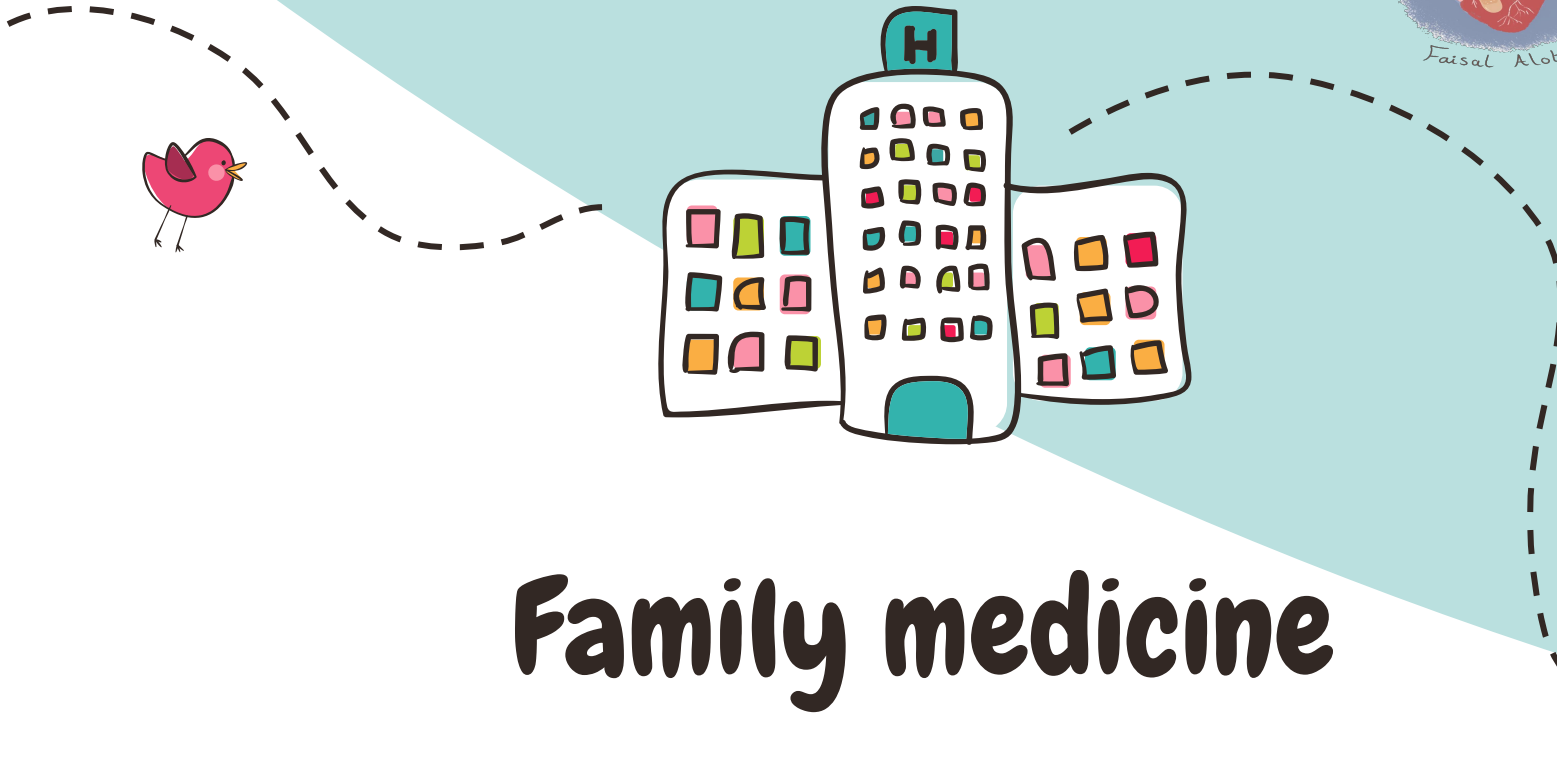


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MED439  
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# Family medicine

## Tobacco consumption

[Editing file](#)



# Objectives

- Epidemiology of smoking in Saudi Arabia.
- Risks of smoking (Morbidity and Mortality).
- Effect of passive smoking on pregnancy, children.
- How are you going to help the smoker to quit and how to overcome withdrawal symptoms.
- Update in pharmacological management, smoking cessation medication.
- Nicotine preparations, varenicline, bupropion.

# Prevalence

01

In 2012, 21% of the global population aged 15 and above smoked tobacco. Men smoked at five times the rate of women. the average rates were 36% and 7% respectively.

02

Prevalence of Tobacco smoking among persons aged 15 years and above % (Male) – 2015 WHO **“SA 27.9%”**

03

Adult smoking (above 15) male 24.9% Female 1.7%  
Children smoking (10-14 years old) boys 1.3% girls 0.18%  
Deaths male 9.57% female 4.94%

04

In 2012, Kingdom of Saudi Arabia ranked as 36 by number of Cigarettes smoked per adult per year.

## From team 438

In 2010, WHO estimates that about 16% of Saudi Arabia's population smoked (3,092,300 persons).

If tobacco control efforts continue at the same intensity, WHO projects that in 2025 around 24% of the population (approximately 6,268,400 persons) will be smokers.

26% of men and about 3% of women smoked in Saudi Arabia. The highest rate of smoking among men was seen in the age-group 25 – 39.



# Risks of Smoking (Morbidity and Mortality)

Cigarette smoking causes more than 480,000 deaths each year in the United States. This is about one in five deaths. Smoking causes more deaths each year than all of these combined:

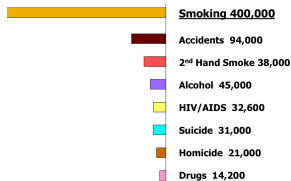
- Human immunodeficiency virus (HIV)
- Illegal drug use
- Alcohol use
- Motor vehicle injuries
- Firearm-related incidents



Smokers are more likely than nonsmokers to develop:  
Heart disease, Stroke, and Lung cancer.

Smoking is estimated to increase the risk of:

- Coronary heart disease by 2 to 4 times
- Stroke by 2 to 4 times
- Lung cancer by 25 times





# Addiction of Smoking

- 📌 Nicotine Found naturally in tobacco, which is as addictive as heroin or cocaine.
- 📌 Over time, a person becomes physically dependent on and emotionally addicted to nicotine.
- 📌 The physical dependence causes unpleasant withdrawal symptoms when you try to quit.
- 📌 The mental dependence (addiction) make it hard to stay away from nicotine after quit.

# What is in tobacco

More than 4,000 substances, including:

Tar: black sticky substance used to

pave roads

Nicotine: Insecticide

Carbon Monoxide: Car exhaust

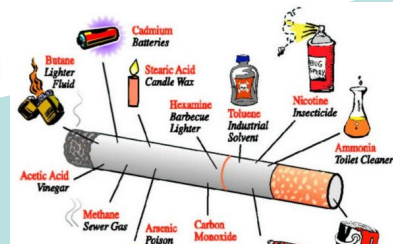
<sup>210</sup>Polonium: radio-active substance Acetone: Finger nail polish remover Ammonia: Toilet Cleaner

Cadmium: used batteries

Ethanol: Alcohol

Arsenic: Rat poison

Butane: Lighter Fluid



# Smoking

refers to the inhalation and exhalation of fumes from burning tobacco in cigars, cigarettes and pipes



## Cigarettes

- Cigarettes are uniform in size and contain less than 1g of tobacco each.
- They are made from different blends of tobaccos, and wrapped with paper.

## Cigars

- Most cigars are composed primarily of a single type of tobacco (air-cured and fermented), and they have a tobacco wrapper.
- They can vary in size and shape and contain between 1 gram and 20 grams of tobacco.

## Water-Pipe & Hookah (Sheesha)

- Not safer than regular tobacco smoke.
- Causes the same diseases but more Polycythemia (increase RBCs and Haemoglobin) Raises the risk of lip cancer, spreading infections like tuberculosis.
- Users ingest about 100 times more lead from hookah smoke than from a cigarette.

## Electronic Cigarette

- is a battery-powered vaporizer which has a similar feel to tobacco smoking.
- do not contain tobacco, although they do use nicotine from tobacco plants.
- They do not produce cigarette smoke but rather an aerosol, which is frequently but inaccurately referred to as vapor.

# Types of smoking

★ **Active** (Conventional smoking )

★ **Passive** ( second hand smoking)

**Passive smoking (second hand):** breathing in other peoples tobacco smoke.

Exhaled smoke is called **exhaled mainstream smoke**.

The smoke drifting from a lit cigarette is called **sidestream smoke**.

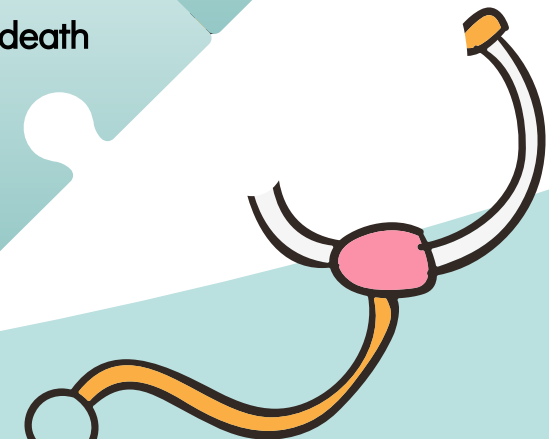
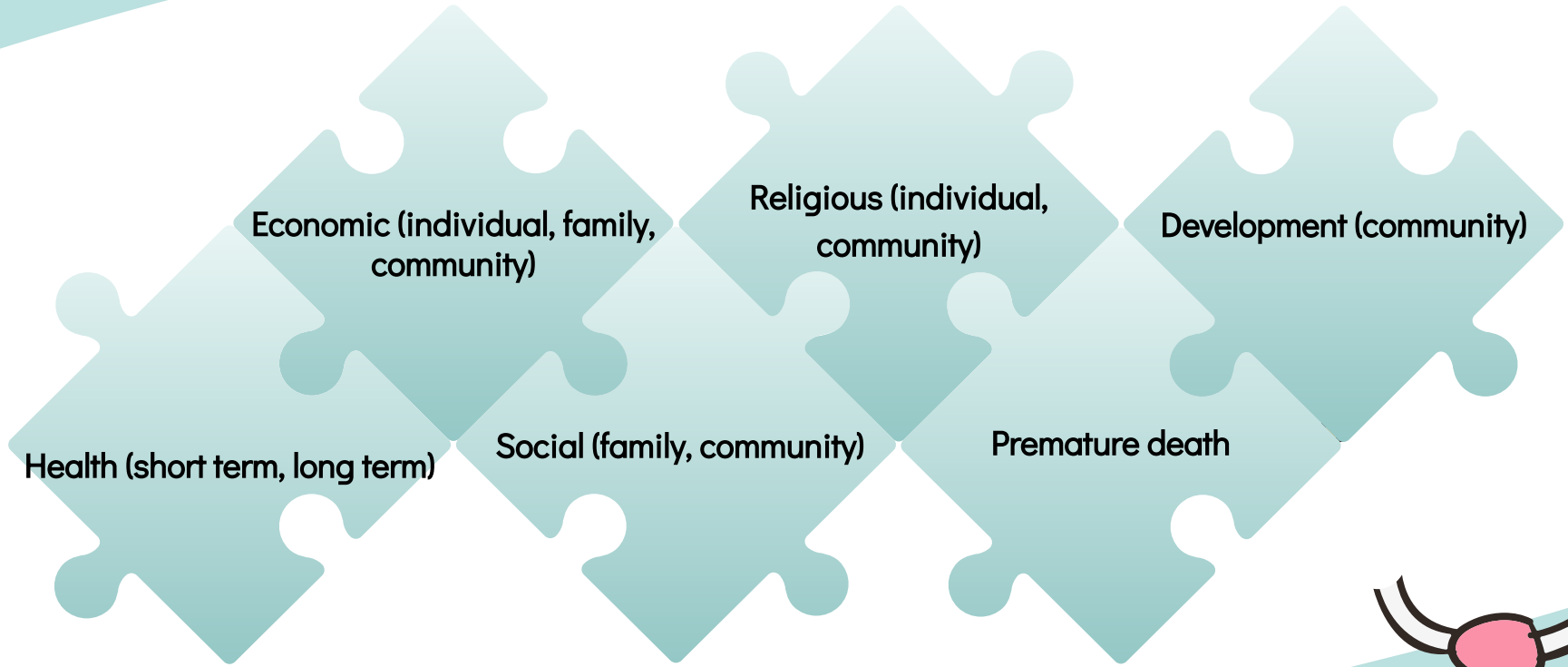
The combination of mainstream and sidestream smoke is called **second-hand smoke (SHS)**.

**Third hand smoking:** exposure to smoke components and their metabolic by-products from contact with surfaces that have adsorbed the toxin, through the skin or ingestion from contamination of the hands.





# Consequences of Smoking:





# Smoking effect on the body



## Skin:

wrinkles, capillaries and premature ageing and scarring.

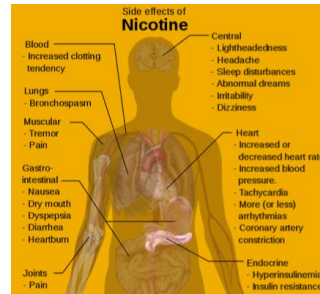
## Oro- dental :

- Overall poor oral health - Stained teeth
- Gum inflammation
- Black hairy tongue
- Delayed healing of the gums

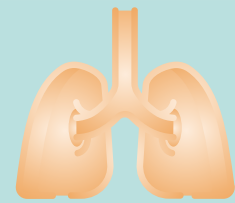
## Cancers:

- Lung, Trachea, bronchus.
- Bladder (Urinary system)
- Esophagus (GIT system)
- Oral cancer
- Laryngeal cancer (includes parts of the throat, tongue, soft palate, and the tonsils) Persistent hoarseness Chronic sore throat, Painful swallowing, Pain in the ear, Lump in the neck.

Over 80% of deaths from laryngeal cancer are linked to smoking.



# Smoking effect on the body



## Cardiovascular system :

- Coronary heart disease.
- Atherosclerosis & Arteriosclerosis.
- Thrombosis form and lead to ischemic heart disease, peripheral vascular disease.
- increase the heart beat faster and blood pressure goes up.
- Thrombosis lead to IHD, PVD and Strokes.
- Heart attack: are twice as likely as Nonsmokers

Even people who smoke fewer than five cigarettes a day can have early signs of cardiovascular disease.

## Respiratory system:

- Smoking can cause lung disease by damaging the airways and the alveoli e.g. COPD ( emphysema, chronic bronchitis)
- In presence of asthma, tobacco smoke can trigger an attack or make an attack worse.

Smokers are 12 to 13 times more likely to die from COPD than nonsmokers.

Cigarette smoking causes most cases of lung cancer.

# Secondary(passive) smoking effect on Pregnancy and Children :



## Children

Kids are particularly at risk for the effects of secondhand smoke because their bodies are still growing and they breathe at a faster rate than adults.

Conditions linked to secondhand smoking:

- sudden infant death syndrome (SIDS)
- More respiratory infections (such as bronchitis and pneumonia)
- More severe and frequent Asthma attacks
- Ear infections
- Chronic cough

## Pregnancy

- Premature delivery
- Low birth weight
- Sudden Infant Death Syndrome (SIDS), Limited mental ability, trouble with learning.
- Lowered immune capacity

The more cigarettes a mother-to-be smokes, the greater the danger to her baby causing 5 % of infant deaths and 10 % of preterm births.

# Management of smoking cessation



## Why quit smoking now?

📌 No matter old or how long a person's smoked, quitting can help live longer and be healthier.

📌 People who stop smoking before **age 50** cut their risk of dying in the **next 15 years** in **half** compared with those who keep smoking.

📌 **Ex-smokers** enjoy a higher quality of life they half a fewer illnesses.

## Control measures:

- Surveillance is the key.
- Taxes .
- Health education.
- Picture warnings.
- Tobacco users need help to quit.

## Assess the Dependence first:

1. The time of the first cigarette **at morning**.
2. The number of cigarette **per day**.

## Immediate rewards of quitting smoking:

1. Breath smells better.
2. Stained teeth get whiter.
3. Bad smell in clothes and hair go away.
4. Yellow fingers and fingernails disappear.
5. Social acceptance.
6. Food tastes better.
7. Sense of smell returns normal.
8. No longer leave everyday activities out of breathing.
9. They can be in smoke free building without go outside.
10. Reduce the cost.

# Getting help with the mental and physical addiction

Some people are able to quit on their own, without the help of others or the use of medicines. But for many smokers, it can be hard to break the social and emotional ties to smoking while getting over nicotine withdrawal symptoms at the same time.

## Quit-smoking programs:

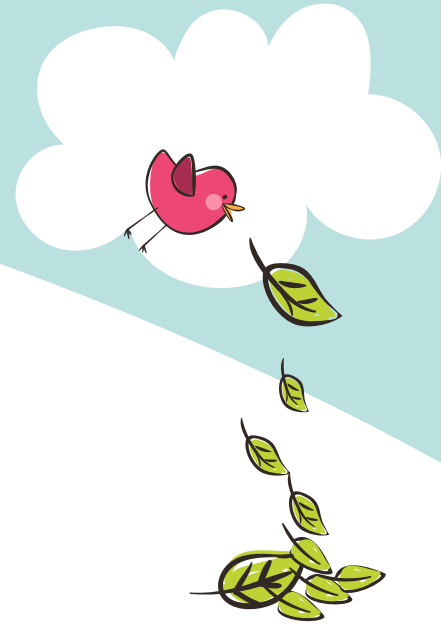
- Tobacco control program; Ministry of health.
- Purity Organization; Ministry of social affairs.

## Support of family and friends:

- Increase the rate of quitting.

## E-Cig in smoking Cessation

- As of 2014, Research on the safety and efficacy of E-Cigarette use for smoking cessation is **limited and uncertain**.
- A 2014 Cochrane review found that **e-cigarettes can help people quit**, but was based on a **small number of studies**.
- Two 2014 reviews found **NO evidence** that e-cigarette are more effective than existing nicotine replacement treatment for smoking cessation.



## Withdrawal symptoms can include any of the following

- Dizziness (Which may last 1 to 2 days after quitting)
- Feelings of frustration, impatience, and anger.
- Depression, Anxiety, Tiredness, and irritability.
- Sleep disturbances.
- Trouble concentrating.
- Restlessness or boredom.
- Headaches.
- Increased Appetite and weight gain.
- Constipation and gas.
- Cough, dry mouth, sore throat, and nasal drip.
- Chest tightness.



## Tips to overcome withdrawal symptoms

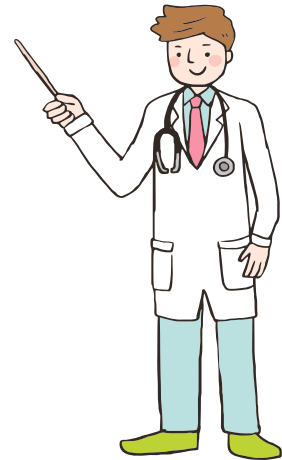
- **Avoid temptation.**
- **Change your habits.**
- **Choose other things for your mouth.**
- **Get Active with your hands.**
- **Breathe deeply**
- **Delay light up if you feel that you will.**
- **Reward yourself.**

## Dealing with smoking withdrawal

If someone's been smoking for any length, smoking has become linked with a lot of the things in daily life - waking up in the morning, eating, reading, watching TV, and drinking coffee, for example.

# If patient is not ready to quit “The model of 5 Rs”

- **Relevance:** Motivational information has the greatest impact if is personally relevant to the patient’s circumstances.
- **Risks:** Ask the patient to identify potential negative consequences associated with tobacco use, Including:
  - **Acute health risks:** Shortness of breath, harm to pregnancy.
  - **Long-term risks:** Heart attacks, Stroke. Lung, and other cancers
  - **Environmental risks:** Increased risk of lung cancer in partners, respiratory infection in children of smokers.
- **Rewards:** Encourage the patient to identify potential benefits of quitting smoking and highlight those most relevant to the patient.
- **Roadblocks:** Invite the patient to identify barriers or impediments to quitting and suggest treatments.
- **Repetition:** Repeat the motivational intervention every time an unmotivated patient visit the clinic setting.



# Nicotine replacement therapy (NRT)



The goal of NRT is to **provide nicotine to a smoker without using of tobacco.**

Thereby **relieving withdrawal symptoms** as the smoker breaks the behavior of cigarette smoking.

The **initial dosing** of most NRT products is **based on the number of cigarettes smoked daily.**

Nicotine patch

Nicotine gum

Nicotine Nasal spray.

Nicotine inhaler  
(**Deliver Nicotine Fast**)



# Nicotine replacement therapy (NRT)

## Transdermal nicotine patch

- Simplest NRT, most continuous nicotine delivery of all products.
- Long acting. (**24 Hours**)
- Compliance with the patch is high.
- Available over the counter.
- Patients who **smoke > 10 Cigarette/day**, use the highest dose of the nicotine patch **21 mg/day, Four to six weeks**.
- Followed by **14 mg/day for two weeks**, and finished with **7 mg/day for two weeks**.
- Smokers who weigh **less than 45 kg or smoke 10 or less cigarettes per day**, Advised to begin with the **14 mg/day strength for six weeks**, followed by **7 mg/day for two weeks**.
- To use nicotine patch, the smoker applies one patch each morning to any non-hairy skin site. It is removed and replaced with a new patch the next morning.



## Nicotine gum

- Commonly used short-acting NRT.
- The **4 mg/day dose of gum is recommended for smokers who smoke 20 cigarettes or more per day**.
- **2 mg/day recommended for lighter smokers**.
- Chew one piece of gum every **1 to 2 hours** for six weeks.
- Acidic beverages (Coffee, carbonated drinks) should be avoided before and during gum use, as acidic beverages **lowers oral pH**.



## Bupropion

- Inhibit the uptake of norepinephrine, serotonin, and dopamine, which reduce the urge of smoking and improve the mood so good in cases of depression.
- The quit date should be set for **one to two weeks** after bupropion therapy is initiated.
- **8-12 weeks** after patient has quit smoking.
- **Contraindications:**
  - A history of seizure disorders.
  - Presence of eating disorders.
  - Uncontrolled hypertension.

## Varenicline (Chantix/ Champix) (Superior to bupropion)

- Block the nicotine in tobacco smoke from binding to the receptor.
- Results in moderate levels of dopamine in the terminal synapse.
- Reduce withdrawal symptoms.
- Increase chance of successful quit attempt **two-to three** fold compared with non-pharmacologic assistance.
- Increased risk of **coronary events** with varenicline

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