CVD prevention and control
Notes from the doctor
there is no slides

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Dr: For MCQ and OSCE you should know the following things :-

- CVDs risk factors.
- Level of prevention.
- How can u console the patient.

Prevalence:

- Peripheral vascular diseases are also included in CVD

- The prevalence of CVDs is high, it's number **one killer in Saudi Arabia** and in the worldwide.

- The DALY and QALY are increasing.

- We should do primary prevention to estimate the risk.

- 33.33% (one third) of adults 18-20 years are at risk of having cardiovascular disease, more risk factors no intervention has been done for them.

- They are pandemic.

- CVDs are killing more people than COVID-19.

Risk factors:

Non-modifiable:

1) **Age — is the strongest risk factor**, not most common Important : (Men>45) (female>55)
   (Estrogen is a cardioprotective that's why males are at higher risk)

2) Hereditary (family history) is the second most important factor
   Cardiovascular risk assessment case will be there in exam.

Modifiable:

3) **High blood cholesterol:** ask the patient if he has taken any medication to reduce lipid.
   - LDL = Bad cholesterol
   - HDL = Good cholesterol
4) **Smoking— is the most modifiable risk factor**:
   (atherosclerosis, vasoconstriction, hypoxia >polycythemia it causes clots)
   (don't do in detail)
   Ask the patient what type of smoke does he smokes? how many do you smoke?
   how many packs? for how long do you smoke?

5) Physical inactivity

Ask about the job then the physical activity . Is your job require u to move? Then physical activity and how many?

6) Obesity

you have yo know the table (we might give you height and weight and we want you to calculate the BMI)

Waist circumference is better than BMI
Women higher than 88 cm
Men higher than 102 cm ⎯⎯ **= Indicates abdominal obesity**

7) Diabetes — Ask about it is a risk factor despite normal BP.

8) Stress — (HTN (indirect), cortisol, sympathetic activation, how can stress cause heart disease)

Systematic effect of stress (inflammation -independent- and low immunity)
(stress ask about occupation)

Inflammatory markers:
the increase of C-reactive protein increase the risk of CVD.

9) Alcohol — Ask about it and does he use other substance.

10) Dyslipidemia (Cholesterol) — is the most important risk factor of cardiovascular risk factor in Saudi Arabia.

11) Pulse pressure — (difference between systole and diastole) : if it's high indicate high risk (in young after exercise)

- Athletes have high blood pressure why? due increase contractility (high systole) and reduced diastole due to peripheral resistance being decreased. and it's normal

- Memorise blood pressure values for American heart association.

WHO CLASSIFICATION OF WEIGHT STATUS

WEIGHT STATUS	BODY MASS INDEX (BMI), kg/m²
Underweight	<18.5
Normal range	18.5 – 24.9
Overweight	25.0 – 29.9
Obese	≥ 30
Obese class I	30.0 – 34.9
Obese class II	35.0 – 39.9
Obese class III	≥ 40

Blood Pressure Categories

American Heart Association.

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120-129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130-139	or	80-89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

heart.org/bplevels

Prevention:

- In KSA a new population health program 5*5 (targeting most common chronic diseases to reduce cost)
1) Hypertension
2) Coronary heart disease
3) Diabetes
4) Tobacco use
5) Obesity

- **Primary prevention:**

   **(Prevent biological processes by targeting susceptible individual)
   estimation of cardiovascular risk disease 10 year risk of developing CVD
   Example : Smoker but has no complication yet**

- **Secondary prevention:**

   (Screening) I'm screening for cardiovascular risk.

- **Tertiary prevention:**
   **(we target better quality of life) for those who already have disease
   Example : Patient with MI.**

- Estimating risk of cardiovascular disease — Primary prevention
   The risk is a range between 5-20
   If 5% he is low risk
   Borderline(5-7.5%)
   Intermediate risk (7.5=> 20)
   High risk above 20

   Case: 63 y.o male hypertensive on medication non-diabetic, non-smoker Calculated risk more than 7.5. **What is the estimated risk?**
   Answer: High risk
   most important risk in this case ? Answer: Age

- The blood pressure increases in the morning (no need to increase the dose) you can detect this by ambulatory blood pressure to make sure it's a physiological variation it return to normal in 30 min.

Management:

-The management depend upon the estimated risk factor
Less than %10 -> Non-pharmacological
More than %10 -> Medications

-Hypertension -> stage one and risk more than 10% -> start medication

-**Statins:**
more than 10% -> give him
less than 10% -> clinical judgment

-**Aspirin:**
40-59 y.o -> give him aspirin
60 and above -> Bleeding assessment

Recommendation The USPSTF recommends that clinicians prescribe a statin for the primary prevention of CVD for adults aged 40 to 75 years who have 1 or more CVD risk factors (ie, dyslipidemia,

12/8/22, 11:31 AM   Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: US Preventive Services Task Force Recommend...

diabetes, hypertension, or smoking) and an estimated 10-year CVD risk of 10% or greater. (B recommendation) The USPSTF recommends that clinicians selectively offer a statin for the primary prevention of CVD for adults aged 40 to 75 years who have 1 or more of these CVD risk factors and an estimated 10-year CVD risk of 7.5% to less than 10%. The likelihood of benefit is smaller in this group than in persons with a 10-year risk of 10% or greater. (C recommendation) The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of initiating a statin for the primary prevention of CVD events and mortality in adults 76 years or older. (I statement)

Summary of Recommendations

Adults aged 40 to 59 years with a 10% or greater 10-year cardiovascular disease (CVD) risk	The decision to initiate low-dose aspirin use for the primary prevention of CVD in adults aged 40 to 59 years who have a 10% or greater 10-year CVD risk should be an individual one. Evidence indicates that the net benefit of aspirin use in this group is small. Persons who are not at increased risk for bleeding and are willing to take low-dose aspirin daily are more likely to benefit.	C
Adults 60 years or older	The USPSTF recommends against initiating low-dose aspirin use for the primary prevention of CVD in adults 60 years or older.	D

USPSTF indicates US Preventive Services Task Force.

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