Package of Essential NCD Interventions (PEN)

NCD Clinical Protocols for the Provision of Essential NCD Treatment at Primary Care Level

Ministry of Health
Vanuatu

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PROTOCOL 1:

Prevention of Heart Attacks, Strokes and Kidney Disease through Integrated Management of Diabetes and Hypertension

PROTOCOL 2

Health Education and Counseling on Healthy Behaviours

PROTOCOL 3

Management of Asthma and Chronic Obstructive Pulmonary Disease (COPD)

PROTOCOL 1:

Prevention of Heart Attacks, Strokes and Kidney Disease through Integrated Management of Diabetes and Hypertension

When could this Protocol be used?

1) For assessment and management of cardiovascular risk using hypertension, diabetes mellitus (DM) and tobacco use as entry points

2) For routine management of hypertension and DM and for screening, targeting the following categories of people:

- ✓ age > 40 years
- ✓ smokers
- ✓ waist circumference (≥ 90 cm in women; ≥100 cm in men)
- ✓ known hypertension
- ✓ known DM
- ✓ history of premature CVD in first degree relatives
- ✓ history of DM or kidney disease in first degree relatives

FIRST VISIT: Follow instructions under Action 1 to 4, step by step

Action 1: ASK about:

1.1 Diagnosed heart disease, stroke, TIA, DM, kidney disease

1.2 Angina, breathlessness on exertion and lying flat, numbness or weakness of limbs, loss of weight, increased thirst, polyuria, puffiness of face, swelling of feet, passing blood in urine

1.3 Medicines that the patient is taking

1.4 Current tobacco use (yes/no); (answer 'yes' if tobacco use during the last 12 months)

1.5 Alcohol consumption (yes/no) (if `yes`, frequency and amount)

1.6 Occupation (sedentary or active)

1.7 Engaged in more than 30 minutes of physical activity at least 5 days a week (yes/no)

1.8 Family history of premature heart disease or stroke in first degree relatives

Action 2: ASSESS (physical exam and blood and urine tests):

2.1 Measure waist circumference

2.2 Measure blood pressure, look for pitting oedema

2.3 Palpate apex beat for heaving and displacement

2.4 Auscultate heart (rhythm and murmurs)

2.5 Auscultate lungs (bilateral basal crepitations)

2.6 Examine abdomen (tender liver)

2.7 Urine ketones (in newly diagnosed DM) and protein

2.8 Total cholesterol

2.9 Fasting or random blood sugar

- diabetes= fasting blood sugar ≥ 7 mmol/l (126 mg/dl)) or random blood sugar ≥ 11 mmol/l (200 mg/dl)

Action 3: ESTIMATE cardiovascular risk (in those not referred):

3.1 Use the WHO/ISH risk charts

3.2 Use age, gender, smoking status, systolic blood pressure, DM (and plasma cholesterol if available

3.3 If age 50-59 years select age group box 50, if 60-69 years select age group box 60 etc., for people age < 40 years select age group box 40

3.4 If cholesterol assay cannot be done use the mean cholesterol level of the population or a value of 5.2 mmol/l to calculate the cardiovascular risk)

3.5 If the person is already on treatment, use pre-treatment levels of risk factors (if information is available to assess and record the pre-treatment risk. Also assess the current risk using current levels of risk factors)

3.6 Risk charts underestimate the risk in those with family history of premature vascular disease, obesity, raised triglyceride levels

Action 4: Referral criteria for all visits:

4.1 BP >200/>120 mm Hg (urgent referral); BP ≥140 or ≥ 90 mmHg in people < 40 yrs (to exclude secondary hypertension)

4.2 Known heart disease, stroke, transient ischemic attack, DM, kidney disease (for assessment, if this has not been done)

4.3 New chest pain or change in severity of angina or symptoms of transient ischemic attack or stroke

4.4 Target organ damage (e.g. angina, claudication, heaving apex, cardiac failure)

4.5 Cardiac murmurs

4.6 Raised BP ≥140/90 (in DM above 130/ 80mmHg) in spite of treatment with 2 or 3 agents

4.7 Any proteinuria

4.8 Newly diagnosed DM with urine ketones 2+ or in lean persons of <30 years

4.9 Total cholesterol >8mmol/l

4.10 DM with poor control despite maximal metformin with or without sulphonylurea

4.11 DM with severe infection and/or foot ulcers

4.12 DM with recent deterioration of vision or no eye exam in 2 years

4.13 High cardiovascular risk

If referral criteria are not present go to Action 5

Action 5: COUNSEL all cases and treat as shown below:

RISK BELOW 20%	• Counsel on diet, physical activity, smoking cessation and avoiding harmful use of alcohol • If risk < 10%, follow up in 12 months • If risk 10 - 20%, follow up every 3 months until targets are met
RISK 20 – 30%	• Counsel on diet, physical activity, smoking cessation and avoiding harmful use of alcohol • Persistent BP ≥ 140/90 mm Hg consider drugs (e.g. If under 55 years low dose of a thiazide diuretic and/or angiotensin converting enzyme inhibitor, if over 55 years calcium channel blocker and/or low dose of a thiazide diuretic, if intolerant to angiotensin converting enzyme inhibitor or for women in child bearing age consider beta blocker) • Follow-up every 3-6 months
RISK MORE THAN 30%	• Counsel on diet, physical activity, smoking cessation and avoiding harmful use of alcohol • Persistent BP ≥ 130/80 consider drugs: (e.g. If under 55 years low dose of a thiazide • diuretic and/or angiotensin converting enzyme inhibitor, if over 55 years calcium • channel blocker and/or low dose of a thiazide diuretic, if intolerant to angiotensin • converting enzyme inhibitor or for women in child bearing age consider beta blocker) • Give a statin • Follow-up every 3 months, if there is no reduction in cardiovascular risk after six • months of follow up refer to next level

Consider drug treatment for the following categories

1) All patients with established DM and cardiovascular disease (coronary heart disease, myocardial infarction, transient ischaemic attacks, cerebrovascular disease or peripheral vascular disease), renal disease. If stable, should continue the treatment already prescribed and be considered as with risk >30%
2) People with albuminuria, retinopathy, left ventricular hypertrophy
3) All individuals with persistent raised BP ≥ 160/100 mmHg; antihypertensive treatment
4) All individuals with total cholesterol at or above 8 mmol/l (320 mg/dl); lifestyle advice and statins

(Test serum creatinine and potassium before prescribing an angiotensin converting enzyme inhibitors)

Additional actions for individuals with Diabetes Mellitus:

1) Give an antihypertensive for those with BP ≥ 130/80 mmHg
2) Give a statin to all with type 2 DM aged ≥ 40 years
3) Give Metformin for type 2 DM if not controlled by diet only (FBS>7mmol/l), and if there is no renal insufficiency, liver disease or hypoxia.
4) Titrate metformin to target glucose value
5) Give a sulfonylurea to patients who have contraindications to metformin or if metformin does not improve glycaemic control.
6) Give advice on foot hygiene, nail cutting, treatment of calluses, appropriate footwear and assess feet at risk of ulcers using simple methods (inspection, pin-prick sensation)
7) Angiotensin converting enzyme inhibitors and/or low-dose thiazides are recommended as first-line treatment of hypertension. Beta blockers are not recommended for initial management but can be used if thiazides or angiotensin converting enzyme inhibitors are contraindicated.
8) Follow up every 3 months

Advice to patients and family

- Avoid table salt and reduce salty foods such as pickles, salty fish, fast food, processed food, canned food and stock cubes
- Have your blood glucose level, blood pressure and urine checked regularly

Advice specific for DM

1) Advise overweight patients to reduce weight by reducing their food intake.
2) Advise all patients to give preference to low glycaemic-index foods (e.g.beans, lentils, oats and unsweetened fruit) as the source of carbohydrates in their diet
3) If you are on any DM medication that may cause your blood glucose to go down too low carry sugar or sweets with you
4) If you have DM, eyes should be screened for eye disease (diabetic retinopathy) by an ophthalmologist at the time of diagnosis and every two years thereafter, or as recommended by the ophthalmologist
5) Avoid walking barefoot or without socks
6) Wash feet in lukewarm water and dry well especially between the toes
7) Do not cut calluses or corns, and do not use chemical agents on them
8) Look at your feet every day and if you see a problem or an injury, go to your health worker

2ND OR REPEAT VISIT

Ask about: new symptoms, adherence to advise on tobacco and alcohol use, physical activity, healthy diet, medications etc

Action 2 Assess (Physical exam)

Action 3 Estimate cardiovascular risk

Action 4 Refer if necessary

Action 5 Counsel all and treat as shown in protocol

PROTOCOL 2

Health Education and Counseling on Healthy Behaviours (to be applied to all cases)

Educate your patient to:

- Take regular physical activity
- Eat a "heart healthy" diet
- Stop tobacco and avoid harmful use of alcohol
- Attend regular medical follow-up

Take regular physical activity	Progressively increase physical activity to moderate levels (such as brisk walking); at least 30 minutes per day, 5 days a week; Control body weight and avoid overweight by reducing high calorie food and taking adequate physical activity
Stop Tobacco and avoid harmful use of alcohol	1) Encourage all non-smokers not to start smoking 2) Strongly advise all smokers to stop smoking and support them in their efforts 3) Individuals who use other forms of tobacco should be advised to quit 4) Alcohol abstinence should be reinforced. 5) People should not be advised to start taking alcohol for health reasons 6) Advise patients not to use alcohol when additional risks are present, such as: • driving or operating machinery • pregnant or breast feeding • taking medications that interact with alcohol • having medical conditions made worse by alcohol • having difficulties in controlling drinking
Eat a healthy diet	**Salt (sodium chloride)** • Restrict to less than 5 grams (1 teaspoon) per day • Reduce salt when cooking, limit processed and fast foods **Fruits and vegetables** • 5 servings (400-500 grams) of fruits and vegetable/day • 1 serving is equivalent to 1 orange, apple, mango, banana • 1 serving is equivalent to 3 tablespoons of cooked vegetables

	Fatty food • Limit fatty meat, dairy fat and cooking oil (less than 2 tablespoons/d) • Replace palm and coconut oil with olive, soya, corn, or sunflower oil • Replace other meat with chicken (without skin) **Fish** Eat fish at least 3 times/wk, preferably oily fish such as tuna, mackerel, salmon
Adherence to treatment	• If the patient is prescribed a medicine/s: ➢ teach the patient how to take it at home: ➢ explain the difference between medicines for long-term control (e.g. blood pressure) and medicines for quick relief (e.g. for wheezing) ➢ tell the patient the reason for prescribing the medicine/s • Show the patient the appropriate dose • Explain how many times a day to take the medicine • Label and package the tablets • Check the patient's understanding before the patient leaves the health centre Explain the importance of: ➢ keeping an adequate supply of the medications ➢ the need to take the medicines regularly as advised even if there are no symptoms