Cardiovascular (CVD) Risk Management Guidelines for Primary Health Care Providers

Dr Arundika Senaratne Consultant Community Physician Directorate of NCD



Cardiovascular Risk Management Guidelines for Primary Health Care Providers



Cardiovascular Risk Management Guidelines for Primary Health Care Providers

Objectives

- To identify the eligible population for cardiovascular risk assessment
- To take history, perform a clinical examination and do basic investigations
- To predict the 10-year cardiovascular risk
- To provide cardiovascular risk management as per the risk status
- To offer lifestyle modification
- To offer drug treatment and arrange long-term follow up

What is the 10 year CVD risk?

- It is the level of risk of a <u>fatal or non-fatal major cardiovascular event</u> (i.e. heart attack or stroke), which is expressed as <u>probability of</u> <u>developing it in 10 years</u>
- It is determined with simple risk-scoring tools and calculated as the combined effect of multiple risk factors (age, gender, smoking status, blood pressure, diabetes status, history of CVD and total cholesterol or body mass index)

Benefits of risk based approach

- Can reduce number of clinical events and premature deaths
- Identify high risk patients with no history of CVD and initiate early preventive interventions
- Useful for individuals with a history of CVD and follow up of clients
- Cost effective strategy especially in limited resource settings

Eligibility Criteria to use this guide

- 1. Category A. Age ≥ 35 years –CVD risk assessment done
- 2. Category B. Age between 20–34 years with risk factors-CVD risk assessment not done

Management of Category b is:

- Offer lifestyle modification for all
- refer to specialist for management, if single risk factors identified

Predict the 10-year cardiovascular risk

CVD risk prediction charts should **<u>not</u>** be applied to those:

- Who have established cardiovascular disease (ischemic heart diseases, stroke/TIA, peripheral vascular disease)
- With renal dysfunction
- With diabetic nephropathy

But these categories are at high risk for CVD

- Aged less than 35years
 - offer life style modification
 - management based on individual risk factors (refer to specialist)

Predict the 10-year cardiovascular risk

- Use WHO/ISH Cardiovascular Risk Prediction Chart.
- Categorize cardiovascular risk as <10%, 10% to <20%, 20% to <30%, and ≥ 30%.
- If total cholesterol testing could not be arranged use the mean value 5mmol/l (200mg/dl) for CVD risk assessment
- When applying the CVD risk assessment for ages 35-40 years use the age category 40-49 of risk prediction chart
- Communicate to the patient the benefits of minimizing the risk and what could be done to minimize the risk to <10%





10 year CVD risk (fatal and non-fatal CHD and stroke)

WHO/ISH Risk prediction charts

Figure 21. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

31





This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol can be measured. (see Table 1)

WHO/ISH Risk prediction charts for 14 WHO epidemiological sub-regions

Figure 21. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

31





This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol can be measured. (see Table 1)

WHO/ISH Risk prediction charts

Figure 21. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

31



This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol can be measured. (see Table 1)

WHO/ISH Risk prediction charts

140 120

4 5 6 7 8

Figure 21. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

31

40

4 5 6 7



A 62-year-old male a smoker no diabetes total cholesterol - 7 mmol/L BP - 150/90 mmHg

This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol can be measured. (see Table 1)

Choleste

4 5 6 7 8

(mmol/l)

4 5 6

78

WHO/ISH Risk prediction charts for 14 WHO epidemiological sub-regions

A 62-year-old male a smoker no diabetes total cholesterol - 7 mmol/L BP - 150/90 mmHg Figure 21. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.





This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol can be measured. (see Table 1)

WHO/ISH Risk prediction charts

A 62-year-old male a smoker no diabetes total cholesterol - 7 mmol/L BP - 150/90 mmHg Figure 21. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

31





This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol can be measured. (see Table 1)

WHO/ISH Risk prediction charts

Figure 21. WHO/ISH risk prediction chart for SEAR B. 10-year risk of a fatal or non-fatal cardiovascular event by gender, age, systolic blood pressure, total blood cholesterol, smoking status and presence or absence of diabetes mellitus.

31





This chart can only be used for countries of the WHO Region of South-East Asia, sub-region B, in settings where blood cholesterol can be measured. (see Table 1)

CV risk management as per the risk status

Risk <10%

<u>BP <140/<90mmHg</u>

- offer lifestyle modifications
- assess CVD risk every year

<u> BP 140 – 159/90 - 99mmHg</u>

- offer lifestyle modifications
- repeat BP measurements after3 months

<u>BP continues to be 140 – 159/90</u>

<u>- 99mmHg, despite life style</u> <u>modification</u>

- commence anti-hypertensives, long term follow up
- Review CVD risk annually

Risk 10% - <20%

<u>BP <140/<90mmHg</u>

- offer lifestyle modifications
- assess CVD risk every 6 months

<u>BP 140 - 159/90 - 99mmHg</u>

- offer lifestyle modifications
- repeat BP measurements after 3 months

<u>BP continues to be 140 - 159/90 -</u> <u>99mmHg despite life style</u> modification

- commence anti-hypertensives,
- long term follow up
- Review CVD risk every 6 months

Risk >20%

Offer lifestyle modifications

 Start Statin (atorvastatin 20 -40mg daily)

review total cholesterol after 3 months

<u>BP ≥140/≥90mmHg</u>

-commence anti-hypertensive drugs -review BP monthly and optimize drug treatment

-review CVD risk after 6 months

If risk remains ≥20 % after 6 months of optimal interventions

-refer to a specialist clinic

CVD risk prediction charts-updated in 2019



Uses more extensive, diverse and up-to-date data Helps improve the accuracy of the CVD risk estimate for each individual 2007 WHO & ISH risk chart 14 WHO epidemiological sub - regions represented

2019 WHO risk chart 21 IHME GBD*regions with more similarity in grouping of countries





* Institute for Health Metrics and Evaluation; Global Burden of Disease

2007 risk prediction chart

- Risk charts used in settings where blood cholesterol can be measured
- Risk charts used in settings where blood cholesterol cannot be measured





2019 risk prediction chart

- Laboratory-based charts
- Non-laboratory-based charts





2007 risk prediction chart Without individual cholesterol values



2019 risk prediction chart Non-laboratory based



Laboratory-based charts

- Age
- Sex
- Smoking
- Systolic blood pressure
- Presence or absence of diabetes
- Total cholesterol

Non-laboratory-based charts

- Age
- Sex
- Smoking
- Systolic blood pressure
- BMI

Laboratory-based charts

Non-laboratory-based charts

Used for treatment decisions

Used for decisions regarding **referral**

2007 risk prediction chart

		Green	<10%
		Yellow	10% to <20%
		Orange	20% to <30%
		Red	30% to <40%
		Deep Red	>40%
Low risk was < 10%			

2019 risk prediction chart

	Green	<5%
	Yellow	5% to <10%
	Orange	10% to <20%
	Red	20% to <30%
	Deep Red	>30%

Low risk is < 5% and corresponding changes in other risk levels

WHO cardiovascular disease risk laboratory-based charts Southeast Asia



Southeest Asia

WHO cardiovascular disease risk non-laboratory-based charts

Southeast Asla

Indonesia, Cambodia, Lao PDR, Sri Lanka, Maldives, Myanmar, Malaysia, Philippines, Thailand, Timor-Leste, Viet Nam, Mauritius, Seychelle





Advise the patient and family

Education-

- Explain what is CVD risk
- Complications,
- Management, follow up
- Drug compliance
- Motivation-
 - Adhere treatment
- Written instructions
 - On PMR
 - Education materials

Lifestyle modifications

- Weight control- Maintain correct BMI
 - Low calorie diet
 - Increased physical activity
- Dietary Changes Reduce salt intake Restrict sugar consumption
 - Increase fruit and vegetable intake
 - Limit fat /Trans fat intake
- Physical activity
- Tobacco cessation
- No alcohol

Thank you