Student Led Seminar

Smoking & Substance Abuse

Tutor: (Prof. Norah Al-Rowais)

Presented by:

1- Maha saud alissa	436202350
2- Alanoud alsaikhan	436202729
3- Muneerah alzayed	436200278
4- Leena alwakeel	436202551
5- Chaida alsaead	436200510

By The end of session Students will be able to:

- Describe the Epidemiology of smoking in Saudi Arabia
- Recognize Risks of smoking (Morbidity and Mortality)
- Appreciate the Effect of passive smoking on pregnancy, children...
- Be able to help the smoker to quit with smoking cessation aids and overcoming nicotine withdrawal symptoms
- Appreciate the Role of PHC physician in "smoking cessation clinic"
- Discuss the smoking cessation **medication**, Nicotine preparations, Varenicline, Bupropion, ...
- Recognize Factors that lead to substance abuse
- List types of substance abuse
- Appreciate **Method** to approach subjects with substance abuse

1-Describe the **Epidemiology** of smoking in Saudi Arabia

What is the expected worldwide number of people dying because of smoking in 2030?

- A- 2 million
- B- 5 million
- C-8 million
- D- 10 million

What is the expected worldwide number of people dying because of smoking in 2030?

A- 2 million

B- 5 million

C-8 million

D- 10 million

Epidemiology

- Every year, more than 7000 of Saudi Arabia people are killed by tobacco-caused disease.
- It is recognized by the World Health Organization as the **second leading risk** factor for death worldwide.
- Despite its associated health risks, over 1.3 billion individuals smoke tobacco worldwide

Epidemiology

A latest study in Saudi Arabia among adults aged 18 years or older in 2018 showed that:

• Prevalence of cigarette smoking is **21.4%**

Gender	Categories	% percentage	Total
Male	Daily smoker	26.29%	32.5%
	Nondaily smoker	6.19%	
Female	Daily smoker	1.59%	3.9%
	Nondaily smoker	2.34%	

Epidemiology

Other study that done in 2015 and 2016 that show :

Adult Smoking (15+ Y.O.) % using tobacco daily: 2015



Male

24.9%

Even though fewer men smoke on average in Saudi Arabia than on average in very high-HDI countries, there are still more than 3295400 men who smoke cigarettes each day, making it an ongoing and dire public health threat.

Female

1.7%

Even though fewer women smoke in Saudi Arabia than on average in very high-HDI countries, there are still more than 157900 women who smoke cigarettes each day, making it an ongoing and dire public health threat.

Children Smoking (10-14 Y.O.)

% using tobacco daily: 2015

Boys

1.3%

Even though fewer boys smoke in Saudi Arabia than on average in very high-HDI countries, there are still more than 18200 boys who smoke cigarettes each day, making it an ongoing and dire public health threat.

Girls

0.18%

Even though fewer girls smoke in Saudi Arabia than on average in very high-HDI countries, there are still more than 2400 girls who smoke cigarettes each day, making it sign of an ongoing and dire public health threat.

2- Recognize **Risks** of smoking

(Morbidity and Mortality)

What are the health risks of smoking?

Risks of Smoking

Smoking harms nearly every organ in the body

 Tobacco use is one of the most important preventable causes of premature death in the world. More than 6 million people per year die from tobacco use across the globe.

1. EYES

- Cataracts, blindness (macular degeneration)
- Stinging, excessive tearing and blinking

2. BRAIN AND PSYCHE

- Stroke (cerebrovascular accident)
- Addiction/withdrawal Altered brain chemistry
- Anxiety about tobacco's health effects

3. HAIR

- Odor and discoloration

4. NOSE

- Cancer of nasal cavities and paranasal sinuses
- Impaired sense of smell

5. TEETH

- Periodontal disease (gum disease. gingivitis, periodontitis)
- Loose teeth, tooth loss
- Root-surface caries, plaque
- Discoloration and staining

6. MOUTH AND THROAT

- Cancers of lips, mouth, throat, larynx and pharynx
- Sore throat
- Impaired sense of taste
- Bad breath

7. EARS

- Hearing loss
- Ear infection

8. LUNGS

- Lung, bronchus and tracheal cancer
- Chronic obstructive pulmonary disease (COPD) and emphysema - Chronic bronchitis
- Respiratory infection (influenza, pneumonia, tuberculosis)
- Shortness of breath, asthma
- Chronic cough, excessive sputum productio

9. HEART

- Coronary thrombosis (heart attack - Atherosclerosis (damage and occlusion of coronary vasculature)
- 10. CHEST & ABDOMEN
- Esophageal cancer
- Gastric, colon and pancreatic cancer
- Abdominal aortic aneurysm
- Peptic ulcer (esophagus, stomach,
- upper portion of small intestine) Possible increased risk of breast cancer

11.LIVER

Liver cancer

12. MALE REPRODUCTION

Infertility (sperm deformity, loss of motility, reduced number) - Impotence

Prostate cancer death

13. FEMALE REPRODUCTION

- Cervical and ovarian cancer Premature ovarian failure, early menopause - Reduced fertility

- Painful menstruation 14. URINARY SYSTEM

Bladder, kidney, and ureter cancer

15. HANDS

- Peripheral vascular disease,

poor circulation (cold fingers)

16. SKIN - Psoriasis Loss of skin tone, wrinkling, premature aging

17. SKELETAL SYSTEM

 Osteoporosis - Hip fracture Susceptibility to back problems

- Bone marrow cancer Rheumatoid arthritis

18. WOUNDS AND SURGERY

Impaired wound healing - Poor post-surgical recovery Burns from cigarettes and from fires caused by cigarettes

19. LEGS AND FEET

 Peripheral vascular disease. cold feet, leg pain and gangrene - Deep vein thrombosis

20. CIRCULATORY SYSTEM

- Buerger's disease (inflammation of arteries, veins and nerves in the legs) Acute myeloid leukemia

IMMUNE SYSTEM

 Impaired resistance to infection - Possible increased risk of allergic diseases

OTHERS

- Diabetes - Sudden death

Morbidity

- Smoking causes many diseases and reduces the health in general.
- Even if you only smoke one cigarette a day it can have serious health consequences.
- Recent research has found that smoking just one cigarette a day has nearly half the risk of coronary heart disease and stroke compared to a 20-cigs-a-day smoker.

Smoking and Cancer

- There are thousands of chemicals in cigarette smoke, including around 70 known cancer-causing chemicals called carcinogens.
- causes cancer of the lung, mouth, throat, voice box, oesophagus, pancreas, bladder, kidney, liver, cervix, ureter, nose, nasal sinuses, stomach and bowel.
- Smoking causes acute myeloid leukaemia and increases breast cancer risk.
- Lung cancer is the leading cause of cancer death in both men and women, and is one of the hardest cancers to treat.

Smoking and Cardiovascular Problems

- Smoking tobacco damages heart and blood vessels increasing risk of heart disease and stroke.
- It's A major cause of coronary heart disease, which can lead to a heart attack.
- Smoking causes high blood pressure, lowers ability to exercise, and makes blood more likely to clot.
- decreases HDL (good) cholesterol levels in the blood.
- Smoking is a major risk factor for peripheral arterial disease (PAD)

Smoking and Respiratory Problems

- Chronic obstructive pulmonary disease (COPD) is one of the leading causes of death in the world.
- mortality from this condition is increasing in most countries; globally, 45% of all deaths from COPD are attributed to tobacco use.
- More women die from COPD than men.
- Types of (COPD) that smoking can lead to:
- 1. Chronic bronchitis
- 2. Emphysema

Mortality

Deaths

% caused by tobacco: 2016



Male

9.57%

Even though fewer men die from tobacco in Saudi Arabia than on average in very high-HDI countries, tobacco still kills 101 men every week, necessitating action from policymakers.

Female

4.94%

Even though fewer women die from tobacco in Saudi Arabia than on average in very high-HDI countries, tobacco still kills 34 women every week, necessitating action from policymakers.

Societal Harms

The economic cost of smoking in Saudi Arabia amounts to **4545 million riyals**. This includes direct costs related to healthcare expenditures and indirect costs related to lost productivity due to early mortality and morbidity.

3- Appreciate the Effect of **passive smoking** on pregnancy, children...

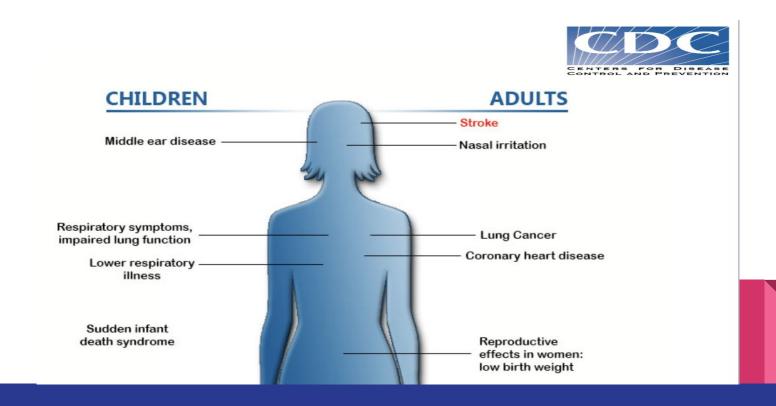
Passive Smoking

- Inhaling Smoke that comes from burning tobacco products.
- Exhaled smoke plus the "sidestream".
- It affects 17.2 % of Saudi people.

	Overall% (SE)	Male% (SE)	Female%(SE)
Exposed to second hand smoke at home	17.2 (0.6)	20.9 (0.9)	13.1 (0.7)
Average number of days Exposed to second hand smoke at home	5.1 (0.1)	4.8 (0.1)	5.5 (0.1)
Exposed to second hand smoke at work	14.8 (0.6)	24.9 (1.0)	3.9 (0.4)
Average number of days Exposed to second hand smoke at work	2.2 (0.1)	2.6 (0.1)	1.4 (0.2)



- Passive smoking causes about 600 thousand deaths each year.
- Results in several adverse health affects on respiratory and cardiac systems.
- Individuals get exposed to unfiltered smoke. (4000 irritants).



Passive Smoking in Pregnancy

- Low birth weight.
- Poor lung function.
- Ear infections.
- Asthma.
- Sudden infant death syndrome.
- Abnormal or delayed growth and development.

Passive Smoking in children

- The immune and respiratory systems are not completely developed yet.
- Children exposed to smoke are at risk of respiratory diseases such as asthma and infections.
- Meningitis and ear infections are also increased with passive smoking.
- Particularly vulnerable in cars.

4- Be able to help the smoker to quit with smoking cessation aids and overcoming nicotine withdrawal symptoms

Smoking Cessation

WITHIN 20 MINUTES OF QUITTING SMOKING....

YOUR BODY BEGINS A SERIES OF CHANGES THAT CONTINUE FOR YEARS.



TEMPORARY PHYSICAL SIDE EFFECTS

OF STOPPING SMOKING

sleep changes

insomnia, vivid dreams, fatigue, drowsiness

skin changes

blemishes, itchiness, hives

circulation

diziness, stiffness/pain, tingly fingers & toes, bloating, water weight gain

mouth

soreness & bleeding gums



respiratory issues

congestion, cough, phlegm, hoarseness, breathlessness

digestion

heartburn, gas/flatulence, nausea

headache weight gain ormone changes

NRT (Nicotine Replacement Therapy)

NRT comes in variety of forms that used in different ways.



Nicotine Patch

- Placed on the skin to supply the small controlled amount of nicotine to the body.
- Helps reduce nicotine withdrawal symptoms and urges to smoke.
- No need to talk to health care provider before using.

- Nausea And vomiting
- Headache
- Increased blood pressure
- Acne



Nicotine Gum

- Chewed to release nicotine that gets absorbed through tissue inside the mouth.
- Helps to reduce withdrawal symptoms.
- No need to talk to a health care provider before using.

- Nausea / vomiting
- Mouth / tooth or jaw problems
- Dizziness
- Diarrhea
- Weakness
- Rash
- Contraindicated in active temporomandibular joint disease.



Nicotine Lozenge

- Looks like hard candy; placed in the mouth where it slowly dissolves, releasing nicotine.
- Helps reduce nicotine withdrawal symptoms, available over the counter.
- No need to talk to a health care provider before using.

- Increased blood pressure
- Nausea / vomiting
- Tachycardia
- Dizziness



Nicotine Inhaler

- Delivers a specific amount of nicotine to the user with each puff.
- Helps reduce nicotine withdrawal symptoms, available only from your doctor.
- Nicotine Inhaler works much more quickly than the nicotine gum.

Side effects:

- Mouth/throat irritation
 Nausea / vomiting
- ◆Cough ◆Headache ◆Rhinitis ◆Dyspepsia

Disadvantages:

It is more expensive than nicotine gum.



Nicotine Nasal spray

- Pump bottle inserted into the nose and sprayed to deliver specific amount of nicotine.
- Helps reduce nicotine withdrawal symptoms.
- The medication gets rid of the symptoms faster than any medication.

- Local irritation
- Fatigue
- Weight gain
- CNS & psychological manifestation



Summary of NRT types:

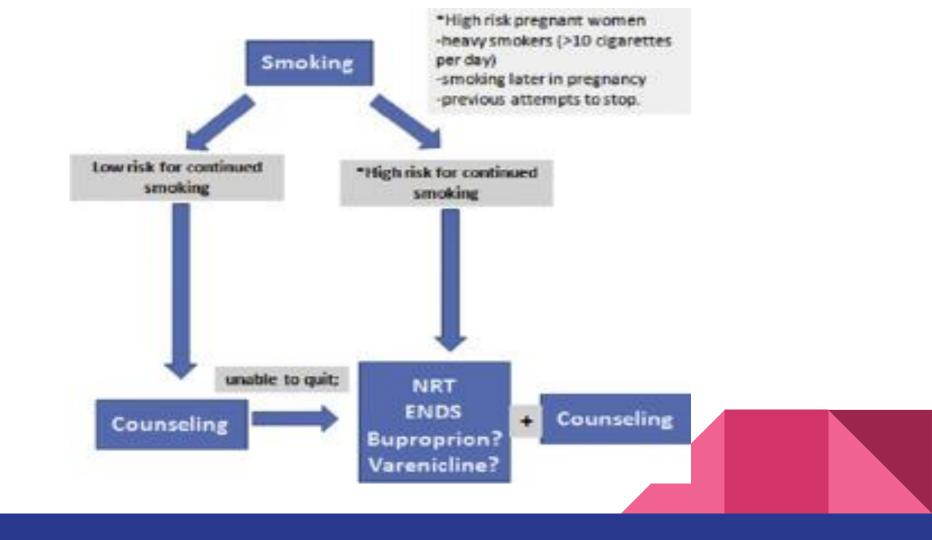
NRT Types	How to Get Them	How to Use Them
Patch	Over the Counter	Place on the skin Gives a small and steady amount of nicotine
Gum	Over the Counter	Chew to release nicotine Chew until you get a tingling feeling, then place between cheek and gums
Lozenge	Over the Counter	Place in the mouth like hard candy Releases nicotine as it slowly dissolves in the mouth
Inhaler	Prescription	Cartridge attached to a mouthpiece Inhaling through the mouthpiece gives a specific amount of nicotine
Nasal Spray	Prescription	Pump bottle containing nicotine Put into nose and spray

5- Discuss the smoking cessation **medication**, Nicotine preparations, Varenicline, Bupropion.

Smoking Cessation Medications

The severity of withdrawal symptoms that patients find distressing, and in some cases unacceptable, can be reduced by :

- nicotine replacement therapy (NRT)
- non- nicotine replacement therapy:
- Varenicline
- Buprobion



Nicotine Replacement Therapy (NRT)

NRT is available as:

- Skin patches (slowest one)
- Chewing gums
- Nasal & oral sprays
- Inhalation
- lozenges/tablets



Nicotine Patch



Nictoine Gum



Inhaler



Nasal Spray



Lozenge

Varenicline

This medication is the **first** approved nicotinic receptor **partial agonist**.

The drug competitively inhibits the ability of nicotine to bind to and activate the alpha-4 beta-2 receptor.



Varenicline

- Patients should be treated with varenicline for 12 weeks.
- Initiate regimen 1 week before quit smoking date
- Days 1-3: 0.5 mg PO qd (once daily)
- Days 4-7: 0.5 mg PO BID (twice daily)
- Day 8 to end of treatment: 1 mg PO BID
- If quitting is successful after 12 weeks, continue another 12 weeks at 1 mg
 q12hr

Varenicline

side effects:

- Neuropsychiatric Adverse Events including Suicidality
- Seizures
- Interaction with alcohol
- Cardiovascular events
- Serious skin reactions

contraindications

- pregnancy/ breast feeding.
- Age under 18.

is a norepinephrine/dopamine-reuptake inhibitor (NDRI)

most commonly for the management of Major Depressive Disorder (MDD), Seasonal Affective Disorder (SAD), and for **smoking cessation**.



Exerts its pharmacological effects by weakly inhibiting the enzymes involved in the uptake of norepinephrine and dopamine from the synaptic cleft, therefore prolonging their duration of action.

bupropion has anti-craving and anti-withdrawal effects

Bupropion should be continued for 7 to 12 weeks

Initiate bupropion therapy 1 to 2 weeks before the patient's target smoking "quit day"

150 mg PO once daily for the first 3 days

150 mg PO twice daily for the remainder of the treatment period

Common bupropion side effects may include:

- dry mouth, stuffy nose
- sleep problems (insomnia)
- tremors, sweating, feeling anxious or nervous
- confusion, agitation

contraindications:

- Epilepsy
- Alcohol / benzodiazipines user
- Active brain tumors.
- Pregnancy/breast feeding
- Age under 18

Dealing with Relapse

Most patients relapse within the first **six to 12** months of a smoking cessation attempt. If a patient relapses, the physician needs to encourage the patient to try again.

It is useful to review the treatment plan to determine what did and did not work.

Behavioral therapy (98% success rate) and support in a group setting have been shown to improve quit rates. Individual counseling can also be effective.

6- List **types** of substance abuse

1- Alcohol:

A colourless volatile flammable liquid which is produced by the natural fermentation of sugars and is the intoxicating constituent of wine, beer, spirits, and other drinks.

Side effects: Slurred speech, Drowsiness, Vomiting, Diarrhea, Upset stomach, Headaches, Breathing difficulties, Distorted vision and hearing, Impaired judgment, Decreased perception and coordination, Unconsciousness, Coma, Blackouts.

2- Central Nervous System Depressants:

Medications that slow brain activity, which makes them useful for treating anxiety and sleep problems. (Barbiturates, Benzodiazepines)

Side effects: Drowsiness, slurred speech, poor concentration, confusion, dizziness, problems with movement and memory, lowered blood pressure, slowed breathing.

3- Cocaine:

A powerfully addictive stimulant drug made from the leaves of the coca plant native to South America.

Side effects: Narrowed blood vessels, enlarged pupils, increased body temperature, headache, abdominal pain and nausea, euphoria, increased energy, insomnia, restlessness, anxiety, violent behavior, panic attacks, paranoia, psychosis, heart attack, stroke, seizure, coma.

4- Heroin:

An opioid drug made from morphine, a natural substance extracted from seed pod of opium poppy plants.

Side effects: Euphoria, dry mouth, itching, nausea, vomiting, analgesia, slowed breathing and heart rate.

5- Marijuana (Cannabis):

Made from Cannabis sativa. The main psychoactive (mind-altering) chemical in marijuana is delta-9-tetrahydrocannabinol, or THC.

Side effects: Enhanced sensory perception and euphoria followed by drowsiness/relaxation, slowed reaction time, problems with balance and coordination, increased heart rate, problems with memory, anxiety

6- Opioids:

Pain relievers with an origin similar to that of heroin. Opioids can cause euphoria and are often used nonmedically, leading to overdose deaths.

Side effects: pain relief, drowsiness, nausea, constipation, euphoria, slowed breathing, death.

7- Inhalants:

Solvents, aerosols, and gases found in household products such as spray paints, markers, glues, and cleaning fluids; also nitrites (e.g., amyl nitrite), which are prescription medications for chest pain. **Side effects:** Confusion, nausea, slurred speech, lack of coordination, euphoria, dizziness, lightheadedness, hallucinations/delusions, headaches, death from asphyxiation, suffocation, convulsions or seizures, coma, or choking.

8-Amphetamine:

Amphetamine is a central nervous system stimulant that affects chemicals in the brain and nerves that contribute to hyperactivity and impulse control. it is used to treat attention deficit hyperactivity disorder (ADHD).

Side effects: Agitation, anxiety, bladder pain, bloody urin, delusion, false sense of well-being, mental depression, etc.

7- Appreciate **Method** to approach subjects with substance abuse

Substance misuse screening

Single-question screen:

"How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?"

Substance abuse is characterized by the development of consequences from substance use, and these consequences can serve as motivators for change.

Principles and techniques derived from **motivational interviewing** can be used to manage resistance and increase readiness to change.

For patients with substance abuse, experts generally recommend advising abstinence.

Motivational interviewing

The aim of motivational interviewing is to empower and motivate individuals to take responsibility and change their substance use behavior.

Stage 1: Understanding why they need to change

Stage 2: Planning and making the changes

Stage 3: Maintaining the change

For patients who are not committed to abstinence harm reduction strategies is an appropriate alternative.

Harm reduction strategies reduce the **negative health consequences** of substance use for example:

- providing clean needles to persons who continue to inject drugs.
- Avoid driving while intoxicated.

Substance dependence is a chronic relapsing and remitting illness, Patients require chronic care approach that can include:

- Pharmacotherapy
- Referral to specialty treatment
- Mutual help meetings
- Ongoing counseling and care coordination.
- Engage family members in the treatment plan as family support is important in the recovery process.

8- Recognize Factors that lead to **substance abuse**

Factors Lead to Substance Abuse

• Environment:

- a. Peer pressure.
- b. Stress (Trauma, exposure to physical, sexual, or emotional abuse, ...)
- c. Low education level

Factors Lead to Substance Abuse

- <u>Illness</u>:
 - a. Mental health disorder.
 - b. Previous usage for medical purpose

Early use → longer time of usage → more addiction

Taking a highly addictive drug

Studies in Saudi Arabia

1- brahim Y, Hussain SM, Alnasser S, Almohandes H, Sarhandi I. Patterns and sociodemographic characteristics of substance abuse in **Al Qassim**, Saudi Arabia: A retrospective study at a psychiatric rehabilitation center. Ann Saudi Med. **2018**;38:319–25

In their study, possible risk factors for substance abuse were male sex, age of 20–40 years, availability of multiple drugs of abuse and only a high school education . while there was no association with mental health disorder .

Level of education among substance abusers.

Education level	Type of substance abused				
	Alcohol	Amphetamine	Cannabis	Polysubstance	Total
Illiterate	1 (0.2)	2 (0.3)	0	12 (2.0)	15 (2.5)
Primary school	7 (1.2)	19 (3.1)	2 (0.3)	60 (9.9)	88 (16.5)
High school	53 (8.8)	106 (17.5)	31 (5.1)	253 (41.9)	443 (64.5)
University	0	20 (3.3)	4 (0.7)	34 (5.6)	58 (9.6)

Studies in Saudi Arabia

2- Siddiqui A, Salim A. Awareness of substance use and its associated factors in young Saudi students. J Med Allied Sci [Internet] **2016**;6(2):61. Available from: http://www.scopemed.org/fulltextpdf.php?mno=217010. [Google Scholar]

Parental variables		Mean±SD	p value
Father's education	Illiterate	64.36±22.67	< 0.001
	Primary	70.39±19.38	
	Intermediate	68.71±18.54	
	Secondary	71.46±17.60	
	University	77.10±12.41	
	Postgraduate	78.01±11.59	
Mother's education	Illiterate	56.42±21.24	< 0.001
	Primary	72.61±11.05	
	Intermediate	68.31±17.26	
	Secondary	73.21±14.95	
	University	77.12±15.18	
	Postgraduate	80.36±1.93	
Father's occupation	Not working	57.21±22.30	< 0.001
	Teacher	85.55±4.15	
	Military	76.02±14.95	
	Employee	72.01±10.22	
	Business / Trading	63.70±23.86	
	Retired	72.89±18.86	
	Farmer	74.56±10.28	
	Others	74.26±21.99	
Mother's occupation	Not working	73.35±15.69	0.012
	Working	67.36±25.13	
Family income per month (SAR)	<5000	71.41±18.60	0.004
	5000-10000	72.43±17.79	
	>10000	76.03±12.58	
Residence	Rented	71.76±17.66	< 0.001
	Own	81.27±6.57	
Parental marital status	Living together	74.17±17.45	< 0.001
	Separated / Divorced	60.61±14.81	
	One / Both died	72.93±9.12	

Case:

- 55 year old male smoker known case of COPD and Diabetes.
- He reported smoking 40 cigarettes/D for 30 years.
- He had attempted to quit smoking more than 2 times
- He had tried varenicline, nicotine patch and nicotine gum. but nothing worked

1- Ask about:

- can you tell me what type are u using?
- How many cigarettes do you smoke in a day?
- for how long u ve been smoking?
- How soon after waking up do you smoke your first cigarette?
- do you use any other substance / alcohol / ..?
- do you have any medical disease?
- Past surgery ?
- Medication?
- family history?
- Other member around you do smoke? example friend

2- Ask about Quitting:

- Have you tried to quit smoking in the past?
- Can you tell me each time what happen? when, therapy used

3- Motivational:

- Why do u smoke?
- Why do you want to quit?
- From 1-10 how confirmed do you want to quit?

4- Consultation:

- Impact of smoking
- Asses Risk factors: friend, dealing with stress, new good habit, eleminate coffee to 50%
- Discussed nicotine withdrawal symptoms? how to decrease it?
- Therapy that could help him quitting? nicotine patch/ gums, varacilline,
- Dose, side effect of the therapies.
- Set quitting day
- Ask about Question / concerns
- follow up

References

- https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm
- https://tobaccoatlas.org/country/saudi-arabia/
- https://tobaccoatlas.org/topic/health-effects/
- https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/
- https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1520-037X.2007.05963.x
- https://www.aafp.org/afp/2002/0315/p1107.html#sec-3
- https://www.aafp.org/afp/2012/0315/p591.html
- https://www.who.int/tobacco/quitting/summary_data/en/
- https://www.guidelines.co.uk/smoking-cessation/nice-smoking-cessation-guideline/454141.article
- Ibrahim Y, Hussain SM, Alnasser S, Almohandes H, Sarhandi I. Patterns and sociodemographic characteristics of substance abuse in Al Qassim, Saudi Arabia: A retrospective study at a psychiatric rehabilitation center. Ann Saudi Med. 2018;38:319–25 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6180213/#b3-asm-5-319)
- Siddiqui A, Salim A. Awareness of substance use and its associated factors in young Saudi students. J Med Allied Sci [Internet] 2016;6(2):61. Available from: http://www.scopemed.org/fulltextpdf.php?mno=217010.

thank you