



A Non-Drug Programme for the Prevention and Management of Common Chronic Conditions

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Tough on crime and tough on the causes of crime*

This applies also to the prevention and
management of common chronic conditions

Remove, reduce or redress not only
the risk factors but also their causes

Address the chain of causality

Avoid victim-bashing

* UK labour party slogan 1997

Common chronic conditions the crimes

Most can be prevented by non-drug measures
In many control can be promoted by these measures

- ▶ metabolic syndrome and associated conditions
- ▶ other diet-related diseases
- ▶ cancers not related to diet*
- ▶ asthma and COLD [chronic obstructive lung disease]
- ▶ diseases related to alcohol and drug abuse**
- ▶ post-traumatic epilepsy
- ▶ HIV/AIDS and TB

• lung, Kaposi's sarcoma; ** foetal alcohol syndrome, alcoholic fatty liver, pancreatitis, peripheral neuritis, toxic psychosis, ...

Main components of the metabolic syndrome

- ▶ abdominal obesity
- ▶ hypertension
- ▶ insulin resistance and glucose intolerance - pre-diabetes
- ▶ non-insulin dependent diabetes mellitus - type 2 diabetes
- ▶ dyslipidaemia - abnormal cholesterol profile:
 - high triglycerides, low HDL and high LDL cholesterol
- ▶ atherosclerosis and hypercoagulable state
- ▶ vascular endothelial abnormalities
- ▶ oxidative cell damage
- ▶ NASH - non-alcoholic fatty hepatitis

Some associated conditions & complications

stroke, heart failure, coronary artery disease, impaired vision, renal function and immune function, large and small artery disease, liver failure

Other diet-related conditions

many linked to the metabolic syndrome

- ▶ acne
- ▶ allergies*
- ▶ Alzheimer's disease
- ▶ cancers*
- ▶ constipation
- ▶ deficiency diseases
- ▶ dental caries
- ▶ depression
- ▶ dyspepsia & GERD
- ▶ gall-bladder disease
- ▶ gout
- ▶ haemorrhoids
- ▶ immune deficiency
- ▶ infertility
- ▶ malabsorption syndromes
- ▶ OSA [obstructive sleep apnoea]
- ▶ osteo-arthritis
- ▶ osteoporosis
- ▶ Parkinsonism
- ▶ PCOS [polycystic ovarian syndrome]
- ▶ sexual dysfunction
- ▶ varicose veins
- ▶ vision impairment*

and stunted mental and physical growth and development

* allergies: skin, GIT; cancer: breast, colon, liver, oesophagus, prostate; vision impairment: cataracts, macular degeneration, diabetic and hypertensive retinopathy

Common chronic conditions have interacting causes in common

- ▶ wrong diet and eating pattern
- ▶ other bad habits
- ▶ physical stress
- ▶ socio-economic and personal stress

Remove or reduce the causes to prevent, control, and perhaps cure conditions

Prevent and control or cure one -
prevent, control or cure ALL [almost]

Wrong eating pattern

- ▶ 1 or 2 large meals per day
- ▶ high calorie intake [more than needed]
- ▶ low intake of starches* and legumes
- ▶ low vegetable intake; high fruit intake
- ▶ high intake of sugary & salty packaged food
- ▶ high meat and fat intake
- ▶ liberal use of sugars and salt
- ▶ deep frying, roasting, and charring food

* as in bread, pasta, couscous, rice, maize, oats, sorghum, barley, millet, potato, yams, other tubers, plantain, ...

Other bad habits

- ▶ using tobacco - all forms
- ▶ alcohol abuse [> 2 drinks/day, binging]
- ▶ street and prescription drug abuse
- ▶ little regular physical activity
- ▶ dependence on motor vehicles, lifts & remotes
- ▶ TV couch potato and computer junky
- ▶ unprotected casual sex, multi-timing
- ▶ not enough sleep [< 6 hours], little rest
- ▶ social isolation and aggression

Prescription drug abuse

- ▶ sympathicomimetics*
- ▶ pain-killers, NSAIDs, COXIBs
- ▶ codein and other morphine analogues
- ▶ barbiturates and benzo-diazepines
- ▶ anabolic steroids
- ▶ high dose diuretics and β -blockers
- ▶ medicines containing XS sodium
- ▶ methylphenidate [ritalin]

Regular chronic high usage may result in HT, DM, MI, liver and kidney disease, addiction, ... Acute dosage affects mental function.

* such as amphetamine and ephedrine found in flu remedies and appetite suppressors

Physical stress

- ▶ exhaustion - not enough undisturbed sleep
- ▶ hunger - insufficient calorie intake
- ▶ poor nutrition - inappropriate nutrient intake
- ▶ long working and commuting hours
- ▶ heavy work-load
- ▶ air pollution - indoor and outdoor
- ▶ physical pain - musculo-skeletal, *GIT*, ...
- ▶ repeated acute and chronic infections
- ▶ other episodes of disease, physical disability

Socio-economic and personal stress

- ▶ poverty and unemployment
- ▶ dysfunctional family life
- ▶ stressful working conditions
- ▶ powerlessness and lack of control
- ▶ homelessness or inadequate housing
- ▶ dangerous and tiring commuting
- ▶ poor education and lack of skills

HIV/AIDS - additional risk factors and their causes

- ▶ promiscuity
- ▶ unprotected sex
- ▶ criminalisation of sex work
- ▶ sugar daddies
- ▶ male dominance
- ▶ rape as a means of control
- ▶ pre-marital sex
- ▶ poor or no medical supervision of sex workers
- ▶ poor medical contact tracing
- ▶ repeated ST infections
- ▶ shame and secrecy
- ▶ stigmatisation
- ▶ peer pressure
- ▶ urban migration
- ▶ child-headed households
- ▶ long-distance road haulage
- ▶ vulnerable women & children
- ▶ myths re virgin cure
- ▶ cost of weddings
- ▶ difficulties in accessing water, fuel, and latrines
- ▶ break-down of families
- ▶ single sex hostels
- ▶ female unemployment
- ▶ rape as a weapon of war

Beware of current misperceptions:
Thin people have AIDS. Fat people are healthy.

Chain of causality

Prevailing turbo-consumerist ethos in a greedy individualistic market-driven economy

- ▶ rural impoverishment and urban migration
- ▶ agri-business and the food & biofuel industries
- ▶ aggressive advertising & manipulated behaviour
- ▶ destruction of traditional cuisines and customs
- ▶ high cost of staples; low cost of junk food
- ▶ commodification and casualisation of sex
- ▶ inadequate sewage and waste disposal
- ▶ shortage of potable water & poor sanitation
- ▶ road haulage, heavy road traffic, and MVAs
- ▶ air and noise pollution, climate change
- ▶ wars, communal and domestic violence

Traditional cuisine

= core carbohydrate + flavour fringe/side-dish

“People subsist on some principal complex carbohydrate, usually a grain or root crop around which their lives are built. ... Its character, names, distinctive tastes and textures, the difficulties associated with its cultivation, its history, mythical or not, are projected on the human affairs of a people who consider what they eat to be the basic food, to be the definition of food.”

“As recently as a century ago, the combination diet of a single starch supplemented by a variety of other foods and the constant possibility of widespread hunger – sometimes famine – would have characterised something like 85% of the world’s population. Today [1985], this picture still applies in much of Asia, Africa, and Latin America.”

By the 21st century in most countries, while hunger and famine persist, “the proportion of the carbohydrate core [has been] reduced to where it provides ... only half of the caloric intake instead of 75 or 90% [and] the whole architecture of the meal has changed.”

The destruction of local food cultures

“The diversity of soils, climates, and plants has contributed to a diversity of food cultures throughout the world. The maize-based systems of Central America, the rice-based Asian systems, ... and the millet-based foods of Africa are not just a part of agriculture; they are central to cultural diversity. Food security is not just having access to adequate food. It is also having access to culturally appropriate food. ... I have watched Asians feel totally deprived on bread, potato and meat diets ...”

“The story of how the soybean replaced mustard in India within a few months of open imports is a story being repeated with different food crops and cultures across the world as subsidised exports from industrialised countries are dumped on agricultural societies, destroying livelihoods, biodiversity and cultural diversity of food. ... The expansion of global markets is ... extinguishing local economies and cultures.”

What is to be done

"[For] interventions to have a lasting effect on the risk factor prevalence and health of societies, it is ... essential to change or modify the environment in which these diseases develop."*

Interventions at a personal level complement macro intervention but are difficult and at times impossible to implement in a wrong environment.

Shared awareness of the determinants of health and disease could empower medical workers, patients, and civil society to act together at a personal and community level to bring about change.

Who wins and why

Many diseases can be prevented,
but if not prevented:

the degree of reversion to an
approximate disease-free normality or
to a less diseased state depends on the

- ▶ age of the person
- ▶ stage of the disease
- ▶ timing and extent of the interventions

Recommended strategies for clinical care providers

To be incorporated into routine care

No missed opportunities

- ▶ assess: health/disease status and habits
presence and extent of risk factors
- ▶ intervene: advise, motivate, and negotiate
- ▶ follow-up: monitor, support, and re-enforce
- ▶ refer prn: laterally and vertically

With continuity of care in a family practice

How to help patients eat well

- ▶ take a diet and eating history
- ▶ outline the components of a good diet
- ▶ negotiate and personalise recommendations
- ▶ supply written material x prn
- ▶ monitor change and discuss difficulties
- ▶ provide support and reinforce advice
- ▶ encourage patients to share their knowledge with family, friends, and colleagues
- ▶ refer for professional assistance x prn

For all patients irrespective of risk

General dietary considerations

Mostly plants, not too much - nothing that your [great] grand-mother would not recognise as food*

- ▶ varied - to supplement and complement
- ▶ balanced between food groups - a little bit of each
- ▶ balanced within each meal or snack
- ▶ adequate to meet need - age, weight, activity, state**
- ▶ enough - not too little nor too much
- ▶ culturally acceptable and feasible
- ▶ in season, local, available, accessible, affordable
- ▶ correctly prepared, tasty, fresh, clean, edible
- ▶ unsalted or only minimally salted, unsweetened
- ▶ suitable for the whole family and all disease states

* Michael Pollan; ** pregnancy, convalescence, bed-ridden, frail elderly, adventurous adolescence, acute disease or distress, ...

Match energy requirements to body build and activity

body build level of physical inactivity*

	0	1	2	3	4
very obese	30	25	20	17.5	15
overweight	35	30	25	20	17.5
normal	40	35	30	25	20
thin	45	40	35	30	25

calories/kg IBM per day

* physical inactivity code: 0 = not inactive or very active, 4 = very inactive or not active at all; 1 – 3 between 0 and 4

General dietary recommendations

Eat a mixed diet of various starches, legumes, vegetables and fat-free dairy products

- ▶ starch as in maize, wheat, rye, rice, barley, oats, sorghum, potatoes, yams and legumes to form the core of each meal and snack
- ▶ protein to be obtained from legumes and fat-free dairy products
- ▶ fibre to be obtained from vegetables, grains, legumes & whole fruit*
- ▶ add a small amount of oil to each meal
- ▶ use eggs, meat and fish as a treat

anti-oxidants, vitamins, and minerals are biologically available from whole and natural food, not usually available when artificially added to packaged food and not present at all in sugars

Drink at least 3 glasses of water** daily

* vegetables include potato; all grains - whole, crushed, or refined [resistant starch in refined grain is a soluble fibre]; whole fruit not fruit juice; ** or tea & coffee

An eating programme for all ages

▶ nibble, don't gorge

=/> 5 small* meals or snacks per day; not =/< 3 interval between eating to be < 4 hours
if hungry eat again later rather than more now

▶ more for breakfast and less for supper

more calories before work or exercise
and less before rest or sleep

▶ make each meal or snack an occasion

sit down formally with family, friends, or colleagues
in pleasant, quiet, and un-polluted surroundings,
eat slowly, chew thoroughly, and enjoy

* size refers to calorie content - not to food mass or volume

What not to eat or drink

It is necessary to know that it is wrong to eat the following - except very occasionally

- ▶ empty calories such as sugars [sucrose, fructose, ...]
- ▶ food to which a sugar has been added
- ▶ foods to which sodium has been added
- ▶ food high in saturated fat as in animal products*
- ▶ food containing hydrogenated and trans fats

Check the labels of packaged food for salt, sugars, and fats

* Infants and very young children excluded; their saturated fat intake should not be reduced

Food with an added sugar

[sucrose, glucose, fructose*, dextrose, sorbitol, xylitol, ...]

- ▶ jam, honey, syrup, sweets
- ▶ pudding, ice-cream, stewed and glazed fruit
- ▶ cakes, biscuits, cookies, muffins, buns, crackers
- ▶ colas, other cold-drinks, most fruit juices
- ▶ chocolate and tonic drinks, instant mixed coffees
- ▶ sweetened condensed milk, shop magewu
- ▶ other sweetened and flavoured milk products
- ▶ most precooked breakfast cereals

* Fructose does not promote satiety. It increases triglyceride, uric acid, and blood pressure levels as well as the risk for metabolic syndrome, other age-related chronic diseases and NASH. Free fructose causes oxidative cell damage. It is bound to glucose in sucrose [table sugar] but is free in solution. It is free in HFCS [high fructose corn syrup] used in very many packaged food products. Apple juice which contains a lot of free fructose is added to most fruit juices.

Food high in sodium

[usually sodium chloride - table salt]

- ▶ shop bread, breakfast cereals
- ▶ salty snacks, crisps, pickles
- ▶ commercially blended spices
- ▶ spreads, sauces, chutneys, atchas
- ▶ most cheeses and mayonnaise
- ▶ bacon, sausages, polony
- ▶ other smoked meats and smoked fish
- ▶ dehydrated soups and most tinned foods

Food containing a lot of saturated, hydrogenated, or trans fats

- ▶ cream, butter, ghee, egg yolk
- ▶ full-cream and low-fat [2%] milk & milk products
- ▶ lard, suet, beef and mutton fat, schmaltz
- ▶ boiled, roasted or fried meat
- ▶ all margarines and some vegetable oils*
- ▶ non-dairy creamers and milk blends
- ▶ most industrially processed and packaged foods

It is necessary to check the labels on all packaged food.

Trans fats or trans fatty acids are also called partially hydrogenated oil.

Hydrogenated fats are artificially saturated fats.

* coconut, palm kernel and palm oil

Items for a food check list

- ▶ number of meals/day
- ▶ number of times vegetables eaten per day
- ▶ number of times dried legumes eaten per week
- ▶ number of times meat eaten per week
- ▶ type of dairy products usually used [full-cream, low-fat, fat-free]
- ▶ type of fat/oil usually used [butter, margarine, lard, vegetable oil]
- ▶ number of times fruit eaten per day
- ▶ number of fruit juices and cold-drinks drunk per day
- ▶ number of cookies, biscuits, pastries, & slices of cake eaten per week
- ▶ number of packaged and fast foods & take-aways eaten per week
- ▶ number of teaspoons of sugar used per cup of tea & coffee - per day
- ▶ amount of salt added in cooking and at the table [use a 5-point scale]

To be customised per patient and completed at every visit

Tobacco use and alcohol abuse*

How to prevent your patients from starting

- ▶ be a good role model
- ▶ build self-confidence to resist peer pressure
- ▶ encourage recreational and cultural pursuits
- ▶ remove tobacco adverts from waiting areas
- ▶ display supportive material and posters
- ▶ encourage parents, teachers, significant others, and "celebrities" to set a good example

* adults >2 units/day, children any amount, binge drinking

How to help your patients stop using tobacco or abusing alcohol

- ▶ take a detailed tobacco and alcohol history
- ▶ inform patients why they personally should stop
- ▶ discuss with them how to stop
- ▶ supply them with written material x prn
- ▶ monitor change and reinforce messages
- ▶ provide support to reduce [before and after] stress
- ▶ enlist the help of family, friends, and colleagues
- ▶ refer for professional assistance x prn
- ▶ prescribe medication x prn [anti-craving, aversion, substitute]

Useful self-help material for empowerment*

- ▶ testimonials of successful quitting
- ▶ effects of tobacco use and alcohol abuse
- ▶ methods, guidelines, and tips on how to stop
- ▶ clear details on where to find help
- ▶ contract/commitment forms

* accessible to patients in waiting area/s and for taking away

Everybody can and should be physically active all their lives

no need to attend a gym, to jog, or lift weights
no need to "work up sweat" - also not sustainable
low levels of regular routine activity are beneficial

Encourage work-related physical activity +

- ▶ walking to and from work & shops and up and down stairs
- ▶ cleaning the house, gardening, mowing the lawn
- ▶ walking and cycling as recreation
- ▶ dancing, racquet sports and playing ball with the family
- ▶ in-door callisthenics and physical jerks

Limit recreation time with TVs and computers

But the majority of people in Southern Africa and the world

are physically very active through necessity because they do not have water and fuel in their homes, do not have cars or access to good public transport, and often hold physically demanding jobs

Essential amenities and labour-saving devices and appliances must be secured but when obtained, a high level of physical activity should be maintained

Strategies to increase physical activity

- ▶ take a detailed history
- ▶ negotiate a personal programme
- ▶ supply written material on why and how
- ▶ monitor compliance
- ▶ encourage and compliment
- ▶ reinforce and motivate
- ▶ refer to social group activity programmes

How to reduce the need for iatrogenic medicines*

Teach patients how to prevent and how to treat without drugs when appropriate:

- ▶ obesity
- ▶ musculo-skeletal distress syndromes [MSDS]
- ▶ urinary tract infections
- ▶ upper respiratory tract infections
- ▶ skin infections
- ▶ dyspepsia

Prescribe safer alternative medicine x prn
If none available, use lowest effective dose

* those that could raise BP, cause bronchospasm, DM, renal dysfunction, liver failure, drug resistance, addiction, ...

Strategies to reduce the need for or dose of medicine when ill

- ▶ obesity - diet as recommended here
- ▶ MSDS - rest, straighten, stretch, and strengthen muscles around affected joints
- ▶ UTI - fluids ++, keep genitalia clean & dry
- ▶ URTI - rest, steam inhalation, fluids ++
- ▶ skin infections - keep clean, apply heat
- ▶ dyspepsia - diet as recommended here, especially small, frequent meals/snacks

* MSDS = musculo-skeletal distress syndrome

Strategies to reduce stress

Enquire about stress

- ask and listen -

Assure patients that compliance with the other strategies would help them cope better with stress
Advise and refer as appropriate

A short message

- ▶ enjoy small, frequent meals and snacks
- ▶ eat mainly starches, legumes, and vegetables
- ▶ use meat and fish as a flavour, garnish, or treat
- ▶ use little or no sugar, salt, fat, and "junk" foods
- ▶ drink at least 3 glasses of water each day
- ▶ avoid tobacco in all forms and shapes
- ▶ drink < 3 alcohol drinks/day - with meals
- ▶ walk whenever and wherever possible
- ▶ stretch, straighten, and strengthen body
- ▶ set limits and good examples for children

Spin-offs from all this

for the care provider:

- ▶ lower disease load/patient, fewer patient visits
- ▶ higher cure and control rates
- ▶ satisfied, loyal patients

for the patient:

- ▶ better disease control with fewer complications
- ▶ less frequent clinic visits and fewer drugs
- ▶ lower medical, transport, and other costs
- ▶ physical fitness and restful sleep
- ▶ self-confidence, self-respect, self-control

for society:

- ▶ ecological sustainability and survival

No man is an island

These recommendations apply to everybody and should be accepted as norms by society
Everybody should be encouraged to adopt the package for life and to share it with others

[young and old, fat and thin, sick and healthy]

Note that:

- ▶ the whole is more than the sum of its parts
- ▶ benefits accrue over time
- ▶ implementing only part of the package some of the time also helps

People must have the knowledge and the resources to make healthy choices