Diet Nutrition

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Introduction

Background

Poor nutrition has contributed to the increase in levels of obesity and poses major challenges to public health. An increasing number of overweight and underweight people are living with its effects, which can lead to ill-health and premature death. Poor nutrition is a major modifiable risk factor for a range of long term conditions including diabetes, cardiovascular disease, cancer and other conditions associated to obesity (WHO, 2003).

The Department of Health (1998) estimated that one-third of cancers can be attributed to poor diet and nutrition. Further estimates suggest that if diets matched the nutritional guidelines on fruit and vegetable intake and saturated fat, added sugar and salt intake, 70,000 premature deaths could be avoided annually (Cabinet Office, 2008). Costs to the NHS associated with treating ill-health from a poor diet are estimated to be in the region of £6 billion each year (Rayner and Scarborough, 2005). In 2007, it was estimated that the public expenditure on malnutrition amounted to over £13 billion per year.

Further estimates suggest that a cost saving of 1% of the annual healthcare cost, namely £130 million per year, could be achieved through improved nutrition (BAPEN, 2012a). NICE (2011) report that improving nutritional care could provide substantial costs savings to the NHS, and identified this area as being the sixth largest potential source of cost savings.

A healthy diet is one consisting of a high intake of fruits, vegetables, legumes (eg. beans and lentils), nuts and grains and cutting down on salt, sugar and fat, particularly saturated fat (WHO, 2003). The WHO (2002) estimate that a diet low in fruit and vegetables causes 31% of ischaemic heart disease, 19% of gastrointestinal cancer and 11% of stroke. Further estimations suggest that a sufficient increase in fruit and vegetable intake could potentially save 2.7 million lives annually (WHO, 2002).
Dietary recommendations have been established by the Scientific Advisory Committee on Nutrition (SACN, 2008). Table 1 presents the key dietary recommendations for nutrition for promoting health and the prevention of nutrition-related ill-health, compared to the intake of the general population.

**Figure 1: Key dietary recommendations compared to the intake of the general population (SACN, 2008)**

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Population Group</th>
<th>Reason for recommendation</th>
<th>Intake in general population</th>
<th>Meets recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits &amp; vegetables</td>
<td>Adults</td>
<td>To reduce risk of some cancers, CVD and many other long term conditions</td>
<td>Mean 2.8 portions/day</td>
<td>No</td>
</tr>
<tr>
<td>Oily fish</td>
<td>Adults</td>
<td>To Reduce risk of CVD</td>
<td>Mean is below recommendations in all age groups of population (0.3 portion/week for adults)</td>
<td>No</td>
</tr>
<tr>
<td>Non-milk extrinsic sugars (NMES)</td>
<td>All</td>
<td>Contributes to dental caries</td>
<td>Up to 19% food energy across all population groups</td>
<td>No</td>
</tr>
<tr>
<td>Fat</td>
<td>All</td>
<td>To reduce risk of CVD and reduces energy density of diets</td>
<td>Mean intake 35% food energy</td>
<td>Yes</td>
</tr>
<tr>
<td>Saturated fat</td>
<td>All</td>
<td>To reduce risk of CVD and reduce energy density of diets</td>
<td>Mean intake 13% food energy</td>
<td>No</td>
</tr>
<tr>
<td>Non-starch polysaccharides</td>
<td>Adults</td>
<td>To improve gastro-intestinal health</td>
<td>Mean intake 15.2g/day for men; 12.6g/day for women</td>
<td>No</td>
</tr>
<tr>
<td>Alcohol</td>
<td>Mean aged 18+ years</td>
<td>To reduce risk of liver disease, CVD, cancers, injury from accidents and violence</td>
<td>60% of population exceed daily recommendation</td>
<td>No</td>
</tr>
<tr>
<td>Salt (sodium chloride)</td>
<td>Women aged 18- years</td>
<td>To reduce risk of hypertension and CVD</td>
<td>44% of population exceed daily recommendation</td>
<td>No</td>
</tr>
</tbody>
</table>

Figure 1 demonstrates that the general population do not meet key dietary recommendations, except for total fat consumption.

The current recommendations for eating a healthy and well balanced diet are illustrated pictorially in the Food Standard Agency’s eatwell plate, which aims to encourage people to consume the right balance of the different food groups in the diet (FSA, 2008).
Malnutrition

Malnutrition continues to be a major cause and consequence of ill-health worldwide and is common in the UK, affecting 3 million people in Britain (NICE, 2006; BAPEN; 2012a). There is no universal definition for malnutrition, however, it is commonly defined as a state of nutrition in which a deficiency, excess or imbalance of energy, protein, and other nutrients causes measurable adverse effects on tissue (shape, size, composition), function and clinical outcome (Elia, 2003). It is also imperative to highlight the consequences of inadequate hydration, which can also result in ill-health and poorer clinical outcomes (BAPEN, 2012a).

The term ‘malnutrition’ refers to both over-nutrition and under-nutrition. However, reference to malnutrition within this paper will focus on under-nutrition. An unbalanced diet can lead to malnutrition, a condition that older people are particularly vulnerable to. The consequences of malnourishment include increased use of primary care (GP visits), more frequent admittance to hospital and stay for a longer duration, and vulnerability to infection (NICE, 2006; BAPEN, 2012a). In addition, malnourishment can lead to admittance to long-term care or premature death. Malnourishment also has a major effect in children, on growth and development through childhood and an increased risk of health problems in adulthood (BAPEN, 2012a).

Many of the health problems experienced by older people arise as a result of dietary factors. A diet lacking in nutrients amongst older people is common due to a variety of reasons such as, a diet lacking in a variety of foods and a reduced intake of food. A further factor is the cost of foods rich in micronutrients, which may present as a barrier to their purchase and consumption. These factors are
compounded by changes due to the ageing process, such as decreased immune functioning which affect good dietary habits and health in older age. Malnutrition is prevalent across a range of care homes and in hospitals, in all types of wards and health problems, and across all ages (NICE, 2006; BAPEN, 2012a). A UK nutrition survey conducted in 2011 found that malnutrition affects approximately 1 in 4 adults on admission to hospitals, representing a reduction from 1 in 3 adults in previous surveys conducted in 2010, 2008 and 2007 (BAPEN, 2012b). The survey also found that more than 1 in 3 adults admitted to care homes (in the previous 6 months, prior to admission), and up to 1 in 5 adults on admission to Mental health Units (BAPEN, 2012b). In addition, it has been estimated that 5% of the elderly living at home are underweight and that this figure may be as high as 9% in those living with long-term conditions (BAPEN, 2012a).

Details on Maternity and Pregnancy, Childhood Obesity, Adult Obesity, Diabetes, CVD, Life Expectancy and Alcohol can be found in other sections.

Key issues and gaps

- The prevalence of obesity amongst adults aged 16 years and over in Haringey is estimated to be 20.1%. Although this is lower than the England average at 24.2%, these levels are still a concern.
- In children, in the school year 2011/12, the National Childhood Measurement Programme (NCMP) showed that 24.1% of children in reception and 38.8% in year 6 were either overweight or obese, and 11.8% and 23.8%, respectively, were obese.
- The Haringey population do not meet recommended dietary guidelines.
- Nationally, there are marked differences in fruit and vegetable consumption between socio-economic groups, with higher consumption associated with higher income. In addition, those on a low income consume more fat, meat and processed meat, fizzy drinks and pizza (FSA, 2007 – Low Income Diet and Nutrition Survey).
- There is a higher concentration of fast food outlets in the East of the borough, which may contribute towards poorer dietary practices in this part of the area. Research carried out by the School Food Trust in 2008 found that London has more fast food outlets per secondary school than any other region in England. There are 28 fast food outlets per secondary school in London, compared with a national average of 23. Inner London has 38 fast food outlets per secondary school compared with 22 in Outer London http://www.childrensfoodtrust.org.uk/news-and-events/news/junk-food-temptation
- There is limited provision of local initiatives specifically aimed at improving the dietary and nutritional practices of the local population.
- A recommendation of the Health and Well-being Strategy is to work with fast food outlets to provide healthier food choices for their customers e.g. the Healthier Catering Commitment for London programme.
- Malnutrition and inadequate hydration are key areas of concern, particularly amongst the older population and malnutrition is often under-recognised and under-treated. Local interventions are needed.
As reported by NICE (2006), there is a lack of knowledge amongst health care professionals in the area of nutrition and the causes, effects and treatment of malnutrition which needs to be addressed.

Who is at risk and why

The Scientific Advisory Committee on Nutrition (SACN) (2008) report evidence of improvements in dietary intake over the last 15 years. The intake of fat and saturated fat has fallen, in addition to the consumption of red meat, processed meat and meat-based dishes. Fruit and vegetable consumption has also increased (SACN, 2008). However, further improvements are required. There is a need to focus on improving the diet of the whole population, but with a specific focus on specific groups at most risk, namely:

- *Children aged 18 years and under*
- *People in lower socio-economic groups*
- *Young adults aged 19-24 years*
- *Adults aged 65 years and over living in institutions*
- *Smokers*

*Children and people on low incomes are particularly vulnerable.*

Low Income Population

The Low Income Diet and Nutrition Survey (FSA, 2007) revealed similar areas of concern to those identified in the general population. However, some were more marked in low income populations:

- Average consumption of fruit and vegetables was one-half of the recommended 5 portions per day.
- Intakes of non-milk extrinsic sugars (particularly among children) and saturated fatty acids were above the maximum UK recommendations.
- Intakes of non-starch polysaccharides fell below the minimum UK recommendations.
- There was evidence of inadequate nutritional status for iron, folate and vitamin D.
- A large proportion of men and women were overweight or obese.
- Consuming a poor diet in low income groups, in comparison to the general population, were accompanied by higher rates of smoking, higher alcohol intake and lower physical activity levels. These are all risk factors for long term conditions and therefore may increase the risk of diet-related ill-health within this population group.

A separate analysis of ethnic minority groups was not conducted as the sample size was not sufficient.

The level of need in the population

Following the analysis of British dietary surveys, there have been improvements in the diet of the population nationally over the past 15 years. This includes a reduction in fat and saturated fat intake, consumption of red meat, processed meat-based dishes and an increase in fruit and vegetable consumption. Similar to other areas, there is a lack of local intelligence regarding diet and nutrition. However, based on national data, groups at high risk of consuming a poor diet...
have been identified as outlined above. Mortality and morbidity associated with poor diet and nutrition, such as CVD and cancer, are higher in the east of the borough.

It is estimated that healthy eating amongst adults within Haringey is better than the England average at 38.5% and 28.7% respectively (Public Health England, 2013). However, it is important to highlight the fact that mis-reporting of food consumption within national dietary surveys is common, with under-reporting identified as a problem (SACN, 2008). This can result in low estimates of consumption of some foodstuffs, with evidence suggesting under-reporting being selective to foods high in fat and sugar, in addition to alcohol and snack foods and overall food intake (SACN, 2008).

**Current services in relation to need**

A strategic approach is being taken in Haringey to address diet and nutrition within the context of reducing the gap in life expectancy and several key priority work programmes have been identified related to diet and nutrition, namely, alcohol, cardiovascular disease and cancer prevention.

The following services are in place:-

- The Adult Obesity Care pathway provides a formalised structure for high quality, timely, standardised and equitable care.
- The Nutrition and Dietetic Service provide a service for patients who require nutrition and dietetic support who have long term conditions, for example, diabetes.
- The Health Trainer Service is a community-based service which and provides one-to-one support to people who are interested in making lifestyle changes to benefit their health in the areas of healthy eating, alcohol, smoking and physical activity. All Haringey residents can access this service, though the service is operational within the East of the borough only.
- A number of community-based weight management programmes have been commissioned for people with a BMI of =30, including those who have had an NHS Health Check. These services are accessible to people living/registered with a GP in the east of the borough and within Hornsey. In addition, a men-only community-based weight management programme has been established which is accessible to all men across the borough with a BMI =27.
- The Healthy Schools Programme in Haringey continues to promote a whole school approach to improving health including how healthy eating is included in the curriculum and the food that is provided during the school day (including before and after school clubs).
- Bariatric surgery: Treatment is offered to people with a BMI =50 or =45 with co-morbidity. However, before considering surgery, all other alternatives on the obesity care pathway (diet, physical activity and pharmacotherapy), must have been tried for a period of at least 5 months, except in exceptional circumstances (see the Adult Obesity section).
- The Nutrition and Dietetics Service provide the following services in relation to malnutrition:-
  - Domiciliary Visits for house bound patients on enteral nutritional support (ENS).
  - Assessment for possible placement of enteral feeding tubes.
• Domiciliary visits for house bound patients on oral nutritional support (ONS) – (This accounts for 10% of primary care service provision.)
• Visits to nursing homes for patients on ENS and ONS.
• Appointments for non-house bound patients with weight loss / malnutrition / ONS in primary care clinics at some GP practices, as well as centralised clinics.
• Screening and training in the use of the Malnutrition Universal Screening Tool (MUST) in Nursing Home and District Nurse bases.
• Medicines management for appropriate prescribing of oral nutritional supplements.

Service users and carers opinion

The School Health Education Unit (SHEU) Health Related Behaviour Survey was conducted in a sample of Haringey schools during 2008 and 2009. A total of 1800 pupils in 17 primary schools and 8 secondary schools took part. Pupils at the Pupil Referral Unit also undertook the exercise. A summary of the report found that for primary aged children:

• 4% had nothing to eat or drink for breakfast on the day of the survey.
• 43% of pupils had cereal for breakfast and 40% toast or bread on the morning of the survey. 6% had Turkish breakfast, 4% had a chocolate bar or sweets.
• Pupils were asked to identify, from a list, the foods which they ate ‘on most days’. 61% of pupils said they have fresh fruit and 43% said vegetables. 19% said crisps and 22% said sweets ‘on most days’.
• 28% of pupils said that they ‘rarely’ or ‘never’ ate fish or fish fingers. 14% said they ‘rarely’ or ‘never’ had salads.
• 33% of pupils had eaten 5 or more portions of fruit and vegetables on the day before the survey, 7% had eaten none.
• 67% drank between 1 and 5 cups of water on the day before the survey, 28% said they had drank a litre or more while 5% said they had drank none. 90% of pupils said they can get water at school easily.
• 31% of pupils who had school meals said that they enjoy them ‘most times’ or ‘always’ 15% said ‘hardly ever’.

For secondary aged children:

• 11% of pupils reported having nothing to eat or drink for breakfast on the day of the survey.
• 10% of pupils reported ‘never’ considering their health when choosing what to eat. 21% of pupils consider their health ‘very often’ or ‘always’.
• 11% of the pupils would like to put on weight while 29% would like to lose weight. 61% of pupils are happy with their weight as it is.
• 19% of pupils said they had no lunch on the day before the survey. 28% of pupils ate a packed lunch from home or went home for lunch, 41% had school food and 12% bought lunch from a takeaway or shop.
• 32% of pupils said they eat sweets and chocolates ‘on most days’. 25% said they ate crisps ‘on most days’.
• 46% said they eat fresh fruit and 40% vegetables ‘on most days’.
• 30% said they rarely or never ate fish.
- 18% of pupils had eaten 5 or more portions of fruit and vegetables on the day before the survey, 12% had eaten none.
- 61% of pupils said that they sit down for meals with their family ‘most days’.
- 14% said that they had take-away meals 2 or more days a week.

**Expert opinion and evidence base**


**Projected service use in 3-5 years and 5-10 years**

Over the last 15 years improvements have been observed in dietary intake (SACN, 2008), however future predictions are unavailable. The Foresight Modelling Obesities report provides predictions for obesity prevalence. It is estimated that by 2015, 36% of men and 28% of women will be obese, by 2020 these figures are predicted to rise to 41% and 31% respectively and by 2050 obesity will affect 60% and 50% of men and women respectively (Foresight, 2007).

However, it is important to note that these estimates are based on national figures, which are likely to be underestimates for Haringey as they do not take account for deprivation and ethnicity factors, which are linked to obesity. Malnutrition affects approximately 3 million people at any one time in the UK (BAPEN, 2010). With an ageing population these figures are expected to increase, which will inevitably lead to an increase in the use of services.

**Unmet needs and service gaps**

- Interventions to address malnutrition.
- Brief interventions on healthy eating with a focus on interventions for smokers.
- Training of healthcare professionals in the area of nutrition and how to recognise, prevent and treat malnutrition.
• A range of interventions including those targeting lower socio-economic groups and other risk groups and those using environmental approaches.

**Recommendations for Commissioning**

A range of culturally appropriate interventions are required, including:-

• A range of interventions to raise the profile of the importance of healthy eating, using consistent messages. These interventions should be focused on the east of the borough to prioritise those from lower socio-economic groups.

• Interventions to support fast food outlets to provide healthier choices for their customers.

• Interventions to address the provision of healthier food choices in public buildings, e.g. leisure centres, workplaces, healthy options in vending machines.

• Individuals requiring long-term nutrition support should receive training to enable them to recognise and respond to adverse changes in their well-being and in the management of their nutritional delivery system. This training should be extended to carers (NICE, 2006).

• Nutrition training for healthcare professionals, to include strategies to effectively detect, prevent and treat malnutrition.

• Regulation of planning permission for fast food outlets, e.g. in close proximity to schools.

• Implementation of the draft Haringey Food Policy and draft Hot Food Takeaway policy.


• Interventions to improve the nutrition of food served within hospitals, day centres, care homes, schools and workplaces.

• For Interventions to address excessive alcohol consumption see the Alcohol section. SACN (2008) found that 60% of men and 44% of women exceeded daily recommendations for sensible drinking on at least one of the seven reporting days.

**Recommendations for further needs assessments**

• Malnutrition in Haringey.

• Dietary and nutritional practices of the local population.

• Social marketing.

**Key contact**

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References