimming.
Eye protection	Prolonged (over years) sun exposure can contribute to age-related macular degeneration. Therefore, wraparound sunglasses and lenses that effectively filter UV light should be worn.
Treatment of sunburn?	Mild sunburn can be managed with a combination of topical cooling preparations, such as calamine, moisturizers and systemic analgesics.
Medicine-induced photosensitivity	NSAIDs, tetracyclines, chlorpromazine, phenothiazines and amiodarone can cause pruritus and skin rash when the skin is exposed to natural sunlight, primarily due to UVA radiation. Patients on photosensitive drugs should use a broad-spectrum sunscreen, as these filter both UVA and UVB radiation.
Sun protection and vitamin D deficiency	The UK Department of Health issued guidance to healthcare professionals on the danger of vitamin D deficiency. This, in part, has been caused by the use of sunscreens. Guidance is not to stop using sunscreen, but certain patient groups should take Supplements.

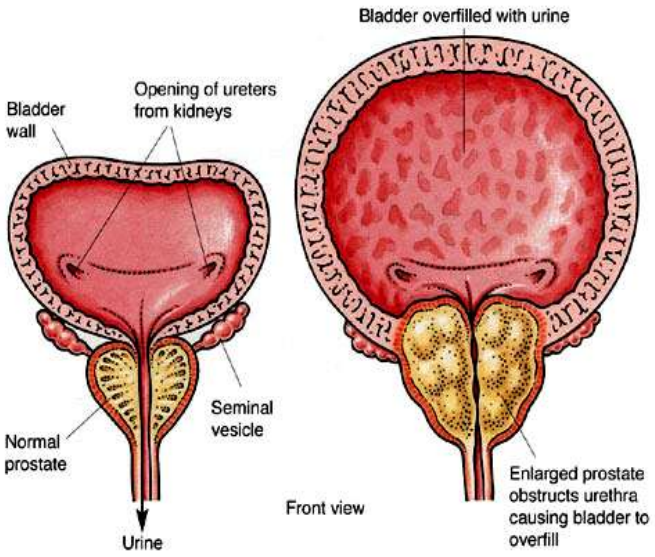
Selective Topics

Benign prostatic hyperplasia (BPH)

The prostate is a gland surrounds the urethra below the bladder. It secretes fluid that is expelled with the seminal fluid and improves the motility, prolongs the survival of sperm. It also has a bactericidal effect [1].

BPH is defined as benign enlargement of the prostate gland. Prevalence is estimated at **one in four men over the age of 40 years** and incidence increases markedly with age [1].

The cause of BPH is unknown but probably involves hormonal changes associated with aging [1].



Clinical Manifestations

In BPH, the enlarged prostate compresses the urethra, thus obstructing urine outflow [1]. Symptoms of BPH are classified as **obstructive** or **irritative**.

A-Obstructive symptoms: ***result from failure of the urinary bladder to empty urine*** [2] due to urethral compression from prostate gland hyperplasia [3]. It include:

1-**Hesitancy**: hesitancy is difficulty in initiating urination. (because the bladder detrusor muscle taking a longer time to generate pressure to overcome urethral resistance) [3].

2-**Decrease in urinary force**.

3-Occasional **midstream stoppage**.

Urinary stream intermittency is caused by the inability of the bladder detrusor muscle to maintain the pressure until the end of voiding.

4-Postvoiding **dribbling**.

5-Feeling of **incomplete bladder emptying** [3].

B-Irritative symptoms: ***result from the failure of the urinary bladder to store urine*** [2].

The patient complains of :

1-**Nocturia** approximately four to five times a night.

2-**Daytime urinary frequency** of eight to ten times a day.

Incomplete emptying of the bladder results in shorter intervals between voiding, explaining the complaint of frequency [3].

The symptoms of urinary frequency are more pronounced at night because cortical inhibitions are lessened and **bladder sphincter tone is more relaxed during sleep** [3].

Treatment

Tamsulosin, an alpha1-adrenergic blocker, was reclassified from POM to OTC in March 2010, for the treatment functional symptoms of BPH in men between the ages of 45 and 75 years [1]. This represents the first UK OTC medicine to **treat** a chronic condition. This reclassification was made due to the fact that the majority of men with BPH do not consult their doctors when they experiencing BPH symptoms [4].

A-Mode of action: In the prostate, bladder neck and urethra, the alpha-1A receptor is predominant. Tamsulosin is selective drug for alpha-1A receptors, so it relax smooth muscle to improve outflow and symptoms of BPH [1].

B-Adverse reactions: Dizziness is the most commonly reported side effect (about 1.3% of patients) [4].

C-Conditions for supply of tamsulosin without prescription

1-Tamsulosin is available as capsules containing tamsulosin hydrochloride 0.4 mg; the dose is one capsule daily (strength and dose are the same as the POM version) [1].

2-On initial request from a man for supply of the product or advice on lower urinary tract symptoms, the pharmacist assesses the severity of symptoms [1, 4].

Symptoms-check questionnaire
This incorporates a quality-of-life score and the International Prostate Symptom Score. **Low scores on both scales** suggest mild symptoms and a good quality of life, and **tamsulosin would not be appropriate** [4]. (Figure 11-1)

3-If treatment is deemed appropriate an initial 2-week supply is made, at the end of which the situation is reviewed by the pharmacist and, if symptoms have improved and the drug is well tolerated, a further supply for four weeks is made. If his symptoms are not relieved, referral is advised [1].

4-**After six week**s, tamsulosin will only be supplied if a doctor has carried out a clinical assessment of the patient to confirm that pharmacy supply continues to be suitable [1].

Conditions that required referral [1].

Referral must be made to a physician if a man reports any of the following:

* Aged **less than 45 or more than 75 years**
* Any age if urinary symptoms are associated with any of the following:
  (pain on urination, blood in urine, **cloudy urine, fever and excessive thirst)**
* Currently receiving **prescription medications for BPH**
* Currently receiving **alpha1 blockers for the treatment of hypertension**
* **History** of **orthostatic hypotension**, **heart**, **liver** or **kidney** disease
* **Prostate surgery** in the medical history
* planned **eye surgery for cataract** .(Tamsulosin can cause profound loss of tone of the dilator muscle of the iris, increasing the technical difficulty of cataract surgery for patients on the drug).

International Prostate Symptom Score (I-PSS)

Patient Name: _____ **Date of birth:** _____ **Date completed** _____

In the past month:	Not at All	Less than 1 in 5 Times	Less than Half the Time	About Half the Time	More than Half the Time	Almost Always	Your score
1. Incomplete Emptying How often have you had the sensation of not emptying your bladder?	0	1	2	3	4	5	
2. Frequency How often have you had to urinate less than every two hours?	0	1	2	3	4	5	
3. Intermittency How often have you found you stopped and started again several times when you urinated?	0	1	2	3	4	5	
4. Urgency How often have you found it difficult to postpone urination?	0	1	2	3	4	5	
5. Weak Stream How often have you had a weak urinary stream?	0	1	2	3	4	5	
6. Straining How often have you had to strain to start urination?	0	1	2	3	4	5	
	None	**1 Time**	**2 Times**	**3 Times**	**4 Times**	**5 Times**	
7. Nocturia How many times did you typically get up at night to urinate?	0	1	2	3	4	5	
Total I-PSS Score							

Score: 1-7: *Mild* 8-19: *Moderate* 20-35: *Severe*

Quality of Life Due to Urinary Symptoms	Delighted	Pleased	Mostly Satisfied	Mixed	Mostly Dissatisfied	Unhappy	Terrible
If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that?	**0**	**1**	**2**	**3**	**4**	**5**	**6**

Figure 11-1: Quality-of-life score and the International Prostate Symptom Score

References

1-Nathan A. Non-prescription medicines. 4th edition. London: Pharmaceutical Press; 2010.
2-Marie A. Chisholm-Burns .Pharmacotherapy Principles & Practice Copyright © 2016 by The McGraw-Hill Companies
3-Zeind, Caroline S and Carvalho, Michael G. Applied Therapeutics: The clinical use of drugs, 11th ed., 2018.
4-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017.

Fever (childhood conditions)

Background:

1-Fever is simply **a rise in body temperature above normal**. Normal body temperature is 37 ^{o}C, plus or minus 1^{o}C, although **rectal** temperature is **about 0.5 higher** and **underarm** the temperature is about **0.5 lower than oral temperature** [(1)].
2-Fever is often classified as being either **mild** (**low-grade**) (up to 39°C) or **high** (above 39°C) [(1)].
3-Rectal temperature has long been considered the gold standard measurement; However, its utility has been challenged. **Many patients prefer other methods** of temperature measurement because of comfort and ease of use [(2)].
4-Fever is a common symptom of many conditions, and in children **viral**, and to a lesser extent **bacterial**, causes are **most commonly implicated.** It has been reported that fever is probably the commonest reason for a child to be taken to a doctor [(1)].

Measurement of body temperature

1-Oral, rectal and axillary temperature may be taken with an **electronic thermometer** with a digital probe [(3)].
2-Standard mercury in glass thermometers are **no longer recommended** due to **potential toxicity if they break** and **problems with proper use** [(3)].

3-Recomenndations for temperature measuring techniques are shown in (table 3-1) [(3)].

Table 3-1: temperature measuring techniques [(3)].

Age	Recommended technique	
	First choice	Second choice
Birth -2 years	Rectum	Axillary
2-5 years	Rectum	Axillary
Older than 5 years	Mouth	Axillary

A-**Rectal** is the most **accurate**, **less acceptable by toddlers**, **contraindicated** in **premature infants**, **recent** anorectal **surgery** or **severe hemorrhoids** [(3)].

B-**Oral**: **younger children** may **bite** the **thermometer** or have **difficulty keeping it** in **the closed mouth** (this may also be a problem for **mentally impaired** or elderly with **dementia** since they have difficulty understanding the instructions) [(3)]. **Avoid oral route** when nasal breathing is difficult (e.g. due to viral upper respiratory tract infection). **Beverage** (hot or cold) and **smoking** should be **avoided for at least 10 minutes** before taking an oral temperature [(3)].

C-**Axillary**: have many **disadvantages** they take a **longer time** to measure and **affected by a number of factors** including hypotension [(3)].

Patient assessment with Fever

A-Age:

Children **under 3 months** should be referred automatically because diagnosis can be very difficult and serious complication can arise [(1)].
(They have an immature CNS thermoregulatory system, so less able to mount a febrile response. Therefore, when they do become febrile**, it may indicate a major illness**) [(3)].

B-How poorly is the child:

1-The parent will know how poorly the child is relative to normal behavior. A child might have a high temperature but be relatively normal whereas a child with a mild temperature may be quite poorly [(1)].
Obviously ill child or child who fails to respond to stimuli required referral [(1)].

2-Fever rises **above 40°C** in a child of any age, required referral [(4)].

C-Duration:

Children < 2 years with fever that persists > 24 hours required referral [(2)].
Children > 2 years with fever that persists > 3days required referral [(2)].

D-Associated symptoms:

1-**Viral upper respiratory** tract infections are usually accompanied by one or more symptoms including cough, cold or sore throat [(1)].
2-If the patient has suffered any **febrile seizur**e (or has a **history of febrile seizures**), then referral is advised [(2)].
3-If **no other symptoms are present,** fever suggest a bacterial infection, often a urinary tract infection, referral is required [(1)].
(Other symptoms can be present and include irritability, poor feeding, or vomiting) [(1)].
4-Child with who is **vomiting**, **very sleepy**, **hard** to **wake up**, **irritable**, or develops **spots** or **rash**, **neck stiffness**, **joint swelling**, **diarrhea**, **increased respiration rates** or **signs** of **dehydration** required referral [(1, 2)].

5-Children with **impaired immune function** (e.g. cancer) required referral [(2)].

Treatment timescale:

Patient should seek medical attention if fever persists **after 3 days** of drug treatment [(2)].

A-Non-pharmacological advice:

1-Nonpharmacologic interventions, regardless of the temperature, include wearing **lightweight clothing**, **removing blankets**, **maintaining a comfortable room temperature** of approximately (20°C), and **drinking sufficient fluid** to replenish insensible losses. Because a fever will cause a child to lose fluids more rapidly, sufficient fluid intake is recommended [(2)].

2-**Body sponging with tepid water** may facilitate heat dissipation, given that only a small temperature gradient between the body and the sponging medium is necessary to

achieve an effective antipyretic response. However, sponging is not **routinely recommended for those with a temperature less than** (40°C); Sponging is usually **uncomfortable** and often induces **shivering**, which **could further raise the temperature** [(2)]. Sponging does not **reset hypothalamic set point.** If used administer **antipyretics 30 minutes before sponging** to reduce the hypothalamic set point [(3)].

Pharmacological therapy

1-Both **ibuprofen** and **acetaminophen** are effective in reducing fever, with both showing reductions of approximately 1-2 degrees within 30 minutes to 1 hour [(2)].

2-Avoid alternating antipyretics (**ibuprofen** with **acetaminophen**) because of the increased risk for potential **dosing errors** and adverse effects, especially in children [(3, 4)].

2-Acetaminophen typically reaches a maximum temperature reduction at 2 hours at the usual recommended dosing of **10-15 mg/kg every 4-6 hours**, with a maximum **of 5 doses per day** [(2)].

3-Acetaminophen is also available as a **rectal suppository**. Although a suppository may be an advantage for caregivers who have problems giving their children oral medications, or for children who are vomiting or are having a febrile seizure, the **suppository's absorption is erratic**, and studies on its antipyretic activity are conflicting [(2)].

4-Ibuprofen can be given to children **over 3 months old** in UK[(1)](6 months in USA) [(2)]. Ibuprofen is the most common NSAID used as an antipyretic; it typically reaches a maximum temperature reduction at 2 hours at the recommended dosing of **5-10 Mg/kg per dose every 6-8 hours**, with a maximum **of 4 doses per day** [(2)].

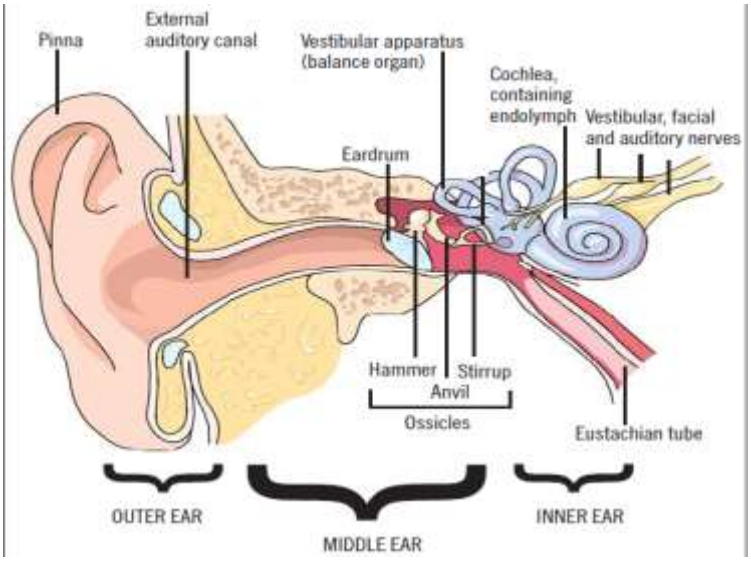
References

1-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017.
2-American pharmacists association. Handbook of Non-prescription drugs: An Interactive Approach to Self-Care. 18th edition. 2016.
3-Yvette C. T. Facts About Fever: A Guide to OTC Antipyretics. Pharmacy times. February 08, 2015
4-Canadian American pharmacists association (CPhA). CTMA: Compendium of Therapeutics for Minor Ailments. 2014.

Ear Conditions

Background

Currently, community pharmacists can only offer help to patients with conditions that affect the **external ear** [(1)].



General overview of ear anatomy

The external ear consists of the auricle (also called the pinna) and the **External Auditory Canal**

(EAC) (see the Figure), and is closed by the tympanic membrane (**eardrum**), which separates the external ear from the middle ear [(2)].

1-Ear Wax Impaction

Background

1-1Ear wax is produced in the ear canal by the ceruminous glands [(1)]. Cerumen **lubricates the canal**, **traps dust** and **foreign materials**, and provides a waxy, **waterproof barrier to the entry of pathogens**. It also contains various **antimicrobial** substances such as lysozymes, and it has an ac**idic pH which aids in the inhibition of bacterial and fungal growth** [(2)].

2-The debris-laden cerumen slowly migrates outward with jaw movements (such as chewing and talking). This migration serves as a process of self-cleaning [(2)].

3-The high number of presentations may be due to patient **misconception that ear wax needs to be removed** [(1)]

4-Additionally, a number of patient groups appear to be more prone to ear wax impaction than the general population [(1)], for example, individuals **with abnormally narrow** ear canal and/or excessive hair growth in the canal are predisposed to impacted cerumen. These physiologic anomalies disrupt the normal migration of cerumen to the outer EAC. Individuals who have who **wear hearing aids**, **earplugs**, ……often suffer from impacted cerumen. Such devices worn in the ear can inhibit the migration of cerumen, causing wax buildup. Frequent removal and proper cleaning of ear devices may help prevent wax buildup.
The **elderly are more susceptible to impacted cerumen**. This population secretes drier cerumen, which is more difficult to expel from the ear [(2)].

Patient Assessment with Ear Wax Impaction

A-Course of symptoms:

The most common symptoms of impacted cerumen are a sense of **fullness** or **pressure** in the ear and a **gradual hearing loss** [(2)].

B-Associated symptoms

Dizziness and **tinnitus** indicates an **inner ear problem** and should be **referred**. Ear wax impaction rarely causes tinnitus, vertigo or true pain [(1)].

C-History of trauma

Check if the person has recently tried to clean the ears. This often leads to wax impaction [(1)].
Hardened cerumen generally does not cling to cotton-tipped applicators [(2)]. The common use of cotton-tipped swabs to remove earwax is ineffective and potentially dangerous [(3)] (force the cerumen plug further into the canal) [(2)], increasing the risk of eardrum perforation [(3)].
Trauma might also lead to **discharge from the ear canal.** These cases are probably best referred [(1)].

D-Use of medicines

If a patient has used an appropriate OTC medication correctly (**OTC medication failure**) this would necessitate referral for further investigation and possibly **ear-irrigation** [(1)].

E- Foreign bodies:

Symptoms can mimic ear wax impaction but, over time, **discharge** and **pain** is observed. ***Children*** are the most likely age group to present with foreign body in the ear canal and suspected cases need referral [(1)].

Treatment Goals

The goal of treating excessive/impacted cerumen **is to soften and remove** it using proper methods. Proper treatment should eliminate temporary hearing loss and other symptoms [(2)].

Nonpharmacologic Therapy

1- Earwax should be removed only when it has migrated to the outermost portion of the EAC. The only recommended nonpharmacologic method of removing cerumen is to use a **wet**, **wrung-out washcloth draped over a finger**. Making this procedure part of **daily aural hygiene** can **prevent impacted cerumen** (if physiologic abnormalities or physical devices are not the cause of the impaction). **This method is not effective once cerumen becomes impacted** [(2)].

Pharmacologic Therapy (Cerumunolytics)

1-Although agents used to soften ear wax **have limited evidence of efficacy**, they are **very safe**. They can be given **to all patient groups**, do not interact with any medicines and can be used in children. They have very few side effects, which appear to be limited to local irritation when first administered. They might, for a short while, increase deafness and the patient should be warned about this possibility [(1)].

2-Constituents of cerumenolytic products include fixed and volatile oils (olive, arachis, almond and camphor oils), glycerol, docusate, urea hydrogen peroxide [(4)].

1-Docusate ((dioctyl sodium sulpho-succinate) (Dewax ®)

The manufacturers of Dewax® recommend that adults and children use **enough ear drops to fill the affected ear** then place a **small plug of cotton wool in the ear** and repeat **for two consecutive nights** [(1)].

2-Sodium bicarbonate

This product should be instilled **two to three times a day for up to 3 days** [(1)].

References:

1-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017.
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3-W. Steven Pray, Gabriel E. Pray .Treating Minor Ear Problems. ***US Pharm***. 2012;37(5):16-23.
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2-Water-Clogged Ears

Some patients are more prone to retaining water because of the shape of their ear canals or the presence of excessive cerumen. Excessive moisture in the ears can result from hot humid climates, sweating, swimming, bathing,…….. Therefore, simple attempts to remove water by mechanical manipulation may be insufficient [(1)].

Clinical Presentation of Water-Clogged Ears

A feeling of **wetness or fullness in the ear**, accompanied by **gradual hearing loss**, can occur after exposure to any of the etiologic factors. The trapped moisture can compromise the natural defenses of the EAC, causing **tissue maceration** that, in turn, can lead to **itching**, **pain**, **inflammation**, or **infection. Severe pain, inflammation, or signs of infection** required referral [(1)].

Treatment of Water-Clogged Ears

A-Nonpharmacologic Therapy

1-Tilting the affected ear downward and gently manipulating the auricle can expel excessive water from the ear. This procedure should be performed after swimming or bathing, or during periods of excessive sweating, especially by persons who are prone to developing this disorder [(1)].

2-Using a blow-dryer on a **low setting around** (not directly into) the ear immediately after swimming or bathing may help dry the ear canal [(1)].

B-Pharmacologic Therapy

FDA has approved only isopropyl alcohol 95% in anhydrous glycerin 5% as a safe and effective ear-drying aid.

In addition, a 50:50 mixture of acetic acid 5% and isopropyl alcohol 95% has also commonly been recommended to help dry water-clogged ears.

Ear-drying agents, which are recommended for use in adults and children ages 12 years and older, may be used whenever ears are exposed to water.

Medical referral is necessary if symptoms persist after several days of simultaneous use of ear-drying agents and prevention of exposure of ears to water [(1)].

1-Isopropyl Alcohol in Anhydrous Glycerin

Alcohol is highly miscible with water and **acts as a drying agent.** In concentrations greater than 70%, it is also an effective skin disinfectant. Glycerin has been used in pharmaceutical preparations for its solvent, emollient, or hygroscopic properties. Combined with alcohol, glycerin provides a product that reduces moisture in the ear **without over-drying** [(1)].

2-Acetic Acid

The **acetic acid** in a 50:50 mixture of (acetic acid 5% and isopropyl alcohol 95%) has **bactericidal and antifungal properties**. Species of ***Pseudomonas****,and* ***Candida****,* and are particularly sensitive to this agent. The solution may sting or burn slightly, especially if the skin is abraded [(1)].

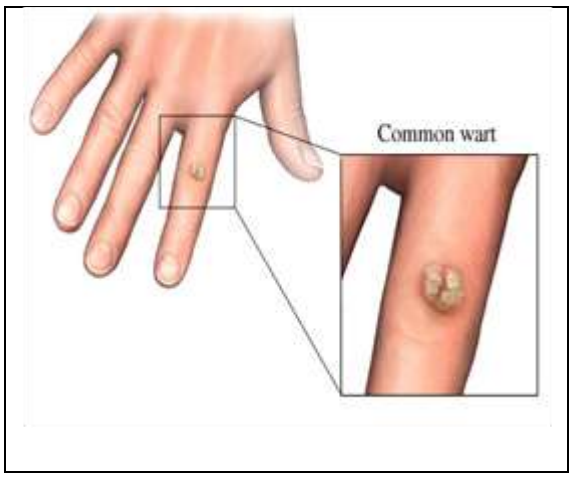
References:

1-American pharmacists association. Handbook of Non-prescription drugs: An Interactive Approach to Self-Care. 18th edition. 2016.

صيدلة سريرية
م. د: ضياء جبار

Verrucas (plantar warts) and warts (common warts)

Warts and verrucas are benign growth of the skin caused **by human pappilloma virus (HPV)**. Although self-limiting, they are **cosmetically unacceptable** to many patients [1].



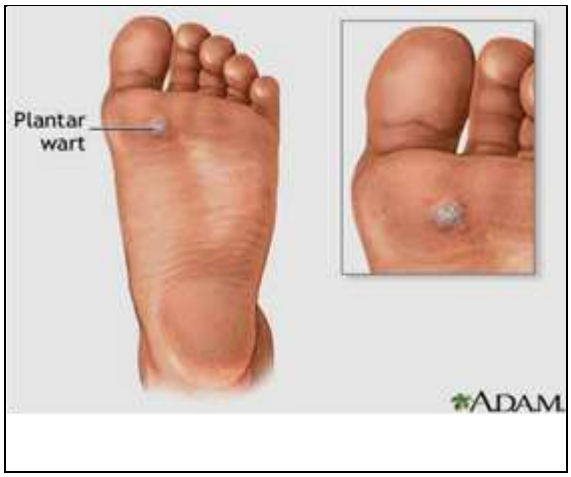
HPV infection is **very contagious**; infection is easily spread from one site to another on an infected person, and from one person to another [2].

Untreated, half of warts and verrucas clear in 1 year and two-thirds in 2 years, but they are usually treated to get rid of them faster [2].

Significance of questions and answers

A-Age

Warts occur more frequently in children and adolescents than in infants and adults, with the peak incidence among 12to 16yearolds [3].



Patients aged **over 50 years** presenting with a first-time wart required referral [1].
Patients aged **below 4 years** presenting with wart required referral [3].

B-Appearance

Warts appear as raised lesions with a roughened surface. Plantar warts occur on the **weight-bearing areas of the sole and heel (verrucae)** , the pressure from the body's weight pushes the lesion inwards, eventually producing **pain** when weight is applied during walking. Warts have a network of capillaries and, if pared, thrombosed, blackened capillaries or bleeding points will be seen. The presence of these capillaries provides a useful **distinguishing feature** between **callouses and verrucae** on the feet: if a corn or callous is pared, no such dark points will be seen; instead layers of white keratin will be present [4].
Warts that itch or **bleed without provocation** required referral [1].
Note : **Warts are normally painless** while **Verrucas are painful** because of downward pressure on nerve endings in the skin [2].

C-Location:

The palms or backs of the hands are common sites for warts, as is the area around the fingernails. Plantar warts (verrucae) are found on the sole of the foot and may be present singly or as several lesions [4].

1-Warts sometimes occur on the **face** required referral to the doctor (Since treatment with OTC products can lead to scarring) [4].

2-**Anogenital** warts are caused by a different type of human pappilloma virus and required medical referral for examination, diagnosis and treatment [4].

D-Multiple warts: Patients with **multiple warts** and widespread warts required referral [1].

E-Duration and history: It is known that most warts will disappear spontaneously within a period of 6 months to 2 years. The younger the patient, the more quickly the lesions are likely to remit [4]. Any **change in the appearance of a wart** [4] (wart that have **grown and changed color**) [1] required referral [1, 3].

When to refer
-Changed appearance of lesions: size and colour [4].
-Genital warts [4].
-Facial warts [4].
-Immunocompromized patients [4].
-Diabetic patients [1].
-Multiple and widespread warts [1].
-Patients over 50 years of age presenting with a first-time wart [1].
-Warts that itch or bleed without provocation [1].
- Patients under 4 years [3].

F-Medication:

1-**Diabetic patients** required referral (since impaired circulation can lead to delayed healing, ulceration or even gangrene) [4].

2-Warts can be a major problem if the **immune system is suppressed** by either disease (e.g. lymphoma) or drugs (e.g. ciclosporin (cyclosporin), referral is required [4].

Treatment timescale

Treatment with OTC preparations should produce a successful outcome **within 3 months**; if not, referral is necessary [4].

Note: it is important to explain to the patient (that treatment need weeks or months of continuous application) if compliance with treatment is to be achieved [4].

Management

A-Salicylic acid

1-Salicylic acid may be considered to be the **treatment of choice for warts;** it acts by softening and destroying the skin, thus mechanically removing infected tissue [4].

2-Preparations are available in a variety of strengths, sometimes in **collodion-type bases** that help to retain the salicylic acid in contact with the wart [4].

3-**Lactic acid** is included in some preparations with the aim of enhancing availability and effects of the salicylic acid [2, 4].
However: However, there is **no evidence** to support greater efficacy when lactic acid (or other ingredients) is added [1].

4-Ointments, gels and plasters containing salicylic acid provide a selection of methods of application [4].

Practical points: Application of treatments (table 4-11)

1-Treatments containing salicylic acid should be applied **daily** [4].
2-The treatment is helped by **prior soaking of the affected hand or foot in warm water for 5–10 min** to soften and hydrate the skin [4].
3-Removal of dead skin from the surface of the wart by gentle rubbing with a pumice stone or emery board ensures that the next application reaches the surface of the lesion [4].
4- Patients especially the **children** should be **warned not to pick, bite or scratch warts.** This process is responsible for multiple lesions becoming established and transferred to other part of the body [1].
5-**Protection of the surrounding** healthy **skin** is important and can be achieved by applying a layer of petroleum jelly [4].
6-Application of the liquid or gel using **an orange stick** will help to confine the substance to the lesion itself [4].
7-Application of salicylic acid is **Ok during pregnancy** [1].

Table 4-11: Guidelines for Treating Warts with Salicylic Acid 17% Liquid in Collodion Vehicle للاطلاع [3] .
• Wash the affected area. • May soak the affected area for 5 minutes in warm water. • Dry the affected area thoroughly. • Apply one drop at a time to cover the wart. Protect adjacent healthy skin from coming into contact with the drug. • Let solution dry completely. • Cover wart with self-adhesive cover-up discs or an occlusive tape. • Repeat procedure 1-2 times a day until the wart is removed. This product may be used for up to 12 weeks.

B-Other treatment options

Other treatment options for wart are formaldehyde, glutaraldehyde, cryotherapy and silver nitrate [1].

References
1-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017.
2-Nathan A. fasttrack. Managing Symptoms in the Pharmacy. Pharmaceutical Press. 2008.
3-American pharmacists association. Handbook of Non-prescription drugs: An Interactive Approach to Self-Care. 18th edition. 2016.
4-Alison Blenkinsopp, Paul Paxton and John Blenkinsopp. Symptoms in the pharmacy . A guide to the managements of common illness. 7th edition. 2014.

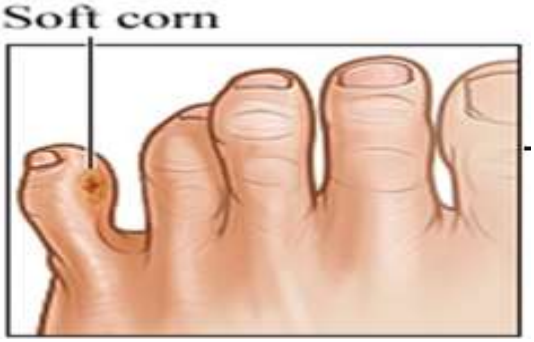
Corn and Calluses

Corn form due to a combination of **friction and pressure** against one of the bony prominences of the feet. **Inappropriate footwear** is the frequent cause. (Continued pressure and friction cause hyperkeratosis) [1].
Friction (caused by **loose fitting shoes**), and walking **barefoot** contribute to the development of calluses [2].

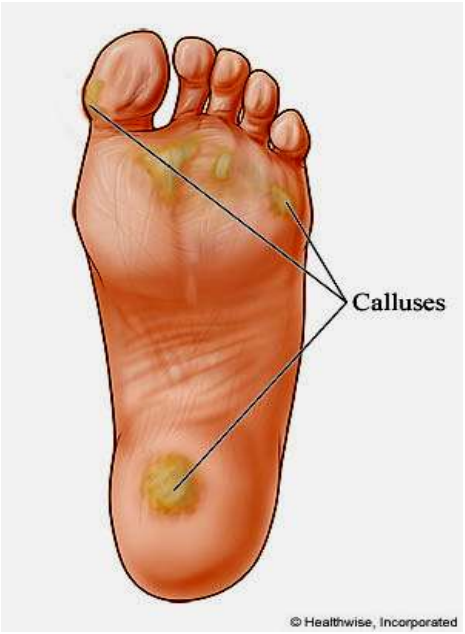
A-Clinical features

1-Corns:

Corns have been classified into **soft** (Plate 14)**and hard corn. Hard corns** (Plate 15)are generally **located on the top of the toes**. Soft corns **form between the toes rather on the top of toes** and are due to pressure exerted by one toe against another. Soft corns are most common in the fourth web space (They have whitened appearance and remain soft because of the moisture that is present between toes, which cause maceration of the corn [1].



2-Calluses:



Calluses (Plate 16) are more diffuse areas of thickening on the sole or the side of the foot [3]. Calluses appear as flattened, yellow-white, thickened skin. **In women, the balls of the feet** are a common site. Other sites that can be affected are the heel and lower border of the big toe [1].

B-Pain:

The resulting pain from corns may be severe and sharp (when downward pressure is applied) or dull and discomforting [2]. Pain experienced with corns is a result of pressure between footwear and the toes. If footwear is taken off, then the pain is relieved [1].
Patients with calluses frequently complain of a burning sensation resulting from fissuring of the callus [1].

C-Previous history:

Patients will often have a previous history of foot problems. The cause is usually due to prolonged wearing of poorly fitting shoes, such as high heels [1].

Treatment timescale:

Patient should Seek medical attention if corn or callus is not removed after 14 days of treatment [2] .

Treatment

Nonpharmacologic Therapy

A-Selection of the **properly fitted footwear** [2].

B-Epidermabrasion [3]:

Epidermabrasion is a physical process that **removes horny skin using a mechanical aid** (**further reading 1**).

When to refer
-If the lesions bleed or oozing pus [2].
-if they extensive or painful and debilitating [2].
-Patient with anatomical defect in the feet[2].
-in elderly people and patients with diabetes or peripheral vascular disease [3].
-Treatment failure [2].

Pharmacologic Therapy

Salicylic acid

1-Salicylic acid in collodion –like vehicle

Paints and liquids contain 11–17% salicylic acid, often in a collodion-based vehicle. Collodions contain a nitrocellulose derivative, dissolved in a volatile solvent. On application, the solvent evaporates, leaving on the skin an adherent, flexible, water-repellent film containing the medicament [3].

Apply product **once or twice daily** until the corn or callus is removed (but not more than 14 days) [2].

Note: **do not let adjacent area of normal skin come in contact with drug**. If they do, wash off the solution immediately with soap and water [2].

2- Salicylic acid plasters: Corn and callus plasters contain high concentrations (usually 40%). They should be changed every 1–2 days for about a week, after which the callosity should lift away easily [3].

3-An ointment containing 50% salicylic acid is also available; it should be applied nightly for 4 nights [3].

References :

1-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017..

2-American pharmacists association. Handbook of Non-prescription drugs: An Interactive Approach to Self-Care. 18th edition. 2016.

3-Nathan A. fasttrack. Managing Symptoms in the Pharmacy. Pharmaceutical Press. 2008

3-Head lice (Pediculosis)

Background:

1-Head lice infestation(or infection) is most commonly found in children, especially around the age of 4-11 years old [1] with girls showing higher incidence than boys(this may be because girls often huddle together when playing) [2]. While the Older children and adults are less prone to infestation [1].

2-Infection is spread by direct head-to-head contact, and possibly by transfer through contact with infected hairbrushes, hats, pillows, etc. [3] (**further reading 2**)

3-The main risk factors for infestation with head lice (pediculosis) are being of primary school age or having a young child in the family. **Having unwashed hair or long hair is not a risk factor and neither is low social class** [2].

4-Head lice infestation rarely causes physical problems and head lice **are not known to be vectors for infectious diseases** [2].The adult louse lives for approximately 1 month during which the female louse lays several eggs at the base of hair shaft each night [4].

Patient Assessment with Head Lice

A-Have live lice been seen?

1-The presence of live lice is diagnostic [4].Treatment should be reserved for infected heads. Many parents are worry that their children may catch lice and wish the pharmacist to give their **prophylactic** treatment. Insecticides should never be used prophylactically, since this may **accelerate resistance** [1]. However a **lice repellent** is now available [5].

2-Pharmacists can advise patients on how best to check the infection [4]. (**further reading 3**).

3-The hair at the **nape of the neck and behind the ear** should be thoroughly checked. These spots are preferred by the lice because they are warm and relatively sheltered [1].

B-Presence of empty egg shells (nits):

The presence of nits is not necessary evidence of current infection (**common misconception**) unless live lice are also present [1, 4].Nits are not removed by insecticides [4]. (Because they are firmly glued to the hair) [1]. So **the presence of nits does not mean treatment failure** [4].
A fine toothed comb can be used to remove the nits after treatment [1].

C-Presence of itching:

Contrary to the popular belief, **itching is not experienced by everyone with head lice (i**.e. absence of itching does not mean that infection does not occur). (Itching is an allergic response to saliva of the lice which injected into the scalp during feeding; therefore, sensitization does not occurs immediately but may take weeks to develop (thousands of bites from the lice are required) . But in case of re-infection, itching may be quickly begins [1].

D-Previous medications:

While it is possible that treatment failure may occur, this is unlikely if a recommended insecticide has been used correctly [1].

Management:

Preventative Measures [6]:

1-Avoid direct contact with infected patients.
2-Do not share articles such as combs, brushes, hats and towels
3-Use hot water to wash hairbrushes and combs of patient for 10 minutes.
4-Use hot water to wash clothes, bedding, and towels of patient.

Note: Shaving the head is not an effective treatment because lice can cling to as little as 1 mm of hair [2].

Treatment:

There are three treatment options :
A-Insecticides: Permethrin, Lindane (Gama benzene hexachloride), Malathion
B-Dimeticone and **Isopropyl myristate (physical insecticides)**
C-Wet-combing.
Recent trials report cure rates of 70-80 %, 70 %, and 50-60 %, for Insecticides, dimeticone and wet-combing respectively [2].

Note: Itching can persist after infestation has been cleared. For troublesome itching a sedating antihistamine may be recommended [2].

Practical points

1-It is generally recommended to **treat all family members at the same time** to prevent reinfection from other family member. Another approach is to treat only those with confirmed infection and to check the hair of other family member on regular basis (but it required a high level of motivation) [1].

2-Some eggs may survive after the first application; therefore a **second application 7 days later is now recommended** to kill any lice that emerged from eggs [1, 2, 4]. (The incubation period for head lice is 7-10 days [1]).

3-Parents are often are **embarrassed that their child has head lice** ,but pharmacist should reassure them that this is not a sign of poor hygiene [1] (Head lice are not only associated with dirty hair) [4].

4-Children should not be kept off school [4].

5-**Alcoholic and Aqueous lotions** [1]:
If available, aqueous lotion is preferred for small children and for asthmatics [1].
(**Further reading 4**)

7-**Wet-Combing method:**
Wet combing, or bug busting, can break the life cycle of head lice (physically remove the lice and nymphs) [2]. Effectiveness of this method is very dependent on repeated use [1] (every 4 days) [4] over a peroid of 2 weeks [1]. The procedure is described in (table 3-2) [1].

Table 3-2: Wet-Combing method للاطلاع [1]
1-Wash the hair as normal.
2-Apply conditioner liberally. (This causes the lice to lose their grip on the hair.)
3-Comb the hair through with a normal comb first.
4-With a fine-toothed nit comb, comb from the roots along the complete length of the hair and after each stroke check the comb for lice and wipe it clean. Work over the whole head for at least 30 min.
5-Rinse the hair as normal.
6-Repeat every 3 days for at least 2 weeks.

8-All products, except isopropyl myristate, can be used on children older than 6 months [4].

9-**Pregnant women:**
Pregnant women with head lice should be advised to use dimeticone or to wet-comb [2].

10-Usage guideline presented in (table 3-3).

Table 3-3 Usage guideline of drugs for head lice للاطلاع		
	Drug	**Method of use**
1	**Permethrin** 1% cream rinse	The 1% cream rinse is applied in sufficient quantities to cover or saturate washed hair and scalp. It is left on the hair for 10 minutes before rinsing; the hair is then combed with a lice comb [6].
2	**Malathion** (0.5% liquid) [7]	Rub preparation into dry hair and scalp, allow to dry naturally, remove by washing after 12 hours [7] (or overnight) [1].
3	Isopropyl myristate lotion and spry (only recommended for adults and children over the age of 2 years) [4]	The lotion and spry are applied to dry hair ensuring that they are evenly distributed over dry hair . Rinsed after 10 minutes [4, 8].
4	Lindane (Gama benzene hexachloride) 1% Shampoo [8].	Rub into the affected area, leave in place for 4 minutes then wash [8].
5	Dimeticone 4% Lotion & Spray	The lotion is applied to dry hair ensuring that it is spread evenly from the hair root to the tips. The spray should be applied approximately 10 cm from the hair making sure it is evenly distributed over dry hair. Both need to be left on for a minimum of 8 hours (overnight is preferable) before being washed out with shampoo [4].

Note : After washing the product, the hair should be combed with a fine-toothed comb while it is still wet, to remove dead and dying lice from the scalp and empty egg cases attached to the hair shafts [3].

References:

1-Alison Blenkinsopp, Paul Paxton and John Blenkinsopp. Symptoms in the pharmacy . A guide to the managements of common illness. 7th edition. 2014..
2-Christine Clark. Head lice treatments and advice . The pharmaceutical journal . (Vol 279) 8 August 2007 Page:185-188.
3-Nathan A. Non-prescription medicines. 4th edition. London: Pharmaceutical Press; 2010
4-Paul Rutter. Community Pharmacy. Symptoms, Diagnosis and Treatment. 4th edition. 2017.
5-Nathan A. fasttrack. Managing Symptoms in the Pharmacy. Pharmaceutical Press. 2008.
6-American pharmacists association. Handbook of Non-prescription drugs: An Interactive Approach to Self-Care. 18th edition. 2016.
7-BNF-74.
8-Canadian American pharmacists association (CPhA). CTMA: Compendium of Therapeutics for Minor Ailments. 2014.

Further reading

1- Several gently abrasive materials and appliances are available, including foot files, pumice stones and synthetic pumice-like blocks.
Careful technique is important for the safe and successful removal of corns and calluses, using the following procedure:
– To soften the skin, soak the foot in mild soapy water for a few minutes or apply a moisturizing or softening cream.
– Rub soap on to the appliance and gently rub the corn or callus for 5 minutes.
– Repeat the process nightly for 1 week, then review. There is no need to remove the hard skin completely, just enough to relieve pain or irritation.

2- lice cannot survive for long away from the scalp [(3)] (fleeting contact will be insufficient for lice to be transferred between heads) [(4)] because head lice cannot fly, jump or swim. Moreover, they cannot survive away from the host for more than 12 hours and are unlikely to be passed from person to person through shared combs, brushes, towels, clothing or bedding [(2)].

3-Wet combing of the hair is a more reliable detection method than scalp inspection. Parents can easily check for infection by combing the child's hair over a piece of white paper, using a fine-toothed comb. The hair should be damp or wet to make the combing process easier and less painful. If live lice are present, some will be combed out of the hair and onto the paper [(1)].

3-Alcoholic lotions can cause some problems:

A-Alcohol can cause stinging when applied to broken skin (e.g. eczema).

B-Evaporation of alcohol may irritate the lung and can precipitate an asthmatic's attack (the risk is rare but the caution is still advised). In addition when an alcoholic lotion is used the hair should be kept away from naked flame.

-Application of solution: The most effective method of application is to sequentially part sections of the hair and then apply a few drops of the treatment, spreading it along the parting into the surrounding scalp and along the hair. Approximately 50–55 mL of lotion should be sufficient for one application, although people with very thick or long hair may need more [(1)].

Lec. 1-2

م.د. ضياء جبار

College of Pharmacy
Fourth Year. Communication Skills.
Communication in Pharmacy Practice

Principles and Elements of Interpersonal Communication

The seven-star pharmacist

To be effective health care team members, pharmacists **need skills** enabling them to assume many different functions. The concept of the "**seven-star pharmacist**" was introduced by WHO (World Health Organization) : and include the following :

1-Caregiver 2-Decision-maker 3-**Communicator** 4-Manager 5-Life-long learner 6-Teacher 7-Leader

Communicating–knowing versus doing.

1-Many people feel that an effective communication is something **you are born with**.

2-In fact communication skills can **be learned** and **developed.** However, like other skills, they require **practic**e.

3-**Knowing how to communicate and being an effective communicator are different**. This course will provide information about **communication theory** along with how and why it is important. **And for being an effective communicator, it requires practice and effort to manage our interactions with others**.

Overview

In our personal and professional lives, we need to interact with many people. Some of these interactions are successful, while others are not. Consider Case Study **1**

Case study 1

George Raymond, a 59-year-old man with moderate hypertension, enters your pharmacy holding an unlit cigar. You know George. He has been told to quit smoking and go on a diet. **He also has a long history of not taking his medications correctly**. He comes to pick up **a new prescription**—an antibiotic for a urinary tract infection. **Although he knows you personally, he is somewhat hesitant as he approaches the prescription area. He looks down at the ground and mumbles**, "The doctor called in a new prescription for me, and can I also have a refill of my heart medication?"

Components of the Interpersonal Communication Model

1-Communication encompasses a broad spectrum of media, for example, mass communication (TV, radio), small-group communication (discussion groups), and large-group communication (e.g. lectures).

2-This course will focus on **one-to one interpersonal communication that occurs in pharmacy practice.**

3-This specific form of communication (**interpersonal communication**) is best described as a **process in which messages are generated and transmitted by one person and subsequently received and translated by another**.
A practical model of this process is shown in Figure 1.

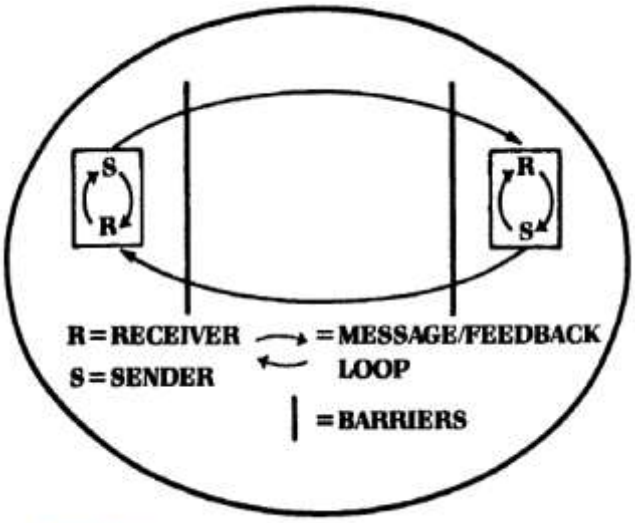


FIGURE 1. The interpersonal communication model.

The model includes five important elements: **sender**, **message**, **receiver**, **feedback**, and **barriers**.

1-The Sender

In the interpersonal communication process, **the sender transmits a message to another person.** In the example described above, the initial sender of a message was Mr. Raymond.

2-The Message

-In interpersonal communication, the message is the element that is transmitted from one person to another. Messages can be thoughts, emotions, information, or other factors and **can be transmitted both verbally (by talking) and nonverbally (by using facial expressions, hand gestures, and so on).** For example, Mr. Raymond's **verbal message** was that he wanted **his new prescription** and that he would like to have his prescription for **heart medication refilled**.

-At the same time, he also communicated nonverbal messages. Did you recognize any of these nonverbal messages? **By looking down at the ground and mumbling rather than speaking clearly, he might have been expressing embarrassment, shyness, or hesitancy to talk with you.** He might have felt embarrassed, perhaps because he had not been taking his heart pills regularly. **The nonverbal component of communication is important. Research has found that most of the message is transmitted through its nonverbal component.**

> **The most important thing in communication is hearing what isn't said.**
> **Peter Drucker**

3-The Receiver

The receiver (you in the above example) receives the message from the sender (Mr. Raymond). As the receiver, you "decode" the message and assign a particular meaning to it, which **may or may not be** Mr. Raymond's intended meaning. In receiving and translating the message, **you probably considered both the verbal and nonverbal components of the message.**

4-Feedback

Feedback is the process whereby receivers communicate back to senders their understanding of the senders' message.
In the example, you were first a receiver of information from Mr. Raymond; when you responded to him with a statement, such as "So you want your medication refilled?" you became a sender of feedback to Mr. Raymond.
Feedback can be simple, such as merely nodding your head, or more complex, such as repeating a set of complicated instructions.

During the communication process, most of us tend to miss the feedback. As receivers of messages, we fail to provide appropriate feedback to the sender about our understanding of the message. On the other hand, as senders of messages, we fail to ask for feedback from the receiver or in some cases ignore feedback provided by others.

The model we have presented is useful because it is easy to understand, but it does oversimplify the communication process. **In any interpersonal communication situation, individuals at any point in time are simultaneously sending and receiving messages**.
For example, in the scenario described above, the initial spoken message was sent by Mr. Raymond: "The doctor called in a new prescription for me, and can I also have a refill of my heart medication?" **However, at the time that he was speaking to the pharmacist, he was observing the pharmacist's nonverbal behaviors and so was receiving messages from the pharmacist as he was sending the oral message**. He observed whether the pharmacist was **paying attention**, whether he was **smiling**, whether he was **understood t**he spoken messages with nods of his head, and so on.

The communication is transactional and the interaction includes both verbal and nonverbal messages.

Barriers

Interpersonal communication is usually affected by a number of **barriers**. These barriers affect the accuracy of the communication exchange. For example, if a **loud generator** in your pharmacy while you were talking to Mr. Raymond, it would have been even more difficult to understand what he was trying to communicate. Other barriers to your interaction with Mr. Raymond might include a **safety glass partition between you and Mr. Raymond**, **telephones ringing**, or Mr. Raymond's **inability to hear you due to a defective hearing aid.**

Personal Responsibilities in the Communication Model

As a sender, you are responsible for ensuring that the message is transmitted in the clearest form, to the other person. To check whether the message was received as intended, you need to ask for feedback from the receiver and clarify any misunderstandings.

A-Thus, your obligation as the sender of a message is not complete until you have determined that the other person has understood the message correctly.

B-As a receiver, you have the responsibility of listening to what is being transmitted by the sender and you should provide feedback to the sender by describing what you understood the message to be.

In this counseling situation, what is the pharmacist doing correctly? What needs to be improved?

Many times, we rely on our assumptions that we understand each other and thus feel that feedback is not necessary. However, practice has found that without appropriate feedback, misunderstandings occur. Of concern is that, as pharmacists dealing with patients, physicians, and other health care providers, we cannot afford these misunderstandings. These misunderstandings might result in harm to the patient.

To become more effective, efficient, and accurate in our communication, we must include feedback in our interactions with others.

Research has found that when pharmacists communicate effectively with patients, patient outcomes improve.

In Search of the Meaning of the Message

In the interpersonal communication, the sender delivers the message, and the receiver assigns a meaning to that message. **The critical component in this process is that the receiver's assigned meaning must be the same as the meaning intended by**

the sender. **In other words, we may or may not interpret the meaning of the various verbal and nonverbal messages in the same way as the sender intended**. In the encounter with Mr. Raymond, he may have been embarrassed or hesitant to talk with you, or then again, he may not have been. He may have been looking down at a coffee stain on the new tie that his wife gave him. Thus, the message that you received might not have been the one Mr. Raymond intended to send.

Words and their context

In general, individuals assign meaning to verbal and nonverbal messages based **on their past experiences and previous definitions** of these verbal and nonverbal elements. **If two persons do not share the same definitions or past experiences, misunderstanding may occur**.

Different words mean different things to different people based on the definitions learned. For example, "football" to an American means a sport using an oval ball, but "football" to a European means a sport using a round ball (soccer).

An example of this misunderstanding occurs in health care when we speak in medical terminology that may have different (or possibly no) meaning to our patients. The following example illustrates this potential misunderstanding.

In the beginning exercise, let us assume that you wish to inform Mr. Raymond that his urinary tract antibiotic will be more effective if taken on an **(empty stomach). Empty stomach in pharmacy practice mean at least 1 hour before meal or at least 2 hours after meal**.

Thus, the meaning of your important message may not have been received accurately by Mr. Raymond.

Thus, patients may assign a meaning to our message that is different from the one intended. The following actual situation illustrates this point.

Case Study 2

A 9-month-old baby is admitted to the hospital with a severe infection. The pharmacist spoke with the mother upon admission and learned that about 1 week ago her son had developed a minor bacterial infection and received an antibiotic, which she gave him for 4 days until the infection appeared to be cleared up. When asked why she stopped the antibiotic, the mother stated that she was just following the directions on the prescription label: "**Take one-half teaspoonful three times a day for infection until all gone**." The mother stated that she gave the medication until the **infection was all gone**. Unfortunately, the **intended message was that the antibiotic should be given until the liquid was all gone** (which would have been about 14 days—long enough to treat the bacterial infection). The mother assigned a meaning to the message on the prescription label that was not accurate; and thus, she stopped giving the antibiotic, a super-infection developed, and the baby was hospitalized.

In this example, **the pharmacist did not ask for feedback** from the mother to know how she was going to give the medication to her son.

Congruence between verbal and nonverbal messages

The meaning of the message may be somewhat unclear if the receiver senses incongruence between the verbal and nonverbal messages. **That is, the meaning of a verbal message is not consistent with the meaning of a nonverbal message**. See the "Examples of Incongruent Messages" box. In each of these examples, the verbal message obviously does not match the nonverbal message, and the receiver may be confused about the true message intended by the sender.

To avoid this incongruence, as a sender, you must be aware of the nonverbal messages as well as the verbal messages.

As a receiver, you must point out to the sender that you are receiving two different messages.

Examples of Incongruent Messages

• A **red-faced agitated man comes into the pharmacy, raises a fist**, and loudly proclaims, **"I'm not angry**, I'm just here to ask about a prescription error."

• A patient hands a pharmacist a prescription for a **tranquilizer**, then **bursts into tears**. The pharmacist asks if anything is the matter, and the patient responds, "No, **I'm okay, it's nothing at all**."

In reality, the final message is not what is said, but what the receiver perceives was said. The following section discusses how to prevent potential misunderstandings.

Preventing misunderstanding

In the previous situation involving the baby's antibiotic prescription, the label read, "Take one-half teaspoonful three times a day for infection until all gone." Unfortunately, the mother interpreted the message incorrectly. In this situation, the meaning could be clarified relatively easily by rearranging the position of the last two prepositional phrases (. . . three times a day **until all medication is finished**) or rearranging the wording (. . . **until the medication is all gone**).
However, minimizing misunderstandings is many times more difficult in other situations.
We often assume that the receiver will interpret our message accurately.

Using feedback to check the meaning of the message

Predicting how a person will translate a particular message is difficult. **Using a technique described earlier (providing feedback to check the meaning of the message) may alleviate some communication misunderstandings.**

See **case study 3** for an illustration of the harmful effects of not asking for feedback from the patient on how they intend to take the medication.

Case Study 3

A patient being seen in an anticoagulation clinic mentioned to the pharmacist that he had developed several bruises on his hands and legs. The pharmacist immediately checked the patient's INR value and found it 6, which was well above his targeted 2–3 range. The pharmacist asked whether the patient had changed his diet, lifestyle, or drug regimen. **The patient said no, but that he was given another medication during his last clinic visit**. The pharmacist then went back to the patient's record and noticed that the patient had been receiving 4 mg daily of the anticoagulant drug for some time, but his dose was reduced to 3 mg during the last visit to adjust his INR. The pharmacist suspected what the issue might be and asked the patient, "**Did you stop taking the 4 mg tablet?"**

The patient replied, "No, nobody told me to, so I have been following instructions and taking both tablets!!" Thus, he was taking 7 mg per day rather than the intended 3 mg.

Unfortunately, relying on our intuition is not as effective as obtaining feedback to measure understanding. See the accompanying box for examples of how to ask for feedback.

Statement or Question That Elicit Feedback

"just to make sure that I didn't leave anything out, please tell me how you are going to take your drugs"

The receiver can also alleviate some misunderstanding by offering feedback to the sender. After receiving the message, the receiver should indicate in some way what she understands the message to be.

So when the pharmacist is primarily the "receiver" when he is obtaining information from patients on their symptoms or current therapy, the pharmacist should provide feedback to verify his understanding.

When the pharmacist is primarily the "sender," as when he is giving information on a new prescription, then the patient should be asked to summarize key information presented as a way of providing feedback that the pharmacist's message was understood accurately.

Case Study 4

A patient returned to the pharmacy complaining of side effects apparently caused by his medication. The patient's records indicated he was given 30 nitroglycerin patches. Both the pharmacist and the physician told him to "**apply one daily**." The patient opened his shirt to reveal 27 nitroglycerin patches firmly adhered to his chest!!.

In case study 4, the patient applied one patch each day (but did not perceive the intended message that he should remove one). He followed his perception of the instructions.
Unfortunately, no one asked him how he was going to use the patches (in other words, did not ask for feedback on his perception of the instructions). If the pharmacist had verified the patient's understanding, the patient would have been spared the resulting embarrassment and possible side effects.
Misperceptions like the one above occur frequently in pharmacy practice, and most pharmacists have a story to tell about how patients misuse medication based on their misperceptions.
The outcome of these situations may be relatively harmless, but some can be serious. For an example, see case study 5.

Case Study 5

young woman suffering from vaginal candidiasis was given the usual 15 nystatin **vaginal tablets** and was told by the pharmacist to "**use one tablet daily** for two weeks." She returned to the pharmacy after two weeks in severe discomfort with a complaint that "**those nystatin tablets taste terrible**!".

In case study 5, **the patient assigned the wrong meaning to the word "use" and used the medication the way she typically uses medications—by taking them orally.**
In general, people develop their perceptions based on their past experiences, background, and values.

People of different backgrounds, values, and experiences may assign meanings to messages that are different from those intended by the sender.

One skill that minimizes perceptual differences is to use terms and concepts that are familiar to the patient. It is very easy for patients to misunderstand when you use medical terminology or professional jargon. For example:

1-احد الزملاء وعندما سأله المريض عن فائدة احد الأدوية الفوارة الموصوف له جاوبه بقوله : **يجعل الإدرار قلويا .**

2-احد الزملاء وعندما سأله المريض عن الفرق بين ابرة الكلافوران وابرة السيفترايكسون الموصوف له جاوبه بقوله : **كلاهما من الجيل الثالث . وهي ترجمة حرفية لـ**

Third generation cephalosporins

3-احد الزملاء وعندما سأله المريض عن سبب وجوب ابتلاع حبة اسبرين الاطفال كاملة وعدم قسمها اوطحنها جاوبه بقوله : **لأنها مغلفة معويا . وهي ترجمة حرفية لـ**

Enteric coated

4-احد الزملاء وعندما سأله المريض عن سبب الامتناع عن تناول كبسول تتراسايكلين مع الحليب ومشتقاته في نفس الوقت جاوبه بقوله : **لأنه يكون معقدا . وهي ترجمة حرفية لـ**

Complex formation

Many times, using "**lay language**," **which is familiar to patients, rather than medical terminology**, which is familiar only to health care professionals, **can enhance understanding.**

Perceptions of individuals

Our perception of the message is also influenced by our perception of the individual sending the message. How we perceive the sender affects the interpretation of the message. We respond using our perception of that individual as our reference point because we tend to be influenced by a person's cultural background, status, gender, or age.

These perceptions are further influenced by any *bias we have or stereotypes we hold of certain groups of individuals.*

The following statements illustrate this point:

"People who are mentally ill do not comply with their medication regimens."

"Elderly people can't hear well and always talk too much."

"People who talk slowly have a learning disability."

وفي العراق توجد الكثير من مظاهرstereotypes مع الاسف الشديد

We do not see the person as a unique individual but as a representative of a particular group (e.g., elderly, overweight, or mentally ill). We erect "perceptual barriers" to the communication process not based on fact but on our inferences **based on stereotypes**. Unfortunately, these barriers inhibit true communication between individuals.

Misunderstandings will often take root when people from differing backgrounds do not talk to one another.
Be willing to talk openly and with a constructive attitude.

Unfortunately, **the people we deal with on a daily basis may have perceptions of pharmacists that interfere with our ability to communicate with them.**

Their perceptions may not be based on reality but on **their stereotypes of pharmacists**. Patient perceptions are influenced by their past experiences with pharmacists, by what others have said about pharmacists, or by what they read in magazines and newspapers. **For example, patients may perceive us as uncaring, busy people who are concerned only with filling prescriptions and taking their money**.

These stereotypes influence what they say to us and how they listen to us. **If they perceive us as professionals, they will listen to what we tell them about their medications.**

By the same token, if nurses, physicians, and other health care providers do not perceive us as professionals, they will not value the information we provide. Part of improving communication with others is to determine what their perceptions of pharmacists are and then try to alter those perceptions if they are unfounded.

Summary

The interpersonal communication model reveals that you must recognize that interpersonal communication is more than merely speaking to others, or offering the instructions to the patients.

You must make sure that the messages you transmit to others are received accurately.

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College of Pharmacy

Fourth Year. Communication Skills.

Communication in Pharmacy Practice

Lec. 3-4

د.ضياء جبار

Nonverbal Communication

Beyond words: the power of non-verbal communication

1-The most important thing in communication is hearing what isn't said.

Peter Drucker

2-The body never lies.

Martha Graham

3-The pharmacist may learn more about the illness from the way the patient tells the story than from the story itself.

Background

1-Words are not the only way by which pharmacists communicate. **Interpersonal communication involves both verbal and nonverbal expression**.

2- Nonverbal communication can be defined as a **message or messages that are conveyed without using language**.

3-This lecture describes the various components of nonverbal communication and discusses how it plays an important role in effective patient-centered communication.

Nonverbal versus Verbal Communication

1-The importance of nonverbal communication is underlined by the findings of behavioral scientists, **who have reported that approximately 55% to 95% of all communication can be attributed to nonverbal sources** [(1)].

2-Various interpretations may present for the same nonverbal message and come from the different social, cultural, and other background variables of the senders and receivers. **However, within a given society, groups of nonverbal cues or "cue clusters" generally result in interpretations that are usually universally agreed upon**.

3-**When analyzing nonverbal communication, avoid focusing on just one cue**. Look at all the nonverbal cues that you are receiving and use verbal communication to fully understand the meaning of the nonverbal behavior.

4-Nonverbal communications are unique for three reasons.

A-**Verbal communication is discrete with clear endpoints** – we know when the message has come to an end. In contrast, **non-verbal communication is continuous** – it goes on for as long as the communicators are in each other's presence. **We cannot stop communicating non-verbally– even when people are together in silence, the atmosphere is filled with messages**.
So you are constantly providing "nonverbal messages" to those around you by your dress, facial expression, body movements, and other aspects of your appearance and behavior.

B-**Nonverbal communication is difficult, if not impossible, to "fake" during an interpersonal interaction**. Verbal communication is mostly under voluntary control whereas non-verbal communication operates beyond our conscious awareness.

C-**Your nonverbal communication must be consistent with your verbal communication** . This lack of congruence between your verbal and nonverbal messages may result in less than successful interpersonal communication.

Elements of Nonverbal Communication

Non-verbal communication can also be defined as all forms of human communication apart from purely the words used. Using this definition the term non-verbal includes mainly :

1-Paralanguage(how something is said)
2-Body language
3-The physical environment(environmental nonverbal factors)

A-Paralanguage(how something is said)

The paralanguage includes the vocal characteristics as:

1-Tone: ***tone in particular can convey more meaning that actual words*** e.g. Changes in the level and range of pitch convey information about the feeling of the person speaking.

"Thank you for asking question" said in a harsh voice contradict the words and indicate that is not meant. The same words in a warm tone show sincerity.

-The human voice communicates much to the receiver. This is especially true when the communication takes place over the telephone.

2-Speed: ***the speed of speaking must enable the listener to understand.***

For good communication , **the pharmacist should provide the clear message at a speed which give the patient time to think about what is being said**. This will help the patient to **understand and remember** the message more easily.

3-Volume (how loudly we speak): many people speak with wide variation in volume, depending on the situation.

The volume must be adjusted to the circumstance and emphasize key words.

A-It may be necessary to **speak more loudly to patients with hearing problems**.
B- It may be necessary to speak l**ess loudly to patients when we speak about an embarrassing subjects** .

B-Body language

The body language in turn, includes:
1-Eye contact: the maintenance of eye contact during communication may indicate an interest in the subject in western cultures. However, **Orientals tend to decrease eye contact during communication and will often look at the floor when speaking**.

By maintaining eye contact with the patient, **pharmacists are more likely to pick up nonverbal cues regarding whether the patient understands them**. Many patients will say they understand something when they actually do not. Patients? facial expressions, such as a crinkled eyebrow, often reveal confusion, misunderstanding or uncertainty. These important cues are often missed by pharmacists when they do not take the time to maintain eye contact.

The amount of eye contact used should be in response to the patient. If the patient reacts uncomfortably to your direct eye contact, looking away occasionally may be a good idea (**it is generally true that direct eye contact may have negative consequences in when we speak about an embarrassing subjects**).

2-Facial expression: **the facial expression of pharmacist should be encouraging and welcoming.** As well as **pharmacist should be able to read the meaning of patient's facial expression regarding the level of comprehension and receptiveness**.

The 53 muscles of the face offer an almost infinite range of expression

Facial expression may send a message that you did not intend to transmit**. This is especially damaging when your facial expressions are not consistent with your verbal expressions**. For example, if you say, "Go ahead I am listening, tell me about

it!" but your eyes are distracted by something else in the pharmacy, you may be communicating mixed messages.
In these situations, people would tend to believe your facial expression and other nonverbal messages more than the verbal aspects of your communication.

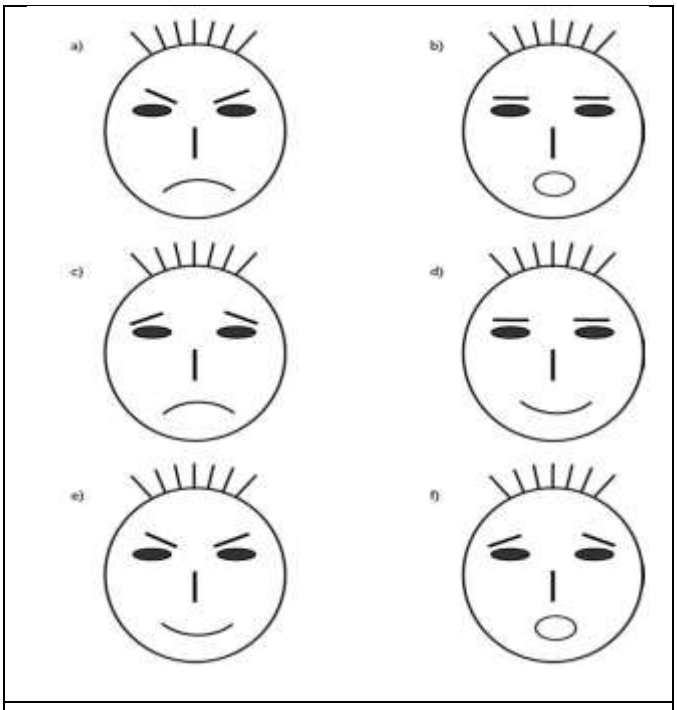
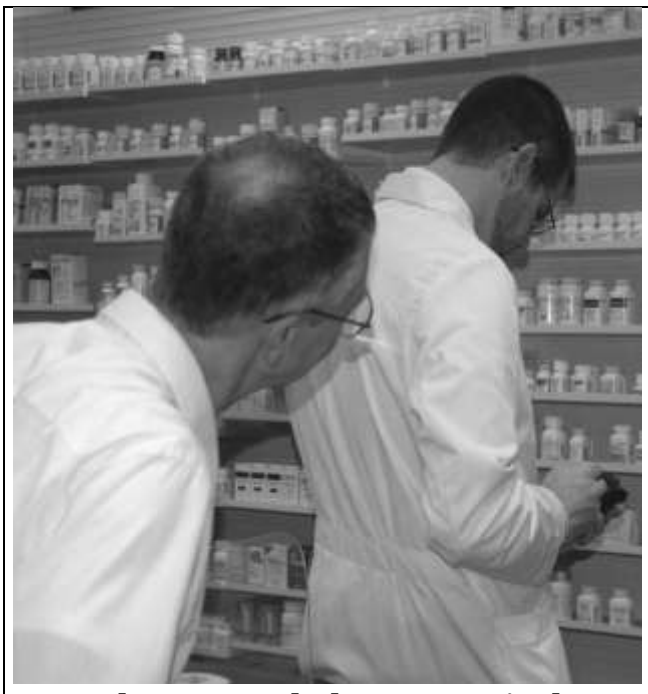


Figure six basic emotional expressions Note: a = anger, b = fear, c = sadness, d = happiness, e = surprise, f = disgust

The right word may be effective, but no word was ever as effective as a <u>rightly timed pause</u>.

Mark Twain

3-Body posture:
In addition to facial expression, body position can be somewhat distracting. **Most patients will judge your willingness to talk to them based on their perception of your body position**. For example, a closed stance with folded arms or a body position that is slouched forward or tilted to one side may be communicating reluctance on your part to talk with them.



What nonverbal messages is the pharmacist sending? The patient?

leaning towards the person who is talking or sitting in a relaxed fashion, with a full frontal appearance to the other person can encourage good communication.

A closed posture occurs when you have your arms folded in front of your chest, legs crossed at the knees, head facing downward, and eyes looking away from the patient. If you hold this posture during an interaction, the other person may respond in a similar noncommunicative manner or may break off the interaction altogether.

Communication from a closed posture may shorten or halt further productive interactions. **Sometimes it is appropriate to use a closed posture, for example, when you want to limit the interaction with an overly talkative person**.

4-Physical contact (touch):

1-**A light, tender, sensitive touch is worth a ton of brawn**.

Peter Thomson

2- Touch seems to be as essential as sunlight.

Diane Ackerman

3- Too often we underestimate the power of a touch, a smile, or a kind word all of which have the potential to turn a life around.

Leo Buscaglia.

Of all non-verbal behavior, touch is among the most powerful and the most problematic: powerful, because any intended physical contact between two human beings can have a considerable emotional impact; problematic, because it can be misinterpreted or experienced as a culturally offensive act [**physical contact is governed by social and religious rules, which vary between cultures**].In some cultures, physical contact between adults in public is rare, even taboo.
In cultures where it is permitted, touch can be a compassionate and healing act which gives comfort and strength to those in pain or distress; touch can make contact between two people at a level beyond words.

The guiding hand on an elbow, the comforting touch on a shoulder, the reassuring holding of hands, picking up and hugging a distressed child – all so obvious، natural and humane.
[A sympathetic touch on an arm can say far more than any number of words].

5-Personal space (distance):

1-The distance between two interacting persons plays an important role in nonverbal communication. The structure and use of space, is a powerful nonverbal tool [(1)].

2-Behavioral scientists have found that the quality of interactions can vary depending upon the distances between the communicators .

3- **The distance should create some privacy (too far apart would cause talking that was audible to others), while at the same time, not creating discomfort**. Our patients will give us nonverbal cues when we are standing too close.
[Patients usually indicate nonverbally whether they feel comfortable with the distance by either stepping backward or leaning forward].

4-In many cultures, **0.5-1 m is usually sufficiently close to allow friendly and meaningful communication**. Preserve the most protected space (less than 0.5 m from their bodies) for others with whom they have close, intimate relationships. When someone else enters into this space (intimate zone) during a conversation, people may experience anxiety and perhaps anger.

5-A crowded elevator is the best illustration of the need to maintain intimate space.

People in a crowded elevator will do almost anything (to the point of standing like statues) to avoid touching one another. If by chance two people in this situation do have bodily contact, they usually apologize, even though neither person had an opportunity to avoid the trespass of space .

6-**The type of instructions that you need to give to the patient will also affect the distance**. For sensitive issues, such as explaining the use of a rectal or vaginal medication, you may need to enter the patient's private zone, especially if others are around .

6-Gesture:

Hand gestures in particular are useful when emphasizing a point or to help to describe something and can greatly enhance communication and improve understanding.

مثال ذلك تحريك اليد صعودا ونزولا عند قولنا للمريض رج الزجاجة قبل الاستعمال وهكذا الحال مع الكثير من التعليمات حيث يمكن تعزيز فهم وتذكر المريض للتعليمات بتعزيز الكلام بحركات اليد المنسجمة مع محتوى الكلام...

7-Clothing:

The clothing we choose to wear can communicate a great deal about us. Are the clothes in style? Are they ironed or wrinkled? Do the colors go together? How does the pharmacist distinguish him or herself from the rest of the staff in the pharmacy? **Does the pharmacist wear a professional coat that indicating this is a pharmacist**?

وأن من ابرز الأشياء التي تعطي (مظهر المهني ونقصد به الصيدلي) هو ارتداء الصدرية في الصيدلية وهو جانب عنصر مهم من عناصر المظهر المهني ولكن ومع الأسف الشديد قلة من الزملاء الصيادلة من يلتزم به رغم التعليمات النقابية بهذا الخصوص...حتى إن صحفيا كتب مقالة في الصحيفة وعنونها (أين الصيدلي) اشتكى فيها من صعوبة تعرفه على الصيدلي في الصيدليات خصوصا إذا كان فيها أكثر من شخص والسبب واضح.

C-The physical environment(environmental nonverbal factors)

1-Never go to a doctor whose office plants have died.

Erma Bombeck

2-I was going to have cosmetic surgery when I noticed that the doctor's office was full of portraits by Picasso.

Rita Rudner

There are many things in the environment which will have a some potentially very powerful impact. These are part of the broad category of non-verbal communication [communication beyond words].

Relationships with patients will be eased and enhanced, confidence and trust will be stimulated in an **environment that is welcoming, comfortable and attractive**.

Dirt, clutter, and general untidiness carry negative nonverbal messages. These messages influence patient perceptions about your professional role and your level of interest in serving your patients.

In the pharmacy , a host of physical, non-verbal elements send strong positive or negative messages (communicate) to patients, visitors and colleagues:

• Layout and arrangement of rooms or physical space.

• Tidiness and cleanliness.

• Comfort of seating.

• Temperature, humidity and freshness of atmosphere.

• Lighting levels, color schemes, decorative elements (such as plants and pictures).

•The visibility of library references books will enhance the professional image.

• Privacy: an **area where the patient and pharmacist cannot be overheard** is very important to ensure confidential communication and this **may be only a corner in the pharmacy away from the customers' cue**. Privacy allows the pharmacist to give accurate and complete information and allow the patient to ask even potentially embarrassing or stupid questions.

[In some pharmacies (even in Iraq) there is a private consulting area. This may indicate to your patients that you are interested in counseling them in a private manner].

Many pharmacies sell many items that are not health-related. These may include, cosmetics, greeting cards, household items (e.g., paper towels, toilet paper, glass cleaners, etc.), candy, etc. Does selling these items confuse the patient about what the pharmacist's primary intent is as a healthcare provider? Is the selling of these items consistent with the health image the pharmacist is trying to convey? Pharmacists may need to reconsider the items they sell and the effects of those items on the image conveyed.

D-Time-Consciousness:

Many patients are extremely time-conscious. Even a fifteen-minute wait, which is fairly common in many pharmacies, is viewed with impatience. Therefore, it is important to **convey value in the wait** in order to reduce this negative view of waiting. **This may be done by either providing services worth waiting for (such as counseling) that most others don't provide or provide as well, or this may be done through compassion and empathy.**

Case Study 1

Patient: Fifteen minutes? Just to throw a few pills in a bottle? I just had to wait almost an hour and a half at the doctor's office.

Pharmacist: **I know that you have waited a long time today**. I will get your medicine to you as quickly as I can. I do have two other patients ahead of you and I want to be accurate with everyone's medicine. **I do appreciate your patience**.

Notice in this situation that the **pharmacist acknowledges the patient's complaint but does not take responsibility for the problem, nor does the pharmacist attempt to solve it. The pharmacist is caring and compassionate, but also not willing to engage the patient in a debate.**

Mirroring

1-**When two (or more) people are in some kind of harmony, their non-verbal behavior is often mirrored**: they may be sitting in similar poses(may be one ankle resting on the knee, or an arm loose on the arm of a chair); they may move or make the same gesture at the same time.

2-Knowledge of this is also professionally important. **If a patient is imitating your body posture, then you may assume that they are on at least a similar wavelength to you and amenable to some degree of open conversation**. In order to demonstrate the same degree of openness to what a patient is saying, you can mirror their behavior.

3-**A tense patient may be influenced unconsciously to relax and imitate you, by your adopting a relaxed body posture**, but if their tension is mirrored in your posture, and you don't recognize the imitation, then progress may not be easy.

Distracting Nonverbal Communication

1-**One of the most distracting nonverbal elements is lack of eye contact**. It is frustrating to talk to somebody who is not looking at you. Unfortunately, many pharmacists unconsciously do not look at patients when talking to them. Their tendency is to look at the prescription, the prescription container, the computer screen, or other objects while talking.

This behavior may indicate to patients that you are not totally confident about what you are saying or that you really do not care about speaking with them. **Not looking at the patient also limits your ability to assess whether the patient understands the information**. In other words, lack of eye contact limits your ability to receive feedback from the patient about the messages that you are giving.

Good eye contact is also essential for effective listening. If you do not look at patients while they are talking, they may get the impression that you are not interested in what they are saying. Using good eye contact does not mean that you

continually stare at patients, because that may make them feel uncomfortable as well. **The key is that you spend most of the time looking at them**.

2-**Another potentially distracting nonverbal element is facial expression**. This is especially damaging when your facial expressions are not consistent with your verbal expressions. For example, if you say, "Go ahead I am listening, tell me about it!" but your eyes are distracted by something else in the pharmacy, you may be communicating mixed messages. The patient hears you say that you are interested, but your nonverbal behavior communicates otherwise. **In these situations, people would tend to believe your facial expression and other nonverbal messages more than the verbal aspects of your communication**.

3-In addition to facial expression**, body position can be somewhat distracting**. For example, a closed stance with folded arms or a body position that is slouched forward or tilted to one side may be communicating reluctance on your part to talk with patients.

4-Another potential distraction to communication may **be your tone of voice**. An inappropriate tone of voice may create an entirely different meaning from the one intended.

Detecting Nonverbal Cues in Others

1-Up to this point, this lecture has focused on your own nonverbal communication. The following section examines nonverbal messages provided by others and describes how to better detect these messages.

2-**Assessing the meaning behind the nonverbal messages of others is difficult, because we tend to interpret nonverbal cues based on our own personal backgrounds and experiences**. We "filter" these messages based on our personal orientation and experiences. The meaning of the nonverbal messages that we receive **may or may not be the meanings intended by the sender**.

Case Study 2

During his first experience in a community pharmacy, a pharmacy student (John) was assigned the task of receiving new prescriptions from patients.
One day, Mr. Stevens approached the prescription counter to have his prescription for levodopa refilled. John, who did not realize that Mr. Stevens had Parkinson's disease, **noticed that his hands were shaking** and commented, "**I see you are a bit nervous today. What's the matter**?"

John observed a nonverbal message (rapid hand movement) from Mr. Stevens and assigned a wrong meaning to it. **John should not have jumped to the conclusion based on just one nonverbal cue** but should have noticed that Mr. Stevens' head

was also moving and that he walked with a shuffled gait characteristic of Parkinson's disease.

3-Another example occurs when **elderly patients move closer to you or may put a hand to their ears**. What message might these nonverbal cues indicate? Possibly, **they may indicate that they are having difficulty in hearing**. You may also observe hearing aids, glasses, and other devices that may indicate possible communication difficulties.

Dealing with Sensitive Issues

1- It is interesting to note that a study found that **embarrassment was the most common reason why consumers did not approach their health care provider** .

2- A wide variety of embarrassing issues could exist within practice, including **incontinence**, **sexual dysfunction**, **depression**, **menopause**, **hemorrhoids**, **contraception**, and **breast or prostate cancer**.

3-As a pharmacist, you should be prepared to recognize situations that may be sensitive areas for patients. **You should be comfortable discussing such matters in a nonthreatening way and in a nonverbal environment that conveys confidentiality and privacy.**

Overcoming distracting nonverbal factors

1-As mentioned earlier**, the first step in improving interpersonal communication is recognizing how you communicate with others**. In the nonverbal area, this self-awareness **involves being constantly aware of your nonverbal behavior**.

2-Once you have discovered what aspects you need to change to become more effective, the next step is a difficult one: **finding strategies to overcome these distracting elements.** Several suggestions have been already made about how specific nonverbal elements can be improved.

One thing that should be mentioned here is that **potentially distracting behaviors can be overcome by using nonverbal elements that project different messages**. For example, you may find that you naturally cross your arms while talking to others. You can overcome this nonverbal element by using other nonverbal elements, such as smiling, using a friendly tone of voice, or moving closer to the patient . **The total message received by the patient is the combination of all these nonverbal cues, both positive and negative, and not just one isolated component.**

Another example is that if you have a soft voice and you sense that the patient cannot hear you, then you should lean toward the patient, or move the patient into a quieter section of the pharmacy.

[**The key to this process is to first recognize distracting nonverbal elements and then try to overcome them**] .

Summary

Because nonverbal communication contributes significantly to the meanings of messages between pharmacists and others, it is important for you to keep the following in mind:

1-Certain nonverbal behaviors are **universal**; however, many are **culturally specific**.

2- **Nonverbal behavior is more powerful than verbal**. If the spoken word contradicts nonverbal behaviors, the observer will believe the nonverbal messages .

3-The practice **environment have important effects on communication** with patients.

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Baghdad College of Pharmacy
Second Year. Communication Skills.

Lec. 5-6
م.د. ضياء جبار

Assertiveness

Overview

Assertive pharmacists **take an active role** in patient care.
1-These pharmacists **initiate communication** with patients rather than wait to be asked questions.
2-Assertive pharmacists also **convey their views** on the management of patient drug therapy to other health care professionals.
3-Finally, assertive pharmacists **try to resolve conflicts** with others in a direct manner but in a way that conveys respect for others.

Defining Assertiveness

What is assertiveness? Assertiveness is perhaps best understood by comparing it with two other response styles: **passivity** and **aggression**. These three styles of responding are described below.

A-Passive behavior

1-This response is **designed to avoid conflict at all cost**.
2-Passive or nonassertive persons **will not say what they really think out of fear that others may not agree.**
3-Passive individuals "hide" from people and wait for others to initiate conversation.
4-**They put the needs or wants of other people above their own**.
5-**They worry about how others will respond to them and have a high need for approval**.
6-Passive persons may see themselves as **victims** who are subject to the **manipulation** of others.

[It is this view that is damaging to their self-esteem]

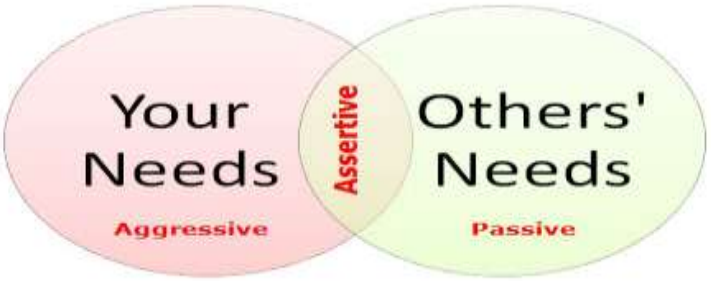
B-Aggressive behavior

1-**Aggressive people seek to "win" in conflict situations by dominating or intimidating others.**
2-Aggressive persons **promote their own points of view but are indifferent or hostile to the feelings, thoughts, or needs of others.**
3-Such individuals are easily angered and have a low tolerance for frustration
3-Thus, aggressive individuals may "win" certain interpersonal battles in the short term, **but their behavior often leads to negative long-term consequences.**

[For example, patients who do not feel they are treated with respect in a community pharmacy **may not return to that pharmacy** and may tell friends about their negative experiences.
Employees who feel helpless and undervalued **can damage the goals of their employer** in a variety of indirect ways].

4-**Aggressive approaches do not build trusting relationships**, which is a key element in working with patients and others in professional practice.

C-Assertive behavior



1-Assertiveness requires that **you respect others as well as yourself.**

2-Too often, our goals in communication are defined in terms of **what we want others to do rather than what we will do.** For example, **we might say that we want physicians to appreciate the role of the pharmacist in patient care.** Redefining this goal would have us **focus on what specific things we can do to improve our working relationships with physicians**. If we tell others our goals in providing a good pharmaceutical care services and show them by our behavior what we want to achieve, many will come to respect our position.

ويكون ذلك بممارسة الصيدلي لدوره العلمي بجوانبه المختلفة (كالتثقيف الدوائي للمرضى والاشتراك مع الطبيب (في المستشفى خصوصا) في اختيار الدواء المناسب للمريض وإبداء الآراء العلمية المستندة على قاعدة علمية رصينة في مختلف المسائل التي تواجهه في المستشفى والمساهمة في إيصال المعلومة الصحيحة للطبيب والاشتراك في الحلقات والندوات والمؤتمرات العلمية وغيرها كثير ...كل ذلك يجعل الطبيب وغيره يحترم ويقدر دور الصيدلي ....أما الاكتفاء بكتابة طلبية الأدوية وتوزيعها على المرضى ...ومن ثم نطلب من الطبيب تقدير واحترام دور الصيدلي...فلا يجدي نفعا)

3-Other example, you may wish that your boss, who tends to be **very negative during evaluations of staff**, was more supportive of your work. However, **just hoping** that he would be more positive in his evaluations will not resolve this issue. **You must take active steps to change how you respond to his criticisms** rather than waiting for his to change her approach

سيتم التعرف على كيفية التعامل مع الانتقاد لاحقا في المحاضرة

Theoretical Foundations

Usually the people respond passively or aggressively **because they have irrational beliefs that interfere with assertiveness.** These beliefs involve:

1-Fear of rejection or anger from others and need for approval (**everyone should like me and approve of what I do).**

2-**Over-concern for the needs and rights of others** (**I should always try to help others and be nice to them).**

3-**Perfectionist standards** (**I must be perfectly competent**. If I am not, then I am a failure. **Others must also be perfectly competent** and deserve to be severely criticized if they are not.)

[In the passive person these beliefs create anxiety that leads the individual to try (unsuccessfully) to avoid the inevitable conflicts that arise in relationships.

In aggressive person these beliefs leads to angry, aggressive behavior, with frequent "blaming" of others for normal human failings].

Assertiveness Techniques

There are a number of communication techniques or strategies that are useful in responding to situations that tend to be conflict-ridden.

A-Providing feedback

Many times, you must tell people that you are upset by what they did. **When you choose to convey negative feedback to others, use techniques to make the communication less threatening.** Criteria for useful feedback include:

1-Feedback focuses on a person's behavior rather than personality.
2-The feedback must be specific rather than general. It focuses on behavior that has just occurred and avoids dragging in past behavior (e.g., "**you always do**------ ").

3-Feedback focuses on problem solving. The focus is on problem solving rather than turning the conflict into a "win/lose" situation that damages the relationship.

The entire focus should be on **attacking problems** or issues, **not people or personalities.**

For another example, rather than saying (**you should not prescribed ciprofloxacin** because Mr. Jones is **taking theophylline** and the two drugs interact)

But say (**This patient** cannot take **ciprofloxacin because he is already taking theophylline and there is a serious drug interaction** .I suggest we use co-trimoxazole))

4-**Feedback is provided in a private setting**.

تعمدني بنصحك في انفراد .... وجنبني النصيحة في الجماعة
فإن النصح بين النـاس نـوع .... من التوبيخ لا أرضى استماعه

Feedback uses "I" statements that take the form "When you [do or say]_____, I feel ___." For example, "**When you are late for work, I feel frustrated**" is less damaging than "You're irresponsible. You don't care about the patients who are waiting and the co-workers covering for you when you're late."

B-Inviting feedback from others

1-At the same time, **we need to invite feedback from others about us in order to improve our interpersonal communication skills.**

2-Your ability to **encourage feedback from others** (**even when it is negative)**, to hear criticism **or suggestions without anger**, and to **admit when you have made a mistake**, encourage people to be honest in their communications with you.

3- For example, as a pharmacist, you should routinely assess patient satisfaction and invite feedback on your services. As a manager, you should let employees know that you welcome suggestions from them on how to improve pharmacy operations.

C-Setting Limits

1-If we **have difficulty in saying "no" to any request, then we feel overwhelmed** and, often, angry at others for "taking advantage" of us.

2-**Saying "no" or setting limits may be particularly difficult if you believe that the other person must agree that you have a good reason for saying "no."** Whether you give reasons or not does not change the fact that **you have the right to make the decision on how you will spend personal time.**

3-Remember: **being assertive in setting limits does not mean that you stop saying "yes" to requests. You will no doubt continue to help others.**

D-Making Requests

1-When we ask for what we want from others, **we must trust that others will be able to respond to our requests in an assertive manner, including saying "no."**

2-Thus, **we must not overreact when someone turns down our request in an assertive way.**

E-Being Persistent

1- Often when you said "no," people will try to coax you into changing your mind. **If you continue to repeat your decision calmly, you can be assertive without becoming aggressive and without giving in.**

F-Ignoring provocations

1-You as a pharmacist may receive an **aggressive comments (provocations)** for example, from patients who are angry or feeling helpless or from other pharmacists who feel unfairly criticized.

2-Ignoring the aggressive comments of others and focusing exclusively on solving underlying problems can do much to keep conflict from escalating to the point that relationships are damaged.

G-Responding to criticism

For some of us, criticism is particularly devastating because we typically hold two common irrational beliefs:
(1) **That we must be loved or approved of by virtually everyone we know**, and
(2) **That we must be completely competent in everything we do and never make mistakes**.
Since such perfectionist standards are impossible to achieve, we are constantly faced with feelings of failure or unworthiness.

****

Now let's examine a few typical situations in pharmacy practice and determine what might be the most assertive way to respond in relationships with patients, physicians, employees, employers, and colleagues.

Assertiveness and Patients

1-**Certain activities distinguish assertive pharmacists from passive ones**. For example, **passive pharmacists** seem to **hide behind the counter**, and generally avoid interaction with patients unless asked specific questions. In this way, **passive pharmacists are able to avoid the potential conflicts inherent in dealing with people**.

2-**Assertive pharmacists come out from behind counters, introduce themselves to patients, provide information on medications, and assess the patient's use of medications and problems with therapy**.

3-**Encouraging patients to be more assertive** is also an important skill in improving your communication with them. Even normally assertive patients may experience enough anxiety in communication with pharmacists. You as a pharmacist may encourage patients to be more assertive by **allowing them to ask questions about their therapy that they want to ask.**

4-**A particularly difficult situation that you will face in pharmacy practice is responding to an angry patient**. While no one likes to hear criticism, there are ways of dealing with criticism in a rational, assertive manner.

A-When you hear criticism from patients, it is important to **keep in mind that some (do not assume all) patient anger arises from frustrations about being ill** (and the life stresses they are experiencing), and not from you.

B-**When patients are reacting primarily to the stresses of being ill; it is most helpful for you to understand what it is like for them and to respond empathically**. An empathic response when patients react with dismay at the cost of their medications will probably be more helpful than an attempt to justify the cost.
Saying, "**You're right. These medications are expensive. Are you worried about whether you can afford them?"** shows that you understand the patient's worry and allows you to assess whether the concern about cost is a real problem of inability to afford treatment or a way of expressing feelings of frustration.

C-Another skill that is useful in responding to patient criticism **is to get patients to turn criticism into useful feedback**. For example, if a patient tells you that your pharmacy does not seem to care about the customer, **it is important to find out specifically what is causing the problem**. Asking "**What specifically is it that upsets you?" may give you feedback that would be useful in improving your pharmacy operation.**

D-There will be times with angry patients **where you will need to stand up for yourself. If a patient persists in aggressive behavior in spite of your efforts to focus on understanding and problem solving**, you will want to set limits without becoming

aggressive. You can ***calmly*** tell an angry patient "**I want to hear your point of view, but, when you are ready to talk without yelling and swearing, I will listen."**

Assertiveness and Other Health Care Professionals

When problems in patient medication therapies arise, consultations with physicians or nurses are often required. **If you have determined that you need to speak directly with the prescribing physician, you will be most effective if you are persistent with receptionists and nurses in your request**. Messages transmitted through third parties may not be the most effective means of communication. Such persistence might sound something like this:

CASE STUDY 1

Pharmacist calling a receptionist in a physician's office

Pharmacist: This is **Ameer Hasan**, the pharmacist at **AL-Yasameen Pharmacy**. I'd like to speak to Dr. **Ahmed Saleem** please.
Receptionist: He's with a patient now. What is it you wish to speak to him about?
Pharmacist: **I** am concerned about Mr. **Amjad's** prescription for metformin. I will need to speak to Dr. Ahmed about it. Please have him call me as soon as he comes out from the patient examination.

Receptionist: It might be quicker if you tell me what the problem is. **I** could talk to Dr. Ahmed and get back to you.
Pharmacist: Thank you, hut in this case I would like to talk to Dr. Ahmed directly.
Receptionist: He's very busy today.
Pharmacist: 1 knows he has a busy schedule but I must speak with him as soon as possible. Please ask him to call.

1-The pharmacist (**Ameer Hasan**) in this communication **was assertive**. **He showed respect for the receptionist and yet was <u>persistent</u> in stating his request**. He did not argue about the issue of which method of communication was quicker. **He <u>calmly</u> restated his request without anger or apology**.

Now, let's say you have managed to get through to the physician. **Compare the following introductory comments by a pharmacist:**

A-Dr. Ahmed, this is the pharmacist at AL-Yasameen Pharmacy. I'm sorry to bother you—I know you're busy—but I think there's a problem with Mr. **Amjad's** prescription for metformin.

B- Dr. Ahmed, this is Ameer Hasan, the pharmacist at AL-Yasameen Pharmacy. I'm calling about a problem Mr. Amjad is having with his prescription for metformin.

In (A), **the pharmacist did not introduce himself**, **which makes him an anonymous** rather than a professional with an individual identity. Also, in (A), he **"apologizes" for calling, which makes him seem unassertive.**

Here are several ways the pharmacist could precede:
A-**Did you know that Mr. Amjad is still having diarrhea from the metformin? Do you want to change his prescription?**

B- **I spoke with Mr. Amjad today. He reports that he continues to have diarrhea after three months on the medication. He is now reluctant to leave the house because of the diarrhea. The effect on his life is so serious that we may want to consider switching him to another drug like Glimepiride which is less likely to cause diarrhea**.

Response (B) is better.

-The pharmacist is **not putting the physician on the spot** by asking him if he knew there was a problem.
-Instead, he **presented the problem** that concerned him and **suggested alternative** medications that could possibly resolve the problem (The **focus is on problem solving rather than win the situation)**.

2-When identifying potential problems with a physician prescription:

A- **You should be prepared to identify alternatives to try to resolve the problem**. In order to do this with confidence, **you should have checked references** before making the phone call or sending the written communication. This will increase your effectiveness in making a recommendation.

B-**Once you are sure of your facts; you must be persistent** in pushing for a therapeutic change that is required.

C-Be sure that you should use **the medical terms** and **speak to the physician as a fellow health professional**.

D-Focus on the goal you share with the physician, **which is to help the patient**.

E-Physicians may not accept recommendations and may, in fact, seem ungrateful to some of your interventions and you may not receive feedback that your efforts have been successful. **Perhaps the next prescription the physician writes will show a change**, even though the initial response to you indicated that a change would not be made.

F-It is important to keep in mind that consulting with physicians if problems arise or asking questions if something seems to be a problem **must be done in spite of what the physician's reaction might be.** To fail to consult a physician because of anticipated resistance **reduces your professional role significantly**.

6-While pharmacists seem to fear that physicians will not respond positively to therapeutic recommendations, **the research evidence suggests just the opposite**. Research indicates that, **when pharmacists make suggestions to physicians for important therapeutic**

changes in a patient's drug treatment, in the vast majority of cases, pharmacist recommendations are accepted and implemented by physicians.

7-When patient safety is compromised, it is the professional responsibility of the assertive pharmacist to persist in trying to prevent or resolve problems. **More than one-half of health care workers in one study reported seeing colleagues making mistakes, yet less than 10% reported saying anything about what they observed.**

Assertiveness and Employees

Please consider the following situation. The manager of a hospital outpatient pharmacy has observed lately **that one of the pharmacists has been creating problems**.
The manager's major concern is that **the pharmacist is sometimes rude and abrupt with patients**. Today, the manager overhears the pharmacist respond with obvious annoyance to a patient who expressed confusion about how to take her medication.
The manager decides to **talk privately** with the pharmacist and **provide feedback** about his behaviour.

CASE STUDY 6.2

Manager speaking with staff pharmacist

Manager: I overheard your conversation with Mrs. Raymond this afternoon when you became impatient with her for not understanding instructions. I was upset because I didn't think you treated her with respect. I want you to treat patients with courtesy and not get so impatient and judgmental with them.
Pharmacist: Well, she wouldn't pay attention when I was explaining the directions. I just got fed up.
Manager: I know that patients can be irritating, but I want you to treat them with respect.
Pharmacist: Well, we were so busy then that I just didn't have time to explain the directions slowly.
Manager: I know you were feeling rushed today, but even then I want you to be more courteous.
Pharmacist: Well, it would certainly be easier to take time to be nice if you'd get enough pharmacists in here to cover the workload.
Manager: Those things may be true, but right now I want to resolve the problem in the way you communicate with patients when you are irritated or hurried. I want you to agree to treat patients with respect, regardless of how busy we get. Will you do that?
Pharmacist: That's easier said than done.
Manager: Will you do it?

1-Pharmacy managers are responsible not only for how they communicate with patients, but also how other pharmacists and support personnel treat patients. **They must make clear to all employees what is expected in the way of patient care.**

2-In the previous scene, **the pharmacy manager used a number of assertive techniques** in his conversation with the pharmacist.

A-The pharmacy manager used appropriate feedback techniques. **He told the pharmacist what he had observed about a specific behaviour and what he wanted changed without attacking the pharmacist as a person**. The manager did not label the pharmacist as being rude. Focusing feedback on what a person does is much less destructive than making personal judgments about him as a person. Such feedback also lets him know exactly what must be changed to improve his performance

B- He **calmly repeated these expectations in spite of the pharmacist's excuses**. He would not let himself be dragged off the point.

C-**He did not become anger when the pharmacist attacked his performance as a manager (Ignoring provocations)**. He might also have said, "I would like to discuss any ideas you might have about improving the training of techs another time, but right now I want to talk about the way you counsel patients." This would have let the pharmacist know that he was willing to listen to specific, constructive suggestions but not before the current problem was resolved.

D-**The manager discussed the situation privately** and **soon after the incident occurred**. He made "I" statements to provide feedback and define expectations, including "I overheard your conversation," "I was upset," and "I want you to treat patients with courtesy." Because of these "I" statements, the communication was less damaging to the relationship than if the manager had labelled or judged the pharmacist as a person ("You are rude" or "You were rude") or if he had over-generalized based on what he observed ("You always …… when we get busy here").**Dealing with the problem immediately was also much more effective than waiting** until the problem had become so serious that more drastic action was required.

Many of the same guidelines that are useful in giving negative feedback apply as well to **praise**. A personal statement, such as telling a pharmacist, "**I really appreciate your willingness to stay late tonight to help out**" is more meaningful than a general statement (e.g., "You're a good pharmacist").

In addition, **if positive feedback is an ongoing part of the relationship** rather than something that only gets written on job performance evaluation forms, it is more effective. **Too often, employees feel that the only time they get any feedback from their bosses is when they have done something wrong, which makes it much harder to accept the negative comments**.

Finally, **your willingness to accept even negative feedback from employees** (if it is constructive) **can create an atmosphere of mutual respect**. In the example above, the pharmacy manager conveyed **both an assertive and empathic message** when he said, "I **know you were feeling rushed today, but even then I want you to be more courteous**." He let the pharmacist know that **he understood the feelings of frustration** and at the same time insisted that certain standards be met in patient care.

Assertiveness and Employers

1-**It is necessary to be assertive not only with your employees, but with your supervisors as well.** We may be faced with a situation where we receive a negative evaluation or criticism of our performance by a supervisor.

2-For some of us, our first response to criticism is to **counterattack**. The attitude is, "So what if I did make a mistake……..". In contrast to these aggressive responses, for more passive individuals, the initial response to criticism is to apologize excessively, and give excuses. **Neither a passive nor aggressive response fosters problem solving**.

3- Even when you agree with the judgments made by someone criticizing you and think you were wrong, **you must separate the foolish or careless thing you did from yourself as a person.**

The following are **five responses** that are helpful in various types of situations where criticism is levied.

1-Getting Useful Feedback

If the criticism is vague, it is necessary first to find out exactly what happened that led to the criticism. **Therefore, before reacting to any problem that may be present, first be certain that you understand the exact nature of the problem**. If a patient says that people in your pharmacy don't care about customers, find out exactly what happened that was upsetting and led to this conclusion. In order to know how to improve your service, you must have **specific feedback** that points out what changes might be indicated.

2-Agreeing With Criticism

If you consider the criticism you receive to be valid, the most straightforward response is to acknowledge the mistake.
In any case, avoid "Yes, but. . ." responses that try to excuse behavior but lead to increased annoyance on the part of the other person."Yes, I am late for work a lot, but the traffic is so bad" usually leads to an escalation of the conflict ("You'll just have to leave home earlier!").
If you made a mistake or were wrong, acknowledge that.
When you acknowledge mistakes and apologize for them, people have difficulty maintaining their anger.
However, if you **continue to make the same mistakes**, the **apologies will seem manipulative** since you **have not taken steps to prevent the problem** from reoccurring.

3-Disagreeing With Criticism

If you consider criticism unfair or unreasonable, it is important to state your disagreement and tell why. For example, you came in late to work this morning and your boss is anger. During his attack, he says, "**You're always late**……."
It is important to say to him: "**You're right, I was late this morning, and for that I apologize**. **But it is not true that I am always late**. I know I was late one day last month but that is the only other time I can recall being late in the two years I have worked here.
Not speaking against something you consider to be an injustice or untruth leads to loss of self-esteem.

4-Fogging

Fogging involves acknowledging the truth or possible truths in what people tell you about yourself while ignoring completely any judgments they might have implied by what they said.

أي إننا نعترف بصحة الفعل أو التصرف لكننا لا نوافقهم في الاستنتاجات أو الأحكام التي بنوها استنادا عليه

إذا مَحَاسِنِيَ اللاّتي أُدِلُّ بِهَا كانَتْ ذُنُوبي فقُلْ لي كَيفَ أعتَذِرُ

CASE STUDY 6.3

Supervisor: You spent a lot of time talking with that patient about a simple drug.
Pharmacist: You're right. I did.
Supervisor: The other pharmacists spent much less time than you when talking about this simple drug**.**
Pharmacist: You're probably right. They may not spend as much time as I do **on patient education about the drugs.**

Such a response allows you to look at truths about your behavior *without* accepting the implied criticisms. A fogging response differs from agreeing with the criticism. Agreeing with criticism includes acknowledging that you were wrong.

5-Delaying a response

If the criticism takes you by surprise and you are confused about how to respond, give yourself time to think about the problem before responding. Few conflict situations call for an immediate response. **If you are too surprised or upset to think clearly about what you want to say, then delay a response**. Tell the person: "I want time to think about what you've told me, and then I'd like to sit down with you and try to clear up this problem.

Assertiveness end Colleagues

The techniques for assertiveness with employers can also help you be more assertive with your colleagues.
For example, **a pharmacist who works with you in the hospital calls and asks you to serve as chairman of a new committee**. You are interested in the committee but are not sure you have the time to chair it. Which of the following responses would you choose?

A-"Well, I'd really like to. I don't know. I think I could if it doesn't take too much time."
B-"Why don't you ask Jim? He'd be good. If you can't find anyone else, may be I could do it."
C-"I've given enough time to this organization. Everyone always comes to me. Let someone else do some work for a change."
D-"I'm interested in the committee, but I'm not sure I have time. Let me think about it tonight and I'll call you in the morning with my decision."

Response (d) seems most honest and assertive.
[We typically feel that we must respond immediately to situations that arise. **Often the best response is to delay a response**. **It gives you time to decide what it is you really want to do].**

When you are facing a decision or when you are embroiled in a conflict, it is often best to say, "**I want time to think. I'll get back to you**." It is, of course, essential that you do get back to that person when you say you will and resolve the issue.

Response (a) is a **wishy-washy** "yes." The problem with such a response is that you may say "yes" but never take responsibility for your decision. **The "yes" response, in this situation, was given because you found it difficult to say "no."**

Response (b) suggests that, if no one else will do it, you will feel that you must do it. **You feel responsible for solving the president's problem** by identifying someone to chair the committee. **If he cannot find someone else, you will then feel obligated**.

The response **(c) is an aggressive response**.

Let's now imagine a situation where the colleague **tries to coax you into changing your "no" response to a "yes" response** to his request to chair the committee.

CASE STUDY 6.4

The colleague: You would be perfect for the job. It is extremely important and I must have someone who knows the issues and stays on top of things.

Pharmacist: I appreciate that, but I won't be able to chair the committee this year.

The colleague: I'll help with the workload. It shouldn't take more than an hour or so a week.

Pharmacist: That may be true, but I'm not willing to chair the committee right now.

The colleague: Why not? Perhaps there is something we can do to resolve the problems you seem to think will come up in chairing the committee.

Pharmacist: The decision is really a personal one. I won't be able to chair the committee at this time.

In this instance, the pharmacist calmly repeated his "no" response without despite the other pharmacist's efforts to coax him into changing his mind. If the pharmacist had chosen to do so, he might have given an explanation for his decision, but he is not "**obliged**" to do so.

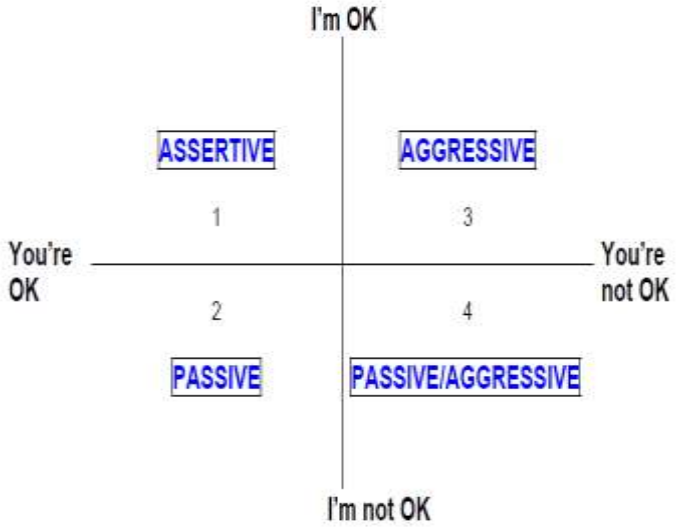
The danger for passive people in giving an explanation is that they seem to believe that the others must agree that the decision is "justified" before they feel they have the right to say "no."

أي إن عملية تبرير قرارهم للآخرين وإقناعهم به (برفض الطلب مثلا) تكون لديهم أهم وأولى من حقهم باتخاذ قرار الرفض

Summary

Quadrant 1

If I am ok and you are ok, then I am being assertive. When you are being assertive, people like you and respect you because you accept others in spite of their faults. You will have confidence, self esteem even though you are not perfect.



Quadrant 2

If I am not OK, but you are OK, then I am being passive. When you are being passive, the other person may benefit. However, your viewpoint will be ignored, and people won't respect you. This can then affect your performance at work.

Quadrant 3

If I am OK but you are not OK, then I am being aggressive. Aggressive people have a tendency to behave in a superior manner. They tend to dismiss people and thus, people do not trust them. Using aggressive behaviour leads to under performance in others in the longer term.

Part one: Strategies to Meet Specific Needs

Overview

1-Communication skills in pharmacy practice can be especially difficult in situations in which patients have special communication needs (**older adults**; persons with **hearing**, **sight**, or **literacy deficiencies**; patients with **disabilities**; **terminally ill** patients; patients with AIDS; patients **with mental health problems**; patients from **different cultural backgrounds** and persons taking care of patients (**caregivers**).

2-These groups require special strategies to ensure effective communication.

1-Older adults

Several factors make it imperative for you to be sensitive to interactions involving older adults.

1-**The number of elderly in society is increasing**, and the **elderly consume higher amount of medications** compared with other age groups (Poly pharmacy).

2-Unfortunately, the **aging process sometimes affects certain elements of the communication process in some older adults**. These potential communication problems are :

A-Learning

1-**Some older adults learn at a slower rate than younger persons**. They have the ability to learn, but they process information at a different rate.

2-In addition, short-term memory, and recall, may be diminished in some elderly patients

3-**The rate of speech and the amount of information presented at one time must meet the individual's ability to comprehend the material**..

4-A good approach with some older adults is **to break down learning tasks into smaller components.** When given the opportunity to learn at their own speed, most elderly people can learn as well as younger adults.

3-Another important step is to **encourage feedback from patients** as to whether they received your intended message by asking them to repeat instructions .

B-Generation differences

1-Potential communication barriers between you and older patients may be attributable to the **generation gap**.

2-Thus, **some older adults may have different beliefs and perceptions about health care** in general and about drugs. Some behaviours, such as **sharing medication**, may seem inappropriate to you, **but such actions may be common in elderly**.

C-Psychosocial factors

1-Several psychosocial factors may influence your relationship with older adults. First, some older adults may be experiencing a significant amount of loss compared with people of other age groups. For example, their friends may be dying at an increased rate, or they may have retired from their jobs.

2-Thus, their reaction to certain medical situations, such as ignoring your directions or complaining about the price of their medications, may be responses of becoming less active, or of dying.

3-They may become angry at you or other health care providers. They may also turn to self-diagnosis and self-treatment or to the use of other people's medications.

D-Vision

If you work with elderly patients, you need to realize that the aging process may affect the visual process. **Written messages for persons with visual deficiencies should be in large print.**

E-Hearing

1-Aging may affect the hearing process. Auditory loss in various degrees of severity is seen in more than 50% of all older adults.

2-Many individuals **with hearing deficiencies, including some older adults, rely on speech reading (**watching the lips, facial expressions, and gestures) to enhance their communication ability (For speech-reading to be most effective, **you should position patients directly in front of you when communicating**).

3-To improve communication with hearing-impaired patients, **try to position yourself about 3 to 6 feet away; never speak directly into the patient's ear** because this may distort the message. **Wait until the patient can see you before speaking**.

4-It is also important to **slow your rate of speech somewhat so that the person can differentiate the words**. Remember **not to shout when speaking**, since shouting may offend some people. Talking in a somewhat **higher volume and at a slower rate** of speech will help most individuals.

5-Finally, be aware of **environmental barriers, such as loud background noises** or which make communication difficult for the hearing impaired.

F-Speech

1-In pharmacy practice, you may need to interact with people who have some type of speech impairment. A common speech deficiency is **dysarthria** [**difficulty in speaking words Clearly**]. Diseases such as Parkinsons disease, as well as strokes and accidents, can cause dysarthria. In dysarthria, **speech may be slurred or otherwise difficult to understand**.

2-To overcome speech barriers, many patients **write notes to their pharmacist or use sign language as a means of communicating**. Some pharmacists have responded to this need by providing writing pads for patients.

G-Aphasia[Inability to generate or comprehend spoken language].

1-A group of patients with related speech difficulties are those who suffer from aphasia after a stroke or another adverse event. Aphasia is a complex problem that may result, to varying degrees, in the reduced ability to understand what others are saying and to express oneself.

2-Fortunately for some patients, their communication ability can be improved after extensive therapy. However, improvements are often seen in small increments.

3-Aphasic patients usually **have normal hearing acuity; shouting at them will not help. T**heir problems are due to lack of comprehension.

4-You need to be **patient with these individuals when discussing their medications**. Also, **it takes longer to communicate with them**, since they may hear the word but may not immediately recall the meaning of it.

5-It is best to let them try to communicate. If they are unsuccessful after a few attempts, **help them by supplying a few words in multiple-choice fashion and let them select the word they desire.**

7-Many times it is **best to counsel other people who are caring for aphasic patients**, but do not exclude patients from communication

2-Patients with Disabilities

A-Wheel chair bound patients

1- **Access issues are important when caring for wheel chair bound patients**. Unfortunately, many pharmacy practice settings, including hospital and community sites, are not readily accessible to these individuals. Entrances are often not wide enough, counters are too high, and pharmacists may not be visible to wheel chair bound patients.

2-When talking with patients in wheelchairs, it is important to realize that you may be talking down to them. **So it is best to talk on the same eye level.**

3-Patients appreciate any efforts **to minimize the distance between you and them** without causing increased attention to the fact that they are in a wheel chair.

B-Learning disabled patients

1-Patients with learning disabilities are especially challenging . **You may have to repeat key information to make your point.** In addition, you should **not get frustrated if the patient does not seem to get the main points.**

2-For many patients, you may also have to work w**ith the patient's caregiver to make sure that information is transmitted correctly and used appropriately**. If the patient and caregiver are both present, make sure that you speak to the patient, not just to the caregiver, to get them involved with the situation as much as possible.

3-Patients with mental health problems

1- Unfortunately, certain stereotypes about mental illness and patients with these disorders tend to inhibit communication. People in general, as well as many pharmacists, have certain misconceptions about mental illness. We tend to categorize them as crazy people based on images we have formed about them.

2- The presence of mental illness should not stop you from trying to interact with these special patients. **Asking open-ended questions(e.g. What has the doctor told you about this medication?) are good tools to determine cognitive functioning**. That is, are they able to comprehend what you are saying? If not, you may have to communicate through a caregiver.

4-Patients with Low health literacy

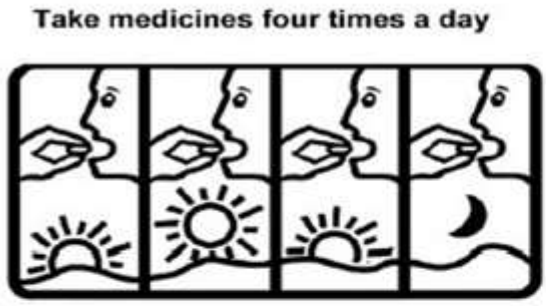
1-Health literacy is the ability to "read, and understand the healthcare information".

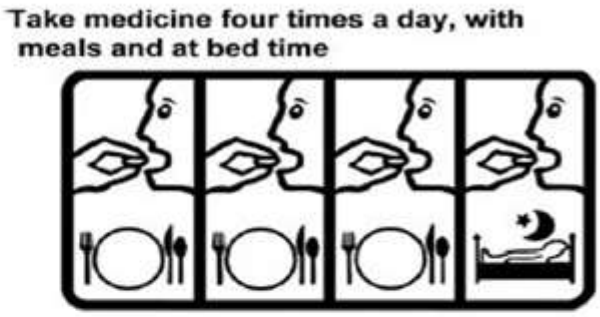
2-Persons with limited ability to read information are frequently **embarrassed** and **fail to disclose this fact to health care providers.** Due to the strong **stigma** associated with reading problems, many patients **will make excuses or try to conceal that fact that they have trouble reading.**

3-Many patients with literacy issues have average IQs and function well in daily life, so **detection is difficult**.

4-Poor health literacy is directly linked to patient safety. **If patients cannot understand the material, then they are in danger of medication errors.**

5- Providing pictures can improve understanding of key medication instructions. The United States Pharmacopeia (USP) has developed **81 pictograms that illustrate common medication instructions and precautions**. These graphic images can be used by health care professionals when communicating with **low literate or non-Arabic - speaking patients**.





5-Cultural Competence

1-Since various cultures may speak a variety of languages, one issue that may arise is your ability to communicate with patients who do not speak Arabic or have marginal Arabic skills. In this case you can communicate with the patient **using a staff member who speaks the patient's primary language.**

6-Caregivers

1-Caregivers can be people who take care of older adults with chronic conditions, parents who take care of children during acute or chronic illnesses, family members, ……

2-Caregivers need to **understand the patient's condition and treatment.**

3-Since you cannot communicate directly with patients [and thus cannot determine whether they received your intended message], the **written information about the medication is essential.**

4-Many pharmacists use medication **reminder systems** (i.e., drug calendars, weekly medication containers) to **help caregivers keep track of medications**.

5-**Many times, caregivers have special needs themselves**. They may be under a lot of stress trying to care for the patient at home. **Serious depression** has been found in almost **one-fourth of the individuals caring for the home-bound elderly**.

Part two: Communicating with Children about Medicines

Overview

Children are **important consumers of medicines**. Communication with children typically involves **three people**: the **pharmacist**, the **child**, and the **parent** of the child.

Need for Educating Children and their Parents about Medicines

1-Studies showed that pharmacists reported **considerable contact with children and their families** and that **most pharmacists reported filling prescriptions for children *daily*.**

2-Unfortunatly, these studies also showed that **most of pharmacists do not communicate directly with children.**

3-When parents come in to purchase drugs for their children, **it is important to educate the child as well as the parent about the medicine**. In addition to educating the child, an advantage to communicating directly with the child is that ***you are more likely to speak at a level the parent will understand***

at a level that is appropriate for level of the child لان تكلمنا المباشر مع الطفل سيجعلنا نتكلم وبالتالي فأن الوالدين سيفهمون الكلام من باب أولى

4-These studies also showed that most **children reported that they would like to ask the doctor or pharmacist a question about medicine but they reported never doing so**.
Therefore, pharmacists need **to encourage children to ask questions about their medicines.** The easiest way to do this is to say to a child "**Nearly everyone who gets a medicine has questions about it. I bet you have questions, too. Can you tell me a question you have about your medicines**?"

5-As a pharmacist, you need to make sure that the **parents** also are informed about their children's medicines to prevent errors.

General Principles for Communicating with Children

The following general strategies for communicating with children about medicines:

1. **Tell the parent** that you are going to talk with the child.

2. Attempt to communicate at the **<u>child's developmental level</u>**. Therefore start at the beginning :(**Ask children open-ended questions** rather than closed –ended questions **to get an idea about the cognitive level and knowledge)** (e.g. Through some simple questions such as "**Why do you need to take this medicine**?**)**.

3. Ask the **child whether he or she has questions for you**. (Note: you can lead into this by telling the child a simple question that another child asked you.)

4. Ask the child to **repeat what you say.**

5. Pay attention to **nonverbal communication**. (**Nonverbal communication is very important to children**. If you think about it, much of the communication between children and parents is nonverbal (e.g., hugs, sounds, gestures). Therefore, when you interact with children, you need to be aware of your facial expressions, tone of voice, and gestures.

6-Try to **get down to their level** so you will not be "talking down" to them.

7. Don't give up. **If you fail the first time, try again the next time.**

Understanding the Cognitive Developmental Level of a Child

1-Children **progress through four stages** as they develop cognitive skills. The four stages of cognitive development are:

A-The first stage: This stage lasts **from birth to roughly 2 years of age.**
Learning about medicines is not really possible in this stage.

B- The second stage: This stage lasts from about age 2 to 7 years.
At this age, it is important to begin educating children **in simple terms:**

Communication Strategies for Different Stages of Cognitive Development
The second stage (AGE 2 TO 7 YEARS)
Sample educational message: 1-The medicine you'll get will **go into your body** and make your throat feel better. 2-It will work only if you take it 3 times every day. 3-**Your mom will help you** know when to take the medicine and when to stop taking the medicine.

C- The third stage: This stage lasts from about age 7 through 12 years.
During this stage, children begin to understand that disease is treatable and preventable .

Communication Strategies for Different Stages of Cognitive Development
The third stage (Age 7 To 12 Years)
Sample educational message: 1-This medicine will go into your body to help **fight off the germs** that are causing the infection in your throat. 2-The medicine will work only if you take it 3 times **a day for the next 10 days.** 3-If you don't take it this way, **the infection might come back**. So keep taking the medicine, even if you think you're feeling better.

D-The fourth stage: This stage typically is from age 13 through adulthood.

In general, you can typically **give teenagers educational messages that would be equivalent to what you would give an adult.**

Communication Strategies for Different Stages of Cognitive Development
The fourth stage (Age 13 Years To Adulthood) Sample educational message: 1-The medicine you're getting will **help your immune system** fight **off bacteria** that are causing your infection. 2-The medicine used to treat these bacteria **is an antibiotic.** 3-You have to **take it every 8 hours**—that is, 3 times a day—for the next 10 days. 4-keep taking the medicine even if you think your throat is better. If you don't do this, there is a chance you will be **reinfected**.

ملحـــــــــــــــــــــق

عربي	كردى	عربي	كردى
تناوله مع الاكل	لەگەل نان بیخو Lagal nan bikho	تحاميل مهبلية	شاف ناو لەش Shafi naw lash
لايؤخذ مع الاكل (معدة فارغة)	لەگەل نان مە یخو (معدە بەتال) Lagal nan maikho (ma3iday batall)	رج القنينة قبل الاستعمال	پیش بەکارهینان شوشەکە راوەشینە Pesh bakar henan shushaka rawashena
تناوله ساعة قبل الاكل	سەعاتیك پیش نان بیخو Sa3atek pesh nan bikho	يحفظ في الثلاجة	بیخەرە سەلاجەوە Bikhara salajawa
تناوله بساعتين قبل الاكل	دوو سەعات پیش نان بیخو Dw sa3at pesh nan bikho	تجنب تجميده	مەیەلە بیبەستیت Mayalla bibaste
تناوله ساعة بعد الاكل	سەعاتیك دوای نان بیخو Sa3atek dwai nan bikho	هذا الدواء قد يسبب دوخة	ئەم دەرمانە گیژت ئەکات Am darmana gezht akat
تناوله مرة واحدة يوميا	روژی جاریك بیخو Rozhi jarek bikho	هذا الدواء قد يسبب نعاس	ئەم دەرمانە خەوت لی ئەخات Am darmana khawt le akhat
تناوله مرتين باليوم	روژی دوو جار بیخو Rozhi dw jar bikho	تناول الدواء صباحا	بەیانیان دەرمانەکە بخو Bayanian darmanaka bkho
تناوله ثلاث مرات باليوم	روژی سێ جار بیخو Rozhi se jar bikho	تناول الدواء مساء	ئیواران دەرمانەکە بخو Ewaran darmanaka bkho
تناوله اربع مرات باليوم	روژی چوار جار بیخو Rozhi chwar jar bikho	تناول الدواء قبل النوم	پیش نووستن دەرمانەکە بخو Pesh nustn darmanaka bkho

كل 12 ساعة	هەموو دوانزە سەعاتیك Hamu dwanza sa3atek	عند الحاجة	بە پیی پیویست Ba pei pewist
كل 8 ساعات	هەموو هەشت سەعاتیك Hamu hasht sa3atek	هذا الدواء للقلب	ئەم دەرمانە بو دلە Am darmana bo dlla
كل 6 ساعات	هەموو شەش سەعاتیك Hamu shash sa3atek	هذا الدواء للمعدة	ئەم دەرمانە بو معیدەیە Am darmana bo ma3idaya
قرط (مضغ)	كروشتن kroshtn	هذا الدواء للصداع	ئەم دەرمانە بو سەریەشەیە Am darmana bo saryashaya
تجنب مضغه (قرطه)	مەی كروژە Mai krozha	هذا الدواء لمشاكل التنفس	ئەم دەرمانە بۆ مشكلەی هەناسەیە Am darmana bo mushkilai hanasaya
يخفف مع الماء	لەگەل ئاو روونی بكەرەوە Lagal aw runi bkarawa	هذا الدواء للضغط	ئەم دەرمانە بو زەختە Am darmana bo zakhta
توضع تحت اللسان	ئەخریتە ژیر زمان Akhreta zher zman	هذا الدواء مهدئ	ئەم دەرمانە هیمن كەرەوەیە Am darmana hemn karawaya
لايوخذ مع الحليب او منتجات الالبان في نفس الوقت	نابیت لەگەل شیرو سپیای وەربگیریت لەهەمان كاتدا Nabet lagal shirw spyaii	هذا الدواء مسكن الآم	ئەم دەرمانە ئازار شكینە Am darmana azar shkena

		war bgiret la haman katda	
اكثر من شرب الماء	ئاو زور بخورەوە Aw zor bkhorawa	هذا الدواء خافض حرارة	ئەم دەرمانە تا دانەبەزینیت Am darmana Ta da abazenet
قطرة عين	قەترەی چاو Qatrai chaw	هذا الدواء موسع قصبات	ئەم دەرمانە بو فراوان كردنی بوری هەوایە(بو قەصاباتە) Am darmana bo frawan krdni bori hawaya(bo qasabat)
قطرة انف	قەترەی لووت Qatrai Lwt	هذا الدواء للاسهال	ئەم دەرمانە بو ئیسهالیە Am darmana bo es-halia
قطرة اذن	قەترەی گوی Qatrai gwe	هذا الدواء ملين (للقبض)	ئەم دەرمانە بو قەبزییە Am darmana bo qabzia
غرغرة	غرغرە	هذا الدواء للسعال	ئەم دەرمانە بو كوكەیە Am darmana bo kokaya
تجنب بلعه	قووتی مەیە Qwti maya	هل المرأة حامل	ئایا ئافرەتەكە دووگیانە Aya afrataka dw gyana
بخاخ	سپرا spra	هل المرأة مرضع	ئایا ئافرەتەكە شیر ئەدا Aya afrataka shir ada
بخاخ بالانف	سپرای لووت sprai Lwt	لايعطى للحامل	نادریت بە دووكیان(حاملە) Nadret ba dw gyan(hamila)
ابرة بالعضلة	دەرزی بە سمت Darzi ba smt	لايعطى للمرضع	نادریت بە ئافرەتی شیر دەر Nadret ba afrati shir dar

ابرة بالعضلة	دەرزی بە سمت Darzi ba smt	لايعطى للمرضع	نادریت بە نافرەتی شیر دەر Nadret ba afrati shir dar
ابرة بالوريد	دەرزی بە دەمار Darzi ba damar	ملعقة شاي	کەوچکی چا Kawchki cha
ابرة تحت الجلد	دەرزی ژیر پیست Darzi zher pest	ملعقة كوب	کەوچکی قاوە Kawchki qawa
تحاميل بالمقعد	شافی کوم Shafi kom	ملعقة طعام	کەوچکی چیشت Kawchki chesht
هذا الدواء يصبغ الخروج	ئەم دەرمانە رەنگی بیسابیەکەت ئەگوریت Am darmana rangi pisayakat agoret	هذا الدواء يصبغ الادرار	ئەم دەرمانە رەنگی میزەکەت ئەگوریت Am darmana rangi mizakat agoret

Baghdad College of Pharmacy
Second Year. Communication Skills.
Communication in Pharmacy Practice

Part one: Medication Safety and Communication Skills

Overview

As discussed in earlier lectures, effective communication skills are essential in assuring that patients understand how to take their medications correctly and in assuring patient safety.

Case Study 9.1

Brenda Anderson, a 78-year-old female, visited her physician for a refill of her "blood thinner"—warfarin 5 mg. Based on her recent lab work, Brenda's physician told her to take one-half a tablet daily for 4 days and then 1 tablet daily thereafter.
Her physician wrote a prescription for: warfarin 5 mg.
SIG: 2.5 **mg** q d x 4 d; 1 tab q d. #30.
John Coleman, the pharmacist who filled Brenda's prescription, typed 2.5 **tablets** daily for 4 days and then one tablet daily on the prescription label.
While at home, Brenda forgot what her physician said and followed John's instructions. Thus, she took 2.5 tablets (**5 times the amount that was intended**!). Going into her fourth day of this treatment, Brenda died of massive hemorrhaging. This situation is based on an actual experience.

Introduction to Medication Safety Issues

1- The definition of **medication error** is " **Any preventable event that may cause or lead to inappropriate medication use or patient harm** ".

2-What would happen if 100 Boeing 747 jetliners crashed each year? (about 40,000 lives lost)?. Terrible and unimaginable! Yes, but between **44,000 and 98,000 Americans lose their lives to medication errors each year**. **The annual cost of medication errors in the United States has been estimated to be more than $140 billion.**

Types of Errors: Possible Causes and Potential Solutions

A-Errors Involving Communication with Health Care Providers

1-**Many errors occur in the process of physicians communicating instructions to pharmacists** and in the pharmacist's ability to interpret these instructions.

2-Prescribers might not convey their messages clearly; and **pharmacists might not have an opportunity to provide feedback regarding their interpretation and understanding of these messages**.

3-This is true for **both written as well as verbal communication.**

Common issues involving **verbal** communication include:
A-**Distractions** and **noise** that interfere with clear transmission and receipt of the message.
B-**Speaking too rapidly**.
C-**Medications** that **sound alike when spoken** (Zantac vs. Zyrtec)
D-**Numbers that sound alike** (15 vs. 50)

4-Although **written communication** is often preferred over verbal communication to minimize errors, there are several issues that inhibit effective written communication as well. Examples of written communication issues include:
A-**Poor handwriting**.

B-**Medication names that look alike when written out** (Celexa vs. Celbrex or Bisoprolol 10 mg and Buspirone 10 mg).

C-**Misplaced zeroes** and decimal points in dosing instructions (.5 vs. 0.5; 1.0 vs. 10)

5-To minimize the above stated issues:

A-In general, pharmacists **should be able to contact physicians at any time to clarify issues regarding patient therapy.**

B-Pharmacists should also **review the possible issues, for example: The lighting within the pharmacy area may not be adequate**.

وبالتأكيد فان مشروع الوصفة المطبوعة (الالكترونية) سيحد من هذه المشكلة فيما لو كتب له النجاح

B-Errors Involving Communication with Patients

1-Common issues involving **verbal communication** include:

• **Inability of patients to understand pharmacists** (medical terminology, language differences, etc.)
• **Hearing** and **vision** impairments.
• **Environmental barriers** (noisy pharmacy, no access to pharmacist)

2-Common issues involving **written communication** with patients include:
• **Patient's inability to read**.

3-Fortunately, **many errors could be discovered during the pharmacist–patient counseling interaction** and are corrected before patients leave the pharmacy. Patients need to know what the medication is used for, how to take it, and other essential

information. The pharmacist can use the "**show and tell**" technique of showing the medication to the patient and saying what the medication is used for and how they are taking it [**Unfortunately, this does not occur all the time in Iraq**].

4-Case 9.3 showed **how effective pharmacist–patient counseling interaction might aid in discovering an error where a physician prescribed a wrong drug to a patient**.

Note : indocin is an analgesic drug to relief pain while Imodium is a antidiarrheal drug.

CASE STUDY 9.3

A patient enters Morgan's Pharmacy and presents a prescription for:

Indocin 25 mg SIG: 1 cap bid prn #20

After filling the prescription, the pharmacist counsels the patient as follows.

Pharmacist: What exactly are you taking Indocin for?

Patient: I'm taking it for diarrhea.

Pharmacist: Diarrhea, huh? Did your doctor and you discuss the need for a pain medication?"

Patient: No, just diarrhea. I feel fine otherwise.

Pharmacist: Well let me double-check something here; I will be right back.

The pharmacist then calls the prescribing physician to inform him about the patient's statement. The physician says: "Oh my goodness, I meant to prescribe Imodium, I must have been thinking about another patient I just saw in clinic with back pain. Thanks for calling about this one. Please change the prescription to Imodium 2 mg." This situation is based on an actual experience.

When Errors Occur

What do you do when an error occurs? How do you handle the embarrassing situation of telling someone that you made an error? What do you do when an injury or death has occurred (as in Case Study 9.1)?

Difficult questions to face, but as revealed in this section, **effective communication skills can help remedy these situations. Put another way, weak communication skills can certainly make situations worse**. You should be aware that legal counsel must be consulted if there is a chance of litigation surrounding the event.

[This lecture focuses only on the communication skills related to the discovery and disclosure of medication errors].

A-Initial Discovery

When an error occurs, **you must make sure that the patient is not harmed or does not continue to be at risk.** The first general response to finding an error might be:

والاستجابات التالية من الصيدلاني تعتبر خاطئة عند الاكتشاف بأن خطأ ما قد ارتكب في صيدليته مع احد المرضى

• **Avoidance:** "I didn't make the error, the new pharmacist made the error it is not my responsibility to get involved."

• **Blaming someone or something else:** "The physician's poor handwriting was the problem."

• **Rationalizing that the error was not important:** "It is not big problem if you take two capsules from this drug rather than one capsule."

B-Initial Contact with Patient

1-If the patient is in the pharmacy; **go with him or her to a quiet area where other people cannot overhear.**

2-During the initial contact, **you should make a simple, but clear statement that you are extremely sorry for the error**. **You should not place the blame on other people** ("the evening pharmacist made the error"), or the fact that you were too busy. If you found the error, you need to take the responsibility for trying to resolve it. If a technician مساعد الصيدلي made the error, you, as the pharmacist in charge, should not transfer blame to him or her since the error occurred under your watch.

3-When patients learn about a particular error, t**hey typically want to hear a brief description of exactly what happened and the short-term consequences of the error** ("this dose might increase your chances of having diarrhea").

4-**Do not minimize the importance of the error either**, "Luckily, no harm was done. Taking the 1 mg strength of this drug instead of the 2 mg wouldn't have hurt you."

5-Some errors can be remedied relatively easily ("please bring the prescription into the pharmacy and we will give you the new prescription" while others might be more complex and may take time to resolve ("I need to discuss this situation with your physician before making a decision about what needs to be done").

6-Finally, you **should thank the patient for bringing the error to your attention**, "Thank you for checking your medicine and telling us immediately that you had a concern."

7-Even when patients think an error has occurred **but has not** (e.g., a different looking generic was dispensed), yo**u should thank them for reporting the possible error.**

C-Contacting Other Health Care Providers

1-**You should alert physicians or other health care providers if they were involved with the original error** (wrong drug prescribed, prescribing two interacting medications, etc.) .

2-Once again, you may be tempted to avoid contacting others since you may be embarrassed. **However, if you do not report it and they find out through the patient or some other means, then they may not trust your professional competence in the future**.

Part two: Barriers to Communication

Overview

1-Take the following. You want to complain to your pharmacist that your cough still does not improved. While you are telling him about your problem, the pharmacist continues to look at paper on the counter. You continue to speak. However, he rushes over to the phone, paper in hand, and starts talking to other person without even looking up. While on the phone, he winks at you and says, "Go ahead, I'm still listening. Keep telling me about your problem."

How do you feel now—frustrated، angry… Why? Probably because you feel you can't communicate with this person. **He is not listening to you even though he says he is.**

2-Within the communication process, numerous barriers exist that may disrupt or even eliminate interpersonal interaction.

3-Minimizing communication barriers typically requires a two-stage process:
First, **you must be aware that they exist.**
Second, **you need to take appropriate action to overcome them**

4-Some barriers are easily removed, while others are more complex and require multiple strategies to minimize their impact.

Environmental Barriers

1-The environment in which communication takes place is critical in pharmacy practice, and distractions within the environment often interfere with this process.

2-One of the most obvious barriers in most community practice settings is **the height of the prescription counter** separating patients from pharmacy personnel.

A-These prescription counters exist primary to provide a private area in which the staff can work.

B-Unfortunately, in some situations, **high prescription counters**, **or glass partitions separate patients from the pharmacist and thus discourage patient–pharmacist interaction and** give the patients impression that the pharmacist does not want to talk to them.

C-Many pharmacies provide areas where the **counter is lower** to facilitate pharmacist–patient interaction. **Ideally, you and the patient should both <u>be at eye level</u> to enhance verbal and nonverbal communication.**

3-**Crowded, noisy prescription areas** also inhibit one-to-one communication.

A-These noises interfere with your ability to communicate with patients. In addition, other people may be within hearing range, which limits the level of privacy (which is important when patients want to talk about personal matters).

B-Many community pharmacists have tried to address these issues. Some have private or semiprivate counseling areas or rooms. **Privacy does not necessarily mean having a private room. Even in a noisy environment, privacy can be achieved by moving away from a busy prescription area and lowering your voice to achieve**.

C-The pharmacist should reduce the number of products for sale near the counseling area to reduce the number of customers nearby, and reduce the distractions.

4-The first step in removing environmental barriers is discovering them. **One approach might be to view things from the other person's perspective. What images do others have when they enter your pharmacy?** How easy is it for others to access you to have a dialogue? Is there a comfortable waiting area and counseling area?

The next time you enter a community pharmacy, check for the following:
1-Does it appear that the pharmacist wants to talk to patients?
2-Is the prescription area conducive to private conversation?

Personal Barriers

Potential pharmacist –Related Barriers
•Low self-confidence •Shyness •Negative perceptions about the value of patient interaction.

A-Pharmacist-related personal barriers

1- **Lack of confidence** in your personal ability to communicate effectively may influence how you communicate. If you believe that you do not have the ability to communicate well, you may avoid talking with others [Many people feel that an effective communication style is something you are born with. **Unfortunately, people do not realize that communication skills can be learned and developed. However, like other skills, they require practice**]. So **you must remember that there are no expert communicators**: no one communicates perfectly 100% of the

time. **However, you must still strive to improve your communication skills by constant practice.**

2-Another personal barrier to communication for some pharmacists involves the **degree of personal shyness**. Individuals with high levels of shyness tend to avoid interpersonal communication in most situations, including interactions with patients, physicians, or other health care providers. Overcoming this barrier requires time and effort and, many times, professional assistance**. Resolving personal shyness is a more complex process than overcoming other types of communication barriers**. Techniques, such as **systematic desensitization** have been successful in resolving personal shyness for some 'persons.

3-Another personal barrier to communication **is the internal conversation you may have within yourself while talking with others**. For example, while you are listening to someone, you may be thinking to yourself about "**How can I get rid of this person?**". **This internal conversation may limit your ability to listen effectively as you focus on your own thoughts rather than on what the other person is saying**. It is essential to become aware of this habit because it can inhibit your ability to listen.

4-Another personal barrier involves the pharmacist's **negative perceptions about the importance of patient communication.**
Many pharmacists believe that talking with patients is not a high-priority activity. They may perceive that patients do not want to talk with them. Thus, they are reluctant to approach patients. **If they do not value patient interaction, then they will not be eager to participate in patient counseling activities.**

5-**Another barrier is the pharmacist's desire to answer every phone call**, which may give the impression to the patient that the pharmacist does not want to talk to him or her.

6-Another barrier is that many pharmacies have **reduced the number of staff members who can assist pharmacists**. Sufficient staff support should provide more time for the pharmacist to offer enhanced patient care, including patient counseling.

7-Stereotyping: If you hold certain stereotypes of patients, you may fail to listen without judgment.
For example, if a pharmacist has a negative stereotype of people who use analgesics, especially opioids, he may view all patients using opioids as "drug abuser".
او النظر الى كل مريض يريد شراب السعال المسمى توسيرام والمحتوي على الكودائين على انه مدمن

Therefore, we must see our patient as a person, unique and distinct from all others.

8-Depersonalizing: Unfortunately, there are a number of ways communication with a patient can become depersonalized. If an elderly person is accompanied by a young

person, for example, we may direct the communication to the young and **talk about the patient rather than with the patient.**

9-Controlling: In most situations, there is an unequal power in relationships between health care providers and patients and there is tendency of providers to adopt an "authoritarian" style of communicating. Patients are "told" what they should do and what they should not do. Decisions are made, often with very little input from the patient on preferences, or concerns about treatment.

We must actively encourage patients to ask questions and discuss problems they perceive with treatment so that the treatment decisions will be a shared decisions.

B-Patient-related personal barriers

1-Several personal barriers relate to patients. **If patients perceive you as not being knowledgeable or trustworthy**, they will tend not to ask questions or listen to your advice. On the other hand, if patients perceive you as being knowledgeable, they will tend to seek out information.
Also, if they **perceive that you do not want to talk with them,** they will not approach you.

2-Some patients **may feel that their physicians would have told them everything about their condition and their medication**. Therefore, there is no need to talk with you.

3- Therefore, you may need to alter negative patient perceptions by actually **counseling them effectively.**

Time Barriers

1-**Choosing an inappropriate time to initiate conversation may lead to communication failure. The timing of the interaction is critical, since both parties must be ready to communicate at a given time.** For example, a woman who just came from a physician's office after waiting for three hours with two sick children may not be interested in talking with you or anyone else. The most important thing on her mind is to go home, get her kids to bed, and then relax. You may feel that this is not a convenient time to talk to the mother.

A possible solution might be to give her **basic information to get the therapy started** [and then (if possible) contact her at a later time (e.g. via phone) when both of you may be more relaxed and ready to communicate].

2-In any situation, you **should assess nonverbal messages from patients** for assurances that communication is well timed (do they appear to be listening to you?). At the same time, you must be aware of situations where people are trying to talk with you, but you are not listening appropriately.

Lec. 10-11
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Baghdad College of Pharmacy
Second Year. Communication Skills.

Interviewing and Assessment

Overview

1-Patient assessment is an important aspect of patient care. **Determining what patients understand about their medications**, **how they are taking their medications**, **how well their medications are working**, **and problems they perceive with their** therapy are key elements to ensuring positive health outcomes.

2-**Interviewing** is one of the **most common methods used in patient assessment**.
This lecture focuses on ways of improving patient assessment and the interviewing process.

Introduction

1-Pharmacists often must obtain information from patients as part of the patient assessment process. It range from simple requests, such as asking whether a patient is **allergic to penicillin**, to complex problems, such as determining **whether a patient is taking a medication properly**.

2-One of the first steps in the patient assessment process should be to determine not only **what medications patients may take** but also what **patients already know about their medications and their health-related problems.**

3-Determining how much patients know is necessary because **patient education strategies vary depending on the depth of understanding patients already possess**.

4-Patients who are **very familiar with their medications** have **different needs** than those **who know relatively little**. It is **inefficient to repeat information that patients already understand**. You provide the information you think is important for a particular patient.

Components of an Effective Interview

The interviewing process contains several critical components that should be Mastered.

A-Listening

1-When we think about **skills of communication** we probably think first of the skills involved in speaking clearly. However, **an equally critical part of the communication process, and perhaps the most difficult to learn, *is the ability to be a good listener*.**

2-In the relationship between a health professional and patient, **the patient's feeling of being understood is <u>therapeutic in and of itself</u>. It helps to ameliorate the sense of isolation and helplessness that accompanies a patient's experience of illness**.

3-**Some communication habits can <u>interfere</u> with your ability to listen well.**

A-**Trying to do two things at once** makes it evident that patients do not have your full attention.

B-**Jumping to conclusions before patients have completed their messages** can lead to only hearing parts of messages.

C-**Focusing only on content** cause us to miss much of the meaning in the messages people send us.

Listening well involves understanding **both the content** of the information being provided and the **feelings being conveyed**.

Skills that are useful in effective listening include:

A- **Summarizing**
B- **Paraphrasing**
C- **Empathic responding.**

A-Summarizing
When a patient is providing information, it is necessary for you to try to ***summarize the critical pieces of information***.
Summarizing allows you to be sure you understood accurately all information that the patient conveyed.

B-Paraphrasing
When using this technique, you attempt to convey back to the patient the essence of what he or she has just said. The following are examples of paraphrasing:

Patient #1: I don't know about my doctor. One time I go to him and he's as nice as he can be. The next time he's so rude!

Pharmacist #1: ***He seems to be very inconsistent***

C-Empathic Responding
1-Many of the messages patients send to you **involve the <u>way they feel</u> about their illnesses or life situations.**

If you are able to communicate <u>back to a patient that you understand these feelings</u> (emotional meaning in a patient message)**, then <u>empathic</u> response can be established**.

2-**The main difference between an empathic response and a paraphrase is that empathy serves primarily as a reflection of the patient's feelings rather than focusing on the content of the communication.** The following examples, adapted from the section on paraphrasing, should illustrate the difference.

Patient: *I don't know about my doctor. One time I go to him and he's as nice as he can be. The next time he's so rude I swear I won't go back again.*

Pharmacist:
Paraphrase: *He seems to be very inconsistent*.
Empathic Response: *You must feel uncomfortable going to see him if you never know what to expect.*

3-If you convey an empathic response to the patients, t**hey may be more open with you** and they will more likely tell you that they are having trouble taking their medications as prescribed or that they do not understand regimen directions if they know that you will not think them stupid or incompetent.

*The "Listening Techniques for the Interview Process" are shown in the box.

Listening Techniques for the Interview Process
• **Stop talking.** You can't listen while you are talking. • **Get rid of distractions.** These break your concentration. • **Use good eye contact** (i.e., look at the other person). This helps you concentrate and shows the other person that you are indeed listening. • **React to ideas, not to the person.** Focus on what is being said and not on whether you like the person. • **Read nonverbal messages.** These may communicate the same or a different message than the one given verbally. • **Listen to how something is said.** The tone of voice and rate of speech also transmit part of the message. • **Provide feedback to clarify any messages.** This also shows that you are listening and trying to understand

B-Probing

1-Another important communication skill is learning to **ask questions in a way that elicits the most accurate information**. This technique is called "**probing**."

2-The phrasing of the question is important. For instance, "**why" type questions can make people feel that they have to justify their reason for doing a certain thing**. It is **usually better to use "what" or "how" type of questions**. For example, people might become defensive if asked "Why do you miss doses of medication?" instead of "What causes you to miss doses of medication?"

3-In addition, the timing of the question is important. The patient should be allowed to finish answering the current question before proceeding to the next one.

4-In addition, **leading questions should be avoided.** These questions strongly imply an expected answer (for example, "You don't usually forget to take the medication, do you?" or "You take this three times a day with meals, right?"). These questions lead patients into saying what they think you want to hear rather than what the truth may be.

5-To conduct an effective interview, it is important to understand the differences between **closed-ended** and **open-ended questions**.

A-A closed-ended question can be answered with either a "**yes**" or "**no**" response or with a few words at most.

B-On the other hand, an open-ended questions **allow people to respond in their own way** and expand their answers.

C-For example, a **closed**-ended question would be "**Has your doctor told you how to take this medication?"** The patient may only respond with a "yes" and not provide any useful information to you. On the other hand, an example of an **open-ended question** would be "**How has your doctor told you to take this medication?" .**
With an open-ended question you are allowing patients to present information in their own words.

D-Closed-ended questions reduce the patient's degree of openness because you are doing most of the talking. For this reason, **closed-ended** questions are referred to as "**pharmacist-centered questions**."

E-**Open-ended** questions permit open expression and for this reason are sometimes referred to as "**patient-centered questions**."

F-You may find a **combination of open-ended and closed-ended** questions most efficient for you in your practice. Patient encounters may be initiated with an open-ended question, followed by more directed, closed-ended questions.

G-For example, if you want to know whether Mr. Raymond is experiencing bothersome side effects from his antihypertensive medication, you may say "**What things have you noticed since beginning this medication?"**

H-If necessary, open-ended questioning can be followed by more direct questions that focus on specific side effects, such as "**Do you have trouble sleeping**?," and so on.

6-For new prescriptions, the questions "**What did your doctor tell you the medication is for?,"** and "**How did your doctor tell you to take the medication**?," are suggested as a way for assessment of patient understanding of new prescriptions .

7-Open-ended questions provide an opportunity for you to assess whether or not the patient understands the key elements of drug therapy (shown in the accompanying box-2).

Key Elements of Drug Therapy
1– Tell the patient the **name**, **indication**, and **route** of administration of the medication: 2– Inform the patient of the **dosage regimen**: 3–Tell the patient **how long it will take for the drug to show an effect**: 4–Tell the patient **how long he/she might be taking the medication:** 5–Discuss **major side effects** of the drug: 6–Discuss **storage recommendations**, ancillary instructions (e.g., shake well, refrigerate)

8-Based on these assessments of patient knowledge, you will be able to develop a strategy to deal with patients' lack of knowledge or their misconceptions about drug use. You may provide additional information, calm their fears, and provide necessary encouragement. You may also give them take-home written material.

C-Asking sensitive questions

1-Some questions you ask patients may be particularly sensitive. Questions assessing **adherence**, or **alcohol** use. Assessment of effects (including side effects) of medications that relate to **sexual functioning** may also require a diplomatic approach.

2-There are a number of techniques that can make such questions easier to ask. Before asking a question about a sensitive topic, **let the patient know that the behaviors or problems you are asking about are common**. If you acknowledge that "**everyone**" has similar problems, it makes the issue seem less threatening. For example, say to a patient "It is very difficult to take a medication consistently, day after day. **Nearly everyone** will miss a dose of medication once in a while" before asking specific questions about adherence. Framing the question in this way can make it feel safe for patients to admit that they are having difficulty adhering to a medication regimen.

3-Another technique for reducing the threat of sensitive questions is to ask whether the **situation has ever**, **at any time, occurred and then ask about the current situation.** For example, asking first whether the patient has ever missed a dose of a medication and then progressing to estimates of the number of doses missed in the last week may make the information the patient provides more reliable.

4-In addressing these issues, the way **you phrase the question and your tone of voice**

should be **no different for a question on alcohol consumption as for a question on use of an over-the-counter (OTC) product**.

5-In structuring the interview, **it helps to embed more threatening topics among less threatening topics and to ask more "personal" questions later in the interview**.
For example, questions about alcohol consumption may be better accepted by the patient if they follow questions about caffeine consumption.

6-If patients seem reluctant to address an issue, it helps to discuss the reason why you are asking a particular question. A statement such as: "People often do not think of alcohol as a drug, but there are many medications that can interact with alcohol. I ask about alcohol use so that I can help you prevent problems with the medications you take." **If patients understand the reason for a question, they are more likely to respond honestly**.

7-In any case, before asking any question, and especially one that may be sensitive, be sure that the **question is necessary and that you have a clear need for the information** in your efforts to help the patient.

D-Use of silence

1-Another skill that you must learn in order to be an effective interviewer is the art of using **silence** appropriately.

2-Many times, the patient **needs time to think about or react to the information you have provided or the question you have asked**. Interrupting the silence destroys the opportunity for the patient to think about this material.

3-On the other hand, the **pause might be due to the fact that the patient did not understand the question completely**. In this situation, the question should be restated or rephrased.

4-**Responding with empathy** is a necessary component of any communication you have with a patient قد يكون الصمت..ابلغ في التعبير عن التعاطف من الكلام.

E-Establishing rapport

Successful interviews are marked by a high degree of **rapport between the two parties**. Rapport is built mainly on mutual consideration and **respect**. You can aid this process by using **good eye contact**, by using a **sincere**, friendly **greeting**, by being **courteous during the discussion**, and by **not stereotyping** or **prejudging** the patient. Each patient must be seen as a unique individual.

Interviewing as a Process

A-Type of **information**
B-Type of **Environment**
C-**Starting** the Interview
D-**Ending** the Interview

A-Type of information

1-Before the **interview begins, you should determine the** amount and type of information desired. In other words, what exactly do you want to accomplish?

2-For example, if you need to find out specific pieces of information, you will want to have more control over the interview process. This is referred to as the **directed interview approach.** However, if the outcome is unknown, you need to use a more **nondirected approach** (open-ended questions should be used more frequently).

B-Type of environment

1-Before you begin the interview, interruptions should be reduced as much as possible. A partition at the end of the prescription counter, a special room, or a consulting area can provide the **necessary privacy**.

2-Privacy also allows both you and the patient to express personal concerns, to ask difficult questions, to listen more effectively, and to share honest opinions.

B-Starting the interview

1-After considering the type of environment available and the type of information desired, you should start the interview by greeting patients by name and by introducing yourself to patients if you do not know them. This helps establish rapport with the patient.

2-You should also state the purpose of the interview. The **purpose** of the interview should be **stated in terms of the benefit to the patient**. The **amount of time** needed, the **subjects to be covered**, and the **final outcome** should be mentioned so that the patient has a clear understanding of the process.

3-For example, a pharmacist seeing a patient for the first time might say:

Hello, Mr. Pearson, I'm Jane Bradley, the pharmacist (the **introduction**). Since you are new to our pharmacy, I would like to ask you a few quick questions about the medications you are now taking (**the subjects to be covered**). This will take about 5 to 10 minutes (the **amount of time needed**) and will allow me to create a drug profile so that we can know all the medications that you are taking. This will help us identify potential problems with new medications that might be prescribed for you (**the purpose/outcome)**.

4-After the interview is started, the following suggestions will help you conduct

a more efficient interview:

A-**Avoid making recommendations during the information-gathering phases** of the interview.

B-Similarly, **do not jump to conclusions** or rapid solutions without hearing all the facts.

C-Do not **shift from one subject to another** until each subject has been followed through.

D-Guide the interview **using a combination of open- and closed-ended questions.**

E-Determine the patient's **ability** to **learn** specific information in order to guide you in your presentation of the material. **Reading** ability, **language** proficiency, and **vision** or **hearing impairments** would all influence the techniques you use in interviewing and counseling a patient.

F-Use good communication skills, especially the **probing**, **listening**, and **feedback** components.

G-Be aware of the **patient's nonverbal messages**, because these signal how the interview is progressing.

H-Depending upon your relationship with the patient, **move from general to more specific questions and less personal to more personal subjects**. This may remove some of the patient's initial defensiveness.

I-**Note-ta**king should be **as brief as possibl**e.

D-Ending the interview

1-Bringing the interview to a close is **often more difficult than starting** the interview. It is a crucial part of the interview process because a **person's evaluation of the entire interview and your performance may be based on the final statements**.

2-**People seem to remember best what was said last**. If you have provided important information to the patient, you should determine whether or not the patient understood the material correctly at the end of the interaction. For example, you could say to the patient: "**I want to make sure I have explained everything clearly. Please summarize for me the most important things to remember about this new medicine**." Other simple open-ended questions, such as "**When you get home, how are you going to take this medication**?"

3-To conclude the interview, you will want to briefly summarize the key information provided by the patient. A summary allows both parties the opportunity to review exactly what has been discussed and helps clarify any misunderstanding.

4-A summary also tactfully **hints to the patient that the interview is ending**. In conjunction with a summary **you can use nonverbal cues to indicate to the patient that the interview is over.** For instance, you could get up from the chair or change your stance in such a way that indicates that you need to move on. A simple question such as: "I've enjoyed talking with you . Do you have any further questions?" may also be useful.

5-The ending of the interview is a good time for you to reassure the patient about a particular problem. However, **this should not be false assurance,** such as "Everything is going to turn out okay" or "Don't worry about it." Instead, you should state, "**I will try to help things get better for you**" along with specific action or follow-up you will implement.

Interviewing in Pharmacy Practice

1-Assessing the health problems a patient presents before making **an OTC recommendation** is a targeted interview. Evaluating a **patient's response to treatment** and **perceived problems** related to medication therapy during a refill visit is another example of an interview.

2-The specific questions that are asked may **vary** somewhat because the purpose of the interview varies, **but the skills** involved in gathering information from patients **remain the same**.

3-In assessing medication therapy, such as in a **medication history interview**, it is necessary to ensure that you have a complete listing of medications being taken, including **prescriptions**, **OTCs**, **herbals**, and other **complementary and alternative** medicines.

4-For each medication, an assessment is made of:
(a) the patient perception of the **purpose** of the medication,
(b) the **way** the medication is actually being used by the patient,
(c) patient perceived **effectiveness** (along with specific information on indicators of effectiveness derived from physician reports to the patient or patient self-monitoring of response), and
(d) **problems** the patient perceives with therapy.

5-Medication-related problems include not only problems with medications being taken, but **also drug therapy that is needed but is not being received** by the patient

6-So it is also important to ask patients about health problems they have been experiencing or ones that have been diagnosed but that are not currently being treated

with medication. **Fears related to an imagined diagnosis** may prevent patients from seeking care. In other cases, a patient may have received a diagnosis (e.g., type 2 diabetes) that is being treated by means other than medication (e.g., **diet and exercise**).

7-Case Study -1 is an example of an interview in a community pharmacy setting. A new patient, Robert Evans, comes to the pharmacy and presents a prescription for hydrochlorothiazide. The pharmacist, Ed Robinson, initiates a brief interview with the patient.

Case Study 1

Ed: Hello. Are you Robert Evans?
Robert: Yes.
Ed: Mr. Evans, **I'm Ed Robinson**, the **pharmacist** here. I would like to sit down with you and talk **about the medications** you currently take. **This can help us identify problems you might be having with your drug therapy**. We can talk while the technician is filling your prescription. **Do you have about 10 minutes**?
Robert: Sure. I was going to wait for my prescription anyway.
Ed: Let's start with the prescription you brought in today. **What has your doctor told you about this medicine?**
Robert: Dr. Carter told me I have high blood pressure. This isn't the first prescription for this hydrochlorothiazide (HCTZ) medicine though. I've been taking it about three
years. My old prescription ran out of refills. Dr. Carter gave me a new one today.
Ed: When were you first diagnosed with high blood pressure?
Robert: About three years ago. I don't remember what my blood pressure was but the doc said it was high.
Ed: Are you **taking any other medications for your high blood pressure**?
Robert: No, just the one.
Ed: How well has the HCTZ medication **worked for you**?
Robert: It has done the trick. Dr. Carter says I'm doing great.
Ed: That must be encouraging to hear! Tell me, what was your blood pressure today when you saw Dr. Carter?
Robert: 125/85. I take my blood pressure myself every day and it always stays around that.
Ed: It's a great idea to keep track of your own blood pressure. How often do you see Dr. Carter to have your blood pressure checked by him?
Robert: I see him every 6 months. At first it was every couple of months, but he said I am doing so well now, he doesn't have to see me as often.
Ed: Tell me, **what problems have you had with this medication**?
Robert: I haven't had any problems.
Ed: Have you noticed **any side effects** or symptoms you think are related to the medication?
Robert: I haven't had any side effects. I really haven't had any problems with the medication.
Ed: In terms of how you have been taking the HCTZ, **describe your schedule** on a typical day.

Robert: I swallow it with my orange juice when I eat breakfast.
Ed: It's sometimes difficult to take a medication every day, day after day. How often would you say you miss a dose in a typical week?
Robert: I never miss. I fill up one of those weekly pill containers every Sunday and keep it beside the cereal in the cupboard so I remember to take it. Last time I forgot to take it was a month or so ago. I had gone to a restaurant for breakfast and I forgot it that morning. But that hardly ever happens.
Ed: Sounds like you really stay on top of it. Are there other things you do to help you control your high blood pressure?
Robert: Dr. Carter put me on a diet and exercise program. I've lost over 50 pounds in the past couple of years. I don't eat a lot of salt either.
Ed: You're really doing what you need to do to keep your blood pressure down. Do you have any questions or concerns about your medicine or your high blood pressure?
Robert: No. I think I've been doing fine. I've gotten used to taking a pill every day.
Ed: If any concerns do come up in the future, please let me know. Next, let me ask about other prescription medications you might currently be taking?
Robert: I don't take anything else. One drug is all I take.
Ed: I see. Let me switch to **over-the-counter products** that you can buy without a prescription.
Robert: I don't take anything. Maybe Tylenol once a year for a headache. Doc told me not to take anything for a cold without checking with him or a pharmacist. I don't like taking drugs so I don't use that stuff you can buy in a grocery store.
Ed: Any **vitamins or herbal products**?
Robert: Nope.
Ed: Do you have any health concerns or other conditions a doctor has told you about that you are not treating with medication?
Robert: None. I'm healthy except for the high blood pressure.
Ed: That's good to hear. Do you have any allergies, especially reactions to medications?
Robert: No, no allergies at all.
At this point, the pharmacist might conclude the interview by thanking the patient for taking the time to answer questions, making sure there is not another issue related to drug therapy the patient might want to discuss. Finally, he can make himself available by telephone or in person if the patient wants to discuss drug therapy or any health concerns in the future.

8-The interview was limited, focusing on information needed to assess problems with current therapy.

Documenting Interview Information

1-The information documented in a note will assist in your own follow-up care as well as communicate to colleagues about the care you have provided to a particular patient.

2-A format for documentation that is familiar to health care professionals is the SOAP note. **SOAP** is an acronym for **Subjective**, **Objective**, **Assessment**, and **Plan**.

A-Subjective information is that **information reported by the patient** or patient caregiver, such as symptom experience or self-report of adherence.

B-Objective **information is that provided by a lab test or physical exam**. If a pharmacist, as part of an interview with a hypertensive patient, takes the patient's blood pressure, for example, this would be documented as objective information.

C-The Assessment section includes a **description of any medication-related problem identified during the interview**. For example, a problem may be lack of therapeutic response secondary to reported nonadherence.

D-Once the assessment of a problem is made, based on the subjective and objective information included in the note, **the plan** the "P" portion of the SOAP note). **should detail the actions to be taken to resolve the problem.**

Interviewing Using the Telephone

Many times you need to collect information from patients by telephone. The following should be considered during this type of interaction:

1. **Try to smile before you pick up the telephone**. Your friendly attitude will be transmitted through the tone, pitch, volume, and inflection of your voice.

2. If at all possible, **answer the telephone within the first three or four rings**.

3. Identify the **pharmacy and yourself**.

4. Give your **full attention to the call**. Nothing is more irritating to callers than to be given the impression that they are competing for your attention.

5. Ask for the **caller's name** and **use the name** in the conversation.

6. If you must place the **caller on hold** (for a short time only) ask, "May I put you on hold while I look up your prescription?" In these circumstances, it is important that you do the following:

   a. Tell callers **why** you want to put them on hold;
   b. Ask if they would mind **waiting a brief time**, or would prefer **to call back** (if appropriate); and
   c. On **returning** to the telephone, say, "**Thank you for waiting**."

7. At the conclusion of the call, end it graciously (e.g., "**Thank you for calling**").

8. If possible, allow **the caller to hang up first**. This will allow the caller time to remember that extra request.

Besides receiving telephone calls, many times you must call physicians or other health care professionals to obtain additional information regarding a patient. The following suggestions may help make these calls more efficient.

1. Before making the call, be sure you **have any and all information related to the call readily available.** Prescription, patient, and other relevant information should be obtained before your telephone conversation starts.

2. Before making the call, determine **with whom you need to speak** in order to achieve your goal for calling.

3. Most importantly, Before making the call ask yourself, "**Is this call necessary**?"

4. **Identify yourself, your position, and the pharmacy first**. Then, if it is not already provided to you, ask for the same information from the person who has answered your call.
5. After introducing yourself, **state in clear, concise terms the reason for your call**. Be assertive! Do not begin by apologizing ("Sorry to bother you"). You have already decided that the call is necessary.

6. If the nature of your call dictates that it will exceed more than a couple of minutes, **ask the person whether they have time to talk** with you for a few minutes.

7. **Conclude the conversation** with a sincere "**Thank you**."

Summary

1-You must learn how to ask open-ended questions, to transmit information clearly, listen effectively, provide feedback, use silence, and develop rapport. Development of these skills takes time.

2-In addition to using good communication skills, you must realize how to structure the interview. The type of environment, and how to start and how to end the interview are critical to the interview process.

3-The interview is a dynamic process that can always be improved. You should not worry about saying the wrong thing. The key is to identify what went wrong and correct it the next time you conduct an interview.