

# Ask Dr Cath

## HEALTH AND SOCIAL BEHAVIOUR

### Nutritional Surveillance

- Diabetes prevalence survey
- National Diet and Nutritional Survey (NDNS) – shows trends of diet and nutrition; ~2000 people; each survey does a different age group; cycle repeated every 12 years
- Child health record BMI up to 4/5 years. In 2006, they started recording year 6 (10-11) and reception year (age 4/5).
- Avon Longitudinal Study of Parents and children (longitudinal record of obesity; includes emotional status, health etc.
- Health Survey for England

In the Western world, the focus is on balance of nutrients in the diet. Studies of diet as risk factor in chronic diseases are difficult to carry out. Conclusions about causation must be drawn with great caution (e.g. suggestion that dietary fibre may reduce risk of occurrence of cancer of the large bowel).

### Principles of Nutrition

- Healthy Eating – so ‘five a day’, starchy foods, cut down on salt, fat, sugar and alcohol; increase fibre, low fat dairy products and watch proportion size.
- Based on the ‘The Balance of Good Health’ – UK doesn’t use the food pyramid.
  - ‘The Balance of Good Health’ is a pictorial representation of the recommended balance of foods in the diet. Food groups are pictured on a plate with the largest proportion being starchy foods – bread, potatoes and other cereals; fruit and vegetables; milk and dairy; meat & fish; foods with fat and/or sugar.

### Malnutrition

Can be over or under

In UK, largely ‘over’

Under nutrition – (in UK caused by severe physical illness or psychological illness)

- Vitamin C deficiencies (problems with wound healing, protein, zinc)
- Iron deficiency (fatigue, educational performance, anaemia)
- Calcium and Vitamin D deficiency (rickets)
- B Vitamin deficiency (release of energy from cells)
- Deficiency of B12 (nerves and function) only found in animal products
- Deficiency of Folic acid (pregnant women up to 1<sup>st</sup> 12 weeks for the formation of the neural tube (if not, could get spinal bifida). If you don’t have enough, you can increase risk of coronary heart disease.
- Vitamin A deficiency (eyesight and mucous membranes)

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- If not eating enough, you lose weight, your immunity is suppressed.
- Pregnancy – body changes when pregnant, also you can absorb more calcium and iron.
- Malnutrition is linked to dental cavities – affects people predominately in the first 25 years of life. 3 factors: 1. infection; 2. substrate (sugar); 3. resistance of teeth (fluoridated drinking water increase enamel resistance)

## Markers of Nutritional Status

- Biochemistry

Biochemistry results to see if vitamin and mineral levels in blood are normal. Come with reference ranges. Renal problems – would ask for blood and urea creatinine. For diabetes, would ask for blood sugar levels.

- Visual markers

Use common sense visuals

MUST Tool (malnutrition universal screening tool)

BMI, any weight loss that was unintended, add a disease effect score = score (0 = no risk; 1 = medium risk; 2=risk of malnutrition)

NICE guidance on nutrition (included in MUST tools in the population)

- Anthropometric measurements

Weighing scales (beam or lever)

Skinfold thickness

Arm circumference, BMI

- Assessing food intake

Dietary history (typical day)

24 hour recall

Food diary

Food questionnaire

## Basis for nutritional interventions

Evidence basis (RCTs, Outcomes, needs assessment)

Simplicity of message (e.g. '5 a day'; easy to remember; made practical and realistic)

Food Poverty Toolkit

FACET tool (Five a day consumption evaluation tool) There's also one for children (CADET)

Advantage:

Can use to assess principles of nutrition in specific populations

Disadvantages:

1. self reported;
2. not triangulated with another source though it is a validated tool

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## **Social, behavioural and other determinants of the choice of diet**

Availability and affordability of healthy food  
Acceptability of the taste  
Awareness  
Attitudes (family; children & adolescents)

### **Barriers to Health Eating:**

1. Low income and debt
2. Poor accessibility to affordable healthy foods
3. Socio-cultural factors
4. Factors in food production and food chain
5. Development of cooking skills
6. Lack of accessibility and accurate information
7. Food labelling (can be misleading)
8. Food marketing

### **Food table**

- Foods and drinks arranged in the groups are given code numbers (broken down into what they contain e.g. vitamins)
- Tables revised as new foods are introduced
- Variability of nutrient content – British tables give a single value for each nutrient in each food (an estimated average)

### **Dietary Reference Values**

**[From Committee on Medical Aspects of Food and Nutrition Policy (COMA)]**

For nutrient intakes to have any meaning, they have to be compared against some number representing physiological requirements for each nutrient.

Can work out load needed to be in diet, absorption rate and what the optimum for health is. E.g. not all iron is absorbed; Vitamin A & K are fat soluble so get stored; Vitamin C is water-soluble so is excreted if not needed.

DRV – fat, salt, fibre, protein, carbohydrate (fat and carbohydrate based on a % of intake that forms DRV)

RNI – reference nutrition intakes; (Changed from RDA in 1991)

Used in relation to Vitamins and minerals; It is a primary, no giving of upper end of range of individual requirements. Differs for the 2 sexes by age group.

### **Guideline Daily Amount**

Target dietary intake levels for the nutrients for the average sized man and woman with average physical activity e.g. 70g of fat for women

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## Hot Topics

This year there is a campaign on reducing salt (Ready meals) and trans fats (margarine) biscuits and cakes have transfats in low levels but eat lots of them and you eat lots of transfats, act like saturated fat.

## Implementing a Food Poverty/Nutrition Strategy

1. Recognise the underlying barriers to healthy eating
2. Identify target groups and communities
3. Identify community's views or needs, barriers and opportunities
  - Community mapping (participatory needs assessment<sup>1</sup> or action research)
  - Community meetings
  - Food mapping (GIS of where shops are located)
4. Choose theoretical model
  - a. Health beliefs model
  - b. Theory of planned behaviour
  - c. Stages of change model
  - d. Food access model
5. Choose local intervention
6. Work in Partnership
7. Decide on aims and objectives
8. Develop targets and indicators (inputs, process & outcomes)
9. Evaluation
10. Dissemination

## Risk Management

Highlights risk of events undermining aims

- a. Highlight/identify risks
- b. Prioritise (score risks by potential harm and likelihood of occurrence)
- c. Manage
- d. Review and report

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<sup>1</sup> Community mapping = Participatory appraisal method. Community assesses their own needs around food and food access. Produces a map of an area illustrating local food economy.

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## PROBLEMS RELATED TO NUTRITION IN THE UK

### CHD

- Cholesterol
- People with familial increases in low density lipoprotein (LDL) cholesterol tend to have premature coronary heart disease
- Diet – cholesterol lowering; reduce salt, increase fibre, stop smoking

### Hypertension (high blood pressure)

- Multifactorial – common in urban societies
- Link between salt and hypertension
- WHO (1981) recommend 6 g max a day
- Less food = less sodium eaten

### Diabetes

- Diabetes type 1 is insulin dependent, not related to diet and occurs all over the world.
- Diabetes type 2 is non-insulin dependent, linked to obesity and common in affluent communities.
- Diabetes is a multifactorial disease. Strong familial influence, partly eating habits and body weight influenced by family behaviour. High fat intake contributes.

### Nutritional deficiencies

- Most common – iron deficiency (women 15 to 50) and vitamin d deficiency
- Vitamins have specific biochemical functions in the human body.
- Vitamin D deficiency is more prevalent in UK than other western countries.
- Tend to affect adolescents and elderly, especially Asians in northern cities.
- When people live in high latitudes, wear clothes and spend nearly all the time indoors and the sky is polluted with smoke, they have insufficient exposure to ultraviolet light to make the required amount of cholecalciferol. Dietary intake becomes critical and cholecalciferol assumes role of vitamin. Irradiation of skin may cause sunburn but not vitamin D toxicity. Margin of safety with oral vitamin D between nutrient requirements and toxic intakes is narrow. Overdose causes hypercalcaemia.

### Obesity

Linked to increased risk of CHD, diabetes and respiratory diseases.

There are social implications to being obese as well.

Mild obesity is easier to treat and prevention of gross obesity easier than cure.

Essence of treatment is to reduce food energy – i.e. eat fewer calories than is needed and tailor programme to individual.

Causes: May follow enforced inactivity, overeating, change to a less active job.

In majority, there is no obvious predisposing condition (obesity is a primary condition).

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Exercise reduces appetite, diversion from eating and when after a meal, it increase thermic effect of meal.

NHS with its annual fee for a patient is a suitable framework for dealing with obesity. No specialist for obesity, GPs can only refer to sliming clubs or dieticians).

## Advantage of General Practice:

Makes it easy to set up the conditions for managing obesity.

- Regular visits (at least once a fortnight)
- Weighing patient under the same conditions on the same scale
- About 15 minutes talk with the same practitioner each visit (and can bring a partner)

## **Alcohol**

Recommended 2-3 units a day for women; 3-4 units a day for men.

19 to 24 year olds: 54% of males and 50% of females exceed the limits

Short term: causes crime & accidents

Long term: cirrhosis

Long term moderate consumption of alcohol can lower risk of CHD and stroke

## **Food Poverty**

These are people who are unable to choose, buy and prepare and eat an adequate quantity of good quality foods in keeping with social norms.

Interventions: community projects, schools, workplaces, primary care.