Healthy eating

Nutrition manual for drug and alcohol professionals

for a better life

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Nutrition for drug and alcohol users

Manual for drug and alcohol professionals

Contents

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1. Introduction

Use of your toolkit

This toolkit is aimed at workers in the substance misuse field who are involved in one-to-one and group work with drug and alcohol users. This might be in a residential, day care or drop-in setting, and could be for those working in treatment programmes employing either abstinence or harm reduction methods. The information could be equally relevant to those coming into contact with drug and alcohol users elsewhere, for example in housing, or healthcare settings.

It is important to recognise that out of all the clients you might come into contact with, those with an active long-term drug or alcohol dependency are the most likely to be malnourished. However, healthy eating messages might not be taken on board by a client who is not yet ready to make lifestyle changes and where the overriding need of this client is simply to eat – anything!

The most practical action here might be to provide them with information on how to access food, such as the address and opening times of the local 'soup kitchen'. Workers involved in soup kitchens could help support the nutritional requirements of drug and alcohol users by offering a nutritious soup, containing proteins such as meat, beans or lentils that may help against muscle wasting, rather than a salty packet soup that has no protein and is low in other nutrients. Those who work with active drug users might want to investigate programmes such as Fare Share, which redistributes food from retailers to people in need at hostels and day centres.

This toolkit is by no means exhaustive in the information it provides. It aims to introduce the subject of healthy eating to these settings, by providing reliable information, based on what evidence or best practice recommends. It is specifically geared to the needs of drug and alcohol users and focuses upon their particular health requirements and lifestyle issues. This resource should form part of the whole package of tools employed to help your clients to make changes in their lives for the better.
Changing a client's eating behaviour may share common strategies with changing their substance use behaviour. Healthy eating advice is most effective when an individual is open and willing to accept that advice. Eating behaviour can only change when a person wants to change it, and believes that they can make that change.

When you have worked through this toolkit, you will want to know more, and you may find it useful to attend one of the workshops relating to this material. Additionally, wherever funding is available, make use of a registered nutritionist or dietician to provide more in-depth advice to your clients, through a workshop or on a one-to-one basis. Nutrition professionals could also be employed by residential treatment centres to audit their current provision of catering for residents and recommend changes to make meals better, in terms of both physical and mental health for residents.

What's in your toolkit

Your toolkit comprises:

- *A series of numbered sections providing information on diet and healthy eating as a reference tool for workers. These sections provide basic general information on healthy eating, as well as more in-depth specialised information for individuals with particular health and lifestyle issues related to drug and alcohol use. The information is presented in a language easily accessible for workers to understand, and assumes only a basic knowledge of nutrition.*
- *Useful exercises at the end of sections to work through with your client to enable them to*

make practical use of this information.

- *Meal ideas and recipes – both to pass on to clients and for use by catering staff in residential treatment centres.*
- *A template diet diary, to use with clients.*
- *A leaflet to pass on to clients, with information on healthy eating.*
- *A poster, to raise awareness and initiate discussion about healthy eating.*

Since there is so much dietary information available, particularly through today's news media – much of which is unreliable, or exists only to sell a product – all information presented here is taken only from reliable sources.

Finally, a word of caution about supplements. Most healthy individuals should be able get all the nutrients they need from a varied, balanced diet. However substance misusers who are malnourished, and particularly those who have damaged livers, hepatitis C or HIV, may have an increased need for vitamins and minerals.

Within this toolkit, I have talked only about your clients taking a limited range of supplements, namely thiamin for alcohol users at risk of Wernicke-Korsakoff Syndrome, and otherwise a multivitamin and mineral supplement, fish oil supplements and probiotics.

Other supplements should be taken with caution and in consultation with a medical or nutrition professional, since some supplements may cause damage to the liver e.g Warfarin action is affected by many supplements.

If your client is taking prescribed medications, they should check with their doctor whether any supplement they are planning to take, even the ones mentioned above, could interact with their medication.

Expected outcomes

When you have worked your way through the toolkit by yourself, you should feel able to:

- *Understand the main principles and messages around healthy eating.*
- *Guide clients through the main messages of healthy eating.*
- *Explain to clients how improving their diet could benefit areas of their physical health, mood and behaviour.*
- *Identify with your client their own concerns around health, mood and behaviour, which might benefit from improvements in their diet.*
- *Assess with your client how ready and able they feel to make dietary change.*
- *With your client, look at barriers that might exist to changing their diet and how they might be overcome.*
- *With your client, look at how they could realistically make changes to improve their diet.*
- *Together with your client, monitor changes made by them to their diet and eating patterns, as well as any positive outcomes they have noticed around physical health, mood and behaviour.*

Using diet diaries

A template diet diary is included in this package, which you may choose to use as a tool with clients, asking them to fill them in over the course of seven days. It must be stressed that this should not be used as evidence for chastising clients on the quality of their diets.

There is space on the diet diary to fill in mood and behaviour changes experienced while keeping the diary. The diary might be used in the following ways:

- *Simply as an aide memoir to your client, to open up discussion about their eating.*
- *As a way for your client to estimate how many portions of particular food groups they are including in their diet; for example, fruit and vegetables, whole grains, oily fish.*
- *As a means of initiating discussion about possible effects your client might have noticed that diet and eating patterns have on their mood. For example, late night coffee might consistently be linked to sleepless nights and nighttime anxiety; missing meals might be followed by irritability and agitation.*
- *As a gauge to demonstrate changes in your client's diet, you could suggest that they fill in another one, a month after the first.*

Finally, please remember that providing dietary advice and helping change eating behaviour are only one aspect of the whole treatment process. It should complement the other elements of your treatment programme, and will not replace the other lifestyle and behaviour changes that your clients will need to make to lead lives free of dependency on drugs or alcohol.

If the average modern western diet is so damaging to people who generally consider themselves healthy, think how much worse it is on the bodies of those that have also suffered the consequences of heavy drug and alcohol use.

2. The Importance of a balanced diet

The modern western diet

From time as a foetus right through to old age, diet (or our mother's diet while in the womb) affects all aspects of our physical health. Diet also plays a major part in our mental health, starting from when our brains are first developing, and continuing to affect mood, behaviour, memory and learning throughout our lives.

The modern western diet tends to include a lot of processed food which is high in fat, sugar and salt. This is not the ideal diet that our bodies evolved to function on and as a result of this and a reduction in physical activity, we have seen increases in obesity and major non-communicable diseases such as cardio vascular disease, type 2 diabetes and some cancers that are linked to diet. The western diet is likely to have influenced increases in incidence and severity of depression, anxiety and even schizophrenia, as well as possibly playing a part in criminal and antisocial behaviour.

Overall, in modern western society the majority of us probably eat too many calories, too few fruit and vegetables, too little fibre, too much meat and saturated fat, too much salt, too much refined sugar, and drink too much alcohol. Such a diet could contribute to clogging and hardening of the arteries, raising blood pressure, laying down fat in the liver, encouraging the growth of gut bacteria that release harmful toxins, and causing damage to DNA that could lead to cancer. All this could be going on, even when outwardly no detrimental effects of diet are evident.

If the average modern western diet is so damaging to people who generally consider themselves healthy, think how much worse it is on the bodies of those that have also suffered the consequences of heavy drug and alcohol use. Section 3 to 9 will look at particular diet-related health problems encountered by drug and alcohol users.

Below are presented basic, easy to understand messages about healthy eating that you can pass on to your clients to help them eat more healthily. More detail can be found on the suggested websites in the section on Further Reading and Information. The Food Standards Agency is a particularly good source of reliable information on healthy eating.

A balanced diet

A healthy balanced diet is one that includes lots of fruit and vegetables, lots of starchy foods, moderate amounts of protein, moderate amounts of milk and dairy foods and limited amounts of fats (particularly saturated fats), salt and sugar. Such a diet should contain all the necessary vitamins and minerals, proteins, fats and carbohydrates that are needed to keep the body functioning efficiently.

The *'Balance of Good Health'* plate model (illustrated below) is a handy way of demonstrating how a healthy balanced diet should be made up.

Roughly a third of the diet should be made up of fruit and vegetables and a further third from

Source: The Food Standards Agency

starchy foods such as bread, other cereals (wheat, rye, barley, oats, rice – all ideally wholegrain) and potatoes, cassava and yam. Of the remaining third, this should be split between 'meat, fish and alternatives' (including beans, pulses, eggs, tofu, soya protein, Quorn™) which are the main sources of protein, and 'milk and dairy foods' with just a small amount of 'foods containing fat and foods containing sugar' (sweets, crisps, cakes, fizzy drinks etc). Although not depicted visually in 'The Balance of Good Health' plate, it is also important to eat less salt. This model is the easiest way to demonstrate a healthy diet and may be useful to use with your client.

Important health messages

Eating more fruit and vegetables – '5 a day'

Fruit and vegetables are essential to our diet. They provide a whole range of antioxidants, the body's natural defences, as well as other vitamins and minerals. They provide a source of fibre and slow release energy. They help protect against stroke, heart disease and some cancers. Despite this, on average we eat far too few fruit and vegetables in the UK.

It is recommended that we eat at least five portions of a variety of fruit and vegetables a day.

What is a portion?

A portion of fruit or vegetables equates to 80g of raw and prepared fruit or vegetable.

Examples of a portion of fruit or vegetables:

2 slices of mango (2 inch slice)
14 cherries
2 handfuls fresh raspberries
2 handfuls (4 heaped tbsp) blueberries
2 spears of broccoli
3 heaped tablespoons of kidney beans
4 heaped tbsp of runner/French beans
3 heaped tablespoons of canned sweetcorn
8 brussel sprouts
3 celery sticks

What is included in your 5 a day?

- *All fresh, frozen and dried fruit and vegetables including those that are in the food products we buy and in the meals we cook (but watch out for added salt, sugar and fat).*
- *Tinned fruit and vegetables (preferably in juice or water rather than in syrup or salted water).*
- *Beans and pulses – but only one portion a day counts towards your five portions.*
- *Fruit juice and smoothies – but only one glass a day counts towards your five portions.*

What is not included:

- *Potatoes, yams and cassavas (which are included in the starchy food group instead).*
- *Juice drinks.*
- *Ready meals and tinned soups containing fruit and vegetables are sometimes high in salt, sugar and fat (see section on what is a little and what is a lot) and as such should only be eaten in moderation. This is because they are less healthy ways to eat fruit and vegetables.*

Choose healthier fats

Fat is a necessary part of our diet, as it contains fat-soluble vitamins and essential fatty acids, but as 'The Balance of Good Health' plate demonstrates, we should only eat a small amount of high fat foods in our diet. There are different types of fat, some of which are healthier than others:

✖ **Saturated fats** – these fats increase levels of cholesterol in the blood, which is implicated in heart disease, so we should keep intake of these fats low. Saturated fats are found in meat and dairy products, as well as coconut and palm oil. They are generally the fats that are solid at room temperature (fat on meat, lard, suet, butter, cheese, creamed coconut, palm oil). Reduce your saturated fat intake by:

- *Choosing low fat alternatives e.g. low fat yoghurt and milk.*
- *Removing skin and fat from meat and poultry*
- *Avoiding fatty meat products such as sausages and salami*
- *Choosing reduced fat cheeses and eat butter less often.*

✖ **Trans fats** – these also increase cholesterol in the blood, but are thought to be more damaging than saturated fats. They are found in hydrogenated vegetable oil, which is a solid fat at room temperature. Trans fats occur naturally in small amounts, but our main source is from the hydrogenated vegetable oils used by the food industry to add texture to products. They tend to be found in cakes, biscuits, pastry, fast food and margarine. Although food manufacturers are not required by law to state whether a product contains trans fats, some are voluntarily placing this information on products. The easiest way to determine whether a product contains trans fats is to look for 'hydrogenated vegetable fat/oil' in the ingredients list.

✔ **Unsaturated fats** – these are healthier than saturated fats and are generally liquid or semi-solid at room temperature (vegetable oils, soya oil, nut oils, vegetable oil spreads). These are good sources of vitamin E and K (see vitamins table [section 15(i) in the appendix]). Replace saturated fats in the diet with monounsaturated fats (found in olive oil, walnut oil, or rape seed) and polyunsaturated fats (found in vegetable oils including corn, soya, peanut and sunflower oils). These types of fats can actually reduce cholesterol levels and provide us with the essential fatty acids that the body needs.

✔ **Omega-3 fats** – there is good evidence that eating oily fish (salmon, sardines, pilchards, herring, mackerel, fresh tuna) which contains omega-3 fatty acids helps to prevent heart disease. Oily fish may also help to dampen down inflammatory conditions. It is recommended that we eat two portions of fish a week, with one of them being oily fish. There is increasing evidence that omega-3 has a positive effect on mood and behaviour – more will be discussed about mood and behaviour in section 4.

Eat less salt

Everyone in the West today tends to eat too much salt and evidence shows that this can lead to high blood pressure and to an increased risk of stroke. It is recommended that we eat no more than 6g salt a day (less for children) which is roughly equal to a teaspoon, most of which will be found in the food we eat and not the salt added at the dinner table. On average we probably eat between 9-12g each day, much of it hidden in processed food such as bread, breakfast cereals, baked beans, tinned soups, sausages and ready meals. Other food products are more obviously high in salt e.g. crisps, salted nuts, savoury biscuits and other savoury snacks.

Since it is unlikely that we can account for all the salt we eat, being able to understand labels on food products is a useful skill, which can help us to reduce our salt intake (see section 13). It is the sodium part of salt (sodium chloride) that is implicated in high blood pressure, which in turn increases risk of stroke and heart disease. Sodium is also found in other additives in food such as monosodium glutamate. Labels therefore often give both sodium and salt (i.e. sodium equivalent) content. The number of grams of salt in food is equal to 2.5 times that of sodium.

Ways to reduce salt in the diet

- **Remove the salt pot from the table.**
- **Reduce salt in cooking and instead use pepper, lemon and lime juice, garlic, chilli, spices and herbs for flavour.**
- **Choose lower salt alternatives e.g. reduced salt baked beans, salt 'n' shake crisps (but don't use the salt!), salt free breakfast cereals (e.g. shredded wheat cereals, porridge oats).**
- **Check labels and avoid food high in salt – 1.25g/100g or more.**
- **Avoid processed meat and fish – sausages, salami, bacon, ham, smoked mackerel, smoked salmon, kippers.**
- **Choose tinned kidney beans, vegetables and tuna in water rather than brine (salted water).**

About vitamins and minerals

Vitamins and minerals are substances found in food that are needed by the body only in small quantities. A varied balanced diet should contain all the vitamins and minerals in the right quantities needed by the average healthy person. However, drug and alcohol use causes damage to the liver and the gastro-intestinal tract resulting in a greater demand for certain vitamins and minerals, because they are less efficiently absorbed and processed by the body.

Your client therefore may need to take particular care to include certain foods in their diet to ensure that there are adequate vitamins and minerals. For malnourished drug and alcohol users, it may be necessary to take a multi vitamin and mineral supplement.
Tables (i) and (ii) in the appendix show further information about individual vitamins and minerals, including good food sources. The range of food sources mentioned in the tables demonstrate the need for a varied diet to ensure that it contains all the vitamins and minerals needed to make our bodies function efficiently.

Exercises with your client

Talk about the important health messages with your client.

Ask your client to look at their diet diary and discuss with them how it compares with 'The Balance of Good Health' plate. Discuss simple changes that could be made to your client's diet to bring it closer to the example shown on the plate.

Ask your client to look at their diet diary and calculate how many portions of fruit and vegetables they are eating on average a day.

Ask your client what barriers they might face to eating more healthily e.g financial, lack of knowledge, access to cooking facilities.

Look at the section 'Eating more fruit and vegetables' with your client and ask them to choose some changes that they could reasonably make to their diet.

People who habitually and heavily use drugs or alcohol are likely to be deficient in a number of nutrients. Malnutrition is common among this group and is characterised by low body weight, wasted muscles and signs of vitamin and mineral deficiency.

3. Diet-related health

Diet-related health problems common to substance misusers

People who habitually and heavily use drugs or alcohol are likely to be deficient in a number of nutrients. Malnutrition is common among this group and is characterised by low body weight, wasted muscles and signs of vitamin and mineral deficiency such as skin lesions, poor wound healing and bleeding gums. (See section on vitamins and minerals for further signs of deficiency.)

Malnutrition results from a generally poor diet and insufficient intake of food. Additionally, alcohol and drugs cause damage to organs, which also affects the person's nutritional status:

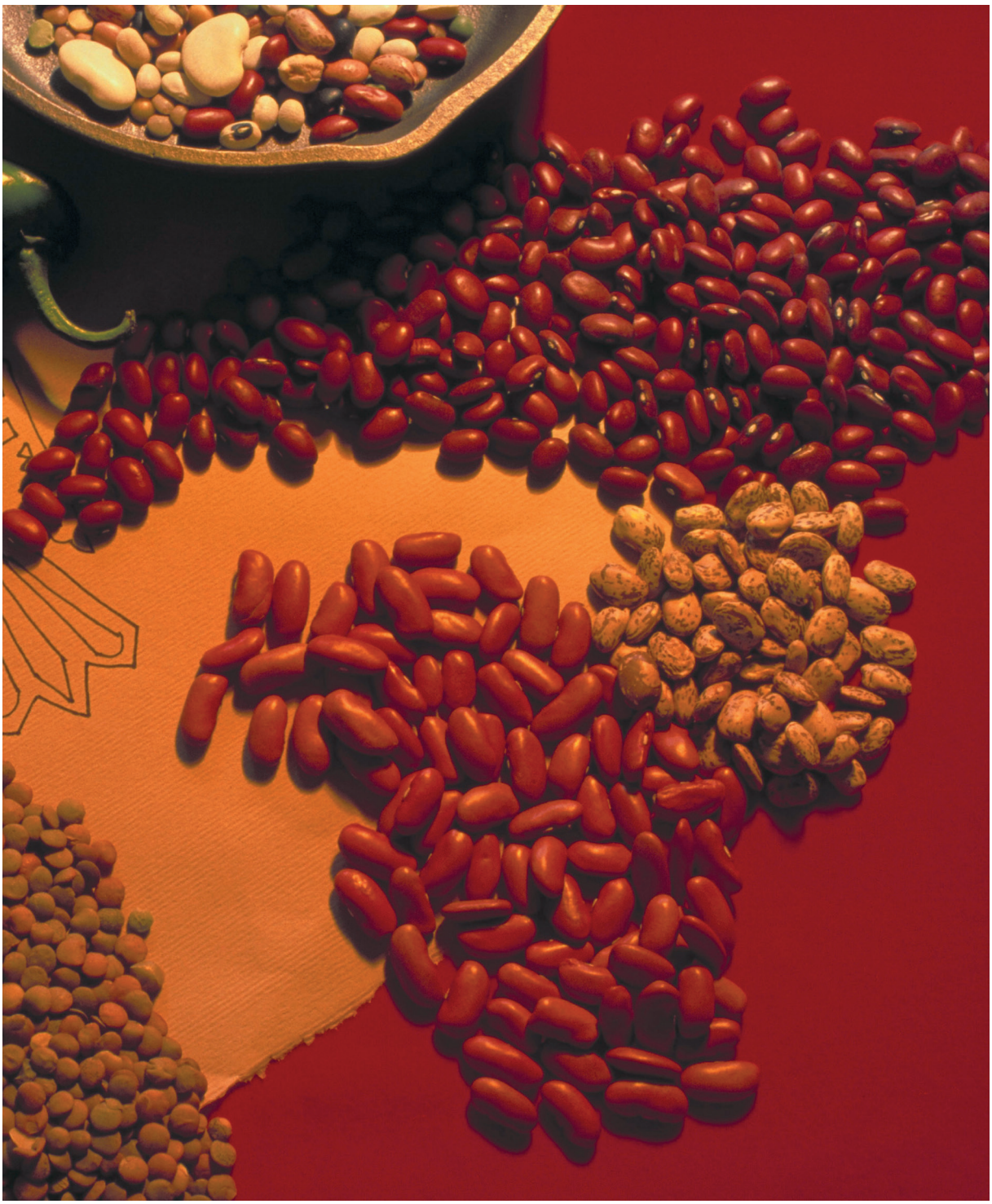
- *Damage to the liver and pancreas reduces digestive enzymes so that food cannot be digested efficiently in the gut.*
- *Damage to the lining of the intestines means that nutrients cannot be absorbed properly.*
- *Liver damage also means that the liver cannot process nutrients effectively.*
- *Kidney damage means that substances cannot be excreted effectively and toxins can build up.*
- *Nutrients are lost through intestinal bleeding, vomiting, diarrhoea and excessive urination.*

Drug and alcohol use can have a damaging effect on all parts of the body, including the brain, bones, muscles, teeth, the heart, the liver, the intestines and the kidneys. Some of these effects are reversible, when the user ceases taking the drugs or alcohol, but some effects are permanent, and further healthcare should concentrate on preventing further deterioration of these conditions.

Poor nutrition compounds the effects of drug and alcohol use on physical health. For example, a liver damaged by alcohol can be further damaged by nutrient deficiencies. Heavy alcohol use can cause weight loss and wasting, but this will be made worse, if there is insufficient protein in the diet.

It is important for your client to understand the role that a good diet can play in maintaining their physical health.

The following six sections deal with particular areas of diet-related health, which are of concern to drug and alcohol users.



Drug and alcohol misuse will eventually deplete the body of the nutrients needed to make neurotransmitters such as dopamine, serotonin and norepinephrine.

4. Mood, behaviour and relapse prevention

An area of increasing interest, where much research is now being done, is the effect of diet on mood and behaviour. The findings are relevant to your clients, who are likely to have an underlying mood disorder such as anxiety or depression, which is contributing to their drug use.

Drug and alcohol use depletes the brain of neurotransmitters such as dopamine, serotonin and norepinephrine. The excessive manufacture and release of these chemicals through substance misuse will, in turn, eventually deplete the body of the nutrients needed to make these neurotransmitters. This situation will be worsened if the diet is poor, as there will be insufficient intake of nutrients to replace those that have been used up. The net effect is a negative mood state and an individual may experience cravings, anxiety, depression, sleeplessness, paranoia and exhaustion.

Substance misusers often have an underlying mood disorder that they are trying to self-medicate with drugs or alcohol. A deteriorating diet through prolonged drug and alcohol use is only likely to worsen such a mood disorder.

Although the majority of research on the effects of diet on mood and behaviour has taken place outside the drug and alcohol field, the conclusions can comfortably be applied to drug and alcohol users. In fact the effects of nutrition interventions are likely to be more profound for drug and alcohol users, because of the high levels of malnutrition among them.

Much research has focused on the effect of omega-3 fats (found in oily fish and plant oils such as flax, walnut, pumpkin and rape seed) on mood and behaviour. Our modern diets are generally low in omega-3, and drug and alcohol users who have been malnourished over a period of time are likely to be even worse off than the general population. The omega-3 fats found in oily fish have been found to be more effective in the body than omega-3 from plant sources.

Studies have shown that countries that have lower fish intakes have higher rates of depression. The omega-3 fatty acids DHA and EPA which are present in fish oil are key to brain functioning. DHA is a major component of the brain and EPA is involved in neurotransmission. It is no wonder then that when these are lacking in the diet, there is a negative effect on brain function.

Fish oil and its fatty acid constituents have been found in studies to decrease negative mood states such as anxiety, depression and anger, as well as showing some improvements in people with bipolar disorder and schizophrenia. Fish oil has been shown to help with concentration, learning and behaviour in children with learning disorders. Even more interestingly, low levels of omega-6 and omega-3 fatty acids in the body have been associated with increased risk of relapse among cocaine addicts.

Another important nutrient involved with mood states and cognition is folic acid. Low levels have been associated with depression and with poor response to antidepressants. Vitamin B6 and B12 are involved in folic acid pathways in the body, so low levels of these are also likely to be linked to negative mood. Vitamin B6 is also needed for omega-3 fatty acid metabolism.

Chromium supplementation has been shown to benefit some people with atypical depression. Chromium has been shown to be particularly effective in a subgroup of people who are overweight or obese, and having carbohydrate cravings and insulin resistance, with the main effects being to regulate appetite and reduce carbohydrate cravings.

A common effect of opiate use is sugar cravings and this may continue once abstinence is achieved. Diets high in refined sugar (cakes, biscuits, sweets, fizzy drinks) are likely to cause peaks and dips in blood sugar and this can be accompanied by peaks and dips in mood.

When blood sugar is low an individual may feel irritable or agitated and such feelings may be misread as anxiety in those who are prone to anxious episodes. Such an effect is a result of adrenalin, which is released in response to the blood sugar dip in order to stimulate the production of insulin, which then mobilises the body's energy stores. It is better to replace food high in refined sugar with food that has slow release carbohydrates such as those found in wholegrain cereals, beans and pulses. These are digested and absorbed into the blood slower, so blood sugar dips and peaks are less likely.

Caffeine is another culprit in provoking anxiety, irritability and insomnia. Coffee, tea, coke and energy drinks such as Red Bull are common sources of caffeine. Guarana has higher levels of caffeine than coffee and is increasingly found in 'health' drinks.

Food additives have long been suspected of contributing to attention deficit disorders in children. Although hard research has not always backed up parental experiences, enough anecdotal evidence exists to make food additives a cause for concern. A recent piece of research looked at damage to mice nerve cells by food additives such as monosodium glutamate, aspartame and artificial colours. It suggests that when two or more food additives are present, the damaging effect on the nerves is much greater than the sum of the individual compounds. The study reflects the way additives are consumed in the diet: sweets, crisps, other savoury snacks, and fizzy drinks are prime sources of food additives and are eaten in combination by many people on a daily basis. Some food manufacturers are realising the public do not want artificial additives in their food and so are removing them.

It is not only the nutritional content of food that can affect mood and behaviour, but also eating patterns. Missing a meal can have similar effects in causing irritability and agitation as eating high sugar food, because of the blood sugar dip. It is well documented that missing breakfast has a negative effect on concentration. Although carbohydrate meals can give a feeling of wellbeing, they can also cause sleepiness. If you are working with clients in residential treatment, you may notice a lot of yawning and lack of interest in sessions after a heavy starchy lunch. Your clients are more likely to concentrate better after a lower carbohydrate lunch. Heavy protein meals, being more difficult to digest, may promote restless sleep if eaten at night. It is better to have the main protein with fewer carbohydrates at lunchtime and leave the heavy carbs for the evening meal, especially for those prone to insomnia.

Since negative mood and behaviour are linked to relapse in drug and alcohol users, there is a strong case for your clients to eat a healthier diet that could help to reduce negative mood states. Learning about how diet affects mood and behaviour might be the key to motivating your clients to make changes to their diet and eating patterns, which will also benefit areas of their physical health.

Eating tips to help improve mood and behaviour

- *Do not miss meals.*
- *Avoid caffeine drinks in the evenings and avoid altogether if you are prone to anxiety.*
- *Replace sugary foods with slow release carbohydrates.*
- *Eat low carbohydrate lunches to aid afternoon concentration.*
- *Eat carbohydrates and less protein in the evening, to aid sleeping.*
- *Eat a diet rich in folic acid and other B vitamins – green leafy vegetables, nuts, beans and pulses, wholegrains, eggs, meat and dairy products.*

- *Eat at least one portion of oily fish a week. (It is recommended that men and women past childbearing age eat no more than four portions a week and women of childbearing age eat no more than two.)*
- *If you find it difficult to include oily fish in your diet, consider taking a fish oil supplement. Vegetarians could take a flax oil supplement instead.*
- *Choose foods labelled 'free from artificial additives'.*

Exercises with your client

Ask your client to note down in their diet diary occasions when they experience negative emotions, fatigue or difficulty in sleeping.

Can they identify any foods or eating patterns that might contribute to these feelings?

Talk about simple changes that they might make to their diet and eating patterns, to help improve mood, alertness and sleep.

A liver damaged by cirrhosis may be unable to store glycogen, an energy source, so the body may use its own muscle as an energy supply, resulting in wasting of the body.

5. Dietary considerations with hepatitis C

If your client has asymptomatic hepatitis C with a well-functioning liver, it may be unnecessary for them to follow a special diet. Like anyone with chronic illness, it is important that they eat nutrient-rich food to keep their immune system healthy. This means they need to eat lots of fruit and vegetables, wholegrain bread and cereal and good quality protein such as meat, fish, eggs, milk, beans and pulses.

However, some symptoms of hepatitis C may affect a person's food choices and levels of food intake, as well as affecting their body's ability to process food, so that there is an increased risk of malnutrition. Malnutrition is a complication of liver disease but can also perpetuate the illness. The side effects of hepatitis C medication may also influence a person's ability to eat and may affect the levels of nutrients in the body. For example, interferon treatment results in reduced levels of iron in the body, which may lead to anaemia.

As the disease progresses and the liver becomes more damaged, it becomes more difficult for the body to use nutrients appropriately, to maintain a nutritional balance and to remove toxins from its system. Therefore the need to eat nutrient-rich food and keep the body free from toxins (including drugs and alcohol) increases. The energy requirements of people with hepatitis C, particularly those with cirrhosis, are greater than those of healthy individuals because they have an increased metabolism, so it may be more difficult for someone with hepatitis C to maintain body weight.

Symptoms of hepatitis C can include nausea and gastro-intestinal effects such vomiting, diarrhoea, constipation, bloating, flatulence, indigestion, abdominal pain and Irritable Bowel Syndrome (IBS). These symptoms can make eating, particularly full meals, difficult. It may be best for someone experiencing any of these symptoms to avoid large meals and eat several small ones through the day. If an individual has IBS, avoiding large quantities of raw fruit and vegetables which are difficult to digest, may help reduce symptoms. Raw fruit and vegetables can be replaced with cooked equivalents and juice, to maintain the 5 a day target.

Peripheral oedema and ascites (fluid retention and swelling of arms and legs and stomach) might occur when the liver is damaged with cirrhosis and cannot produce enough of a protein called albumin. Reducing salt in the diet may help reduce this fluid retention.

A liver damaged by cirrhosis may be unable to store glycogen, an energy source, so the body may use its own muscle as an energy supply, resulting in wasting of the body. It is important for someone with hepatitis C to eat sufficient quantities of protein. It is a good idea to try to eat two portions of the good quality protein, such as meat, fish, eggs, beans or lentils each day.

Your client may wish to take a vitamin and mineral supplement, particularly if they are not eating well and are likely to be lacking in nutrients. It is best for them to take a single multi-vitamin and mineral pill. If your client has raised iron levels or cirrhosis, they should choose a supplement without iron. Most herbal supplements should be avoided, because of potential damage to the liver.

Some research has shown that synbiotics (probiotic bacteria with fermentable fibre) can have a positive effect on cirrhotic livers. They help reduce levels of the harmful bacteria in the gut, which proliferate in people with liver disease, and in doing so reduce the levels of bacterial endotoxins, which can initiate inflammatory reactions. Synbiotics reduce the production of pro-inflammatory cytokines, which are substances involved in the inflammation of the liver. People with encephalopathy who have taken synbiotics have been shown to have improvements in liver function tests and in the degree of encephalopathy.

A healthy hepatitis C diet

- **Eat a variety of foods including fruit and vegetables, wholegrains, and good quality proteins.**
- **Ensure adequate but not excessive energy intake, spread out through the day.**
- **Eat several small meals throughout the day to help the body maintain protein levels and to help if eating is difficult.**
- **Include adequate protein to fight infection, for liver regeneration and to help prevent muscle-wasting.**
- **Eat fruit and vegetables to provide antioxidants, to help prevent tissue damage.**
- **Avoid alcohol to protect the liver.**
- **Limit fatty and sugary foods.**
- **Reduce salt to help prevent fluid retention.**
- **Consider taking a probiotic or symbiotic.**

Alcohol should be avoided, since it has been shown to aggravate hepatitis C infection and hasten progression from chronic hepatitis C to cirrhosis. Obesity is implicated in the progression of hepatitis C, so if your client is very overweight, they should be made aware of this.

Some people with cirrhosis may have hyperglycaemia (raised blood sugar) and need to follow a diabetic-type diet. They should avoid foods high in refined sugar, such as white bread, cakes and confectionery, and opt for those that release energy more slowly into the blood, such as wholegrain products, beans and pulses. A person with hyperglycaemia may need to see a dietician for further guidance on what to eat.

If your client has hepatitis C that has progressed, and is finding eating difficult, or is showing signs of unintentional weight loss and wasting, they may need nutritional support, particularly if they have experienced more than 5 per cent weight loss in the last three to six months. You should urge your client to ask for referral to a dietician, either through their GP or hospital consultant.

Today's anti-HIV drugs have helped reduce levels of wasting, but they themselves have side effects of changes in body fats, which can give rise to diabetes and cardio-vascular disease.

6. Dietary considerations with HIV

Two of the major health concerns with HIV infection are muscle wasting and lipodystrophy (changes in body fat as a side-effect of anti-HIV medication).

Muscle-wasting can be very dangerous and can cause death in people with HIV. People with HIV who misuse drugs are more likely to be at risk of malnutrition and wasting because of their lifestyles. Hepatitis C with HIV is also likely to compound problems. Good nutrition is extremely important for such people, to help prevent disease progression. They should eat several small meals a day with lots of fruit and vegetables, starchy food (especially whole grain), and good quality protein – meat, fish, eggs, cheese, nuts, beans and pulses.

Today's anti-HIV drugs have helped reduce levels of wasting, but they themselves have side effects of changes in body fats, which can give rise to diabetes and cardio-vascular disease.

Lipodystrophy from anti-HIV medication is characterised by a loss of subcutaneous fat and an increase in abdominal fat. Accumulation of abdominal fat is known to be a risk factor for type II diabetes and cardiovascular disease. Individuals on this medication might also have dislipidaemia, which is an abnormal level of fats in the blood. Since HIV is an inflammatory condition, it is thought that individuals with this drug-induced lipodystrophy and dislipidaemia may be at higher risk of heart disease than individuals in the general population with similar central fat distribution. Some research has shown that a Mediterranean style diet, rich in fruit and vegetables, fibre (whole grain, bean, pulses), omega-3 (oily fish) and low in saturated fats, may help lower fat levels in the blood.

Another major consideration around food for people with HIV is food safety, since they have a compromised immune system, so they are more at risk from foodborne infection. Care should be taken with storing and cooking food, following the instructions on the packaging. Basic kitchen hygiene is important:

- *Wash hands before cooking.*
- *Wash hands after handling raw meat and fish and wash the taps to remove meat juices.*
- *Keep surfaces clean by wiping up meat juices immediately.*
- *Wash all fruit and vegetables.*
- *Keep leftovers refrigerated and eat within three days of preparation.*

It is wise for someone with HIV to avoid:

- *Undercooked and raw meat, fish, shellfish and eggs.*
- *Unpasteurised dairy products.*
- *Raw bean sprouts.*
- *Food containing raw egg, such as mayonnaise.*

People with HIV may have mouth infections and gastro-intestinal disturbances that make eating more difficult. Their medication may cause them to lose their appetite, so they may need special guidance with their eating to maintain normal weight. Soups (e.g. meat, lentil, bean with vegetables), fruit smoothies (with added yoghurt for protein) and milk puddings, such as rice pudding, are easy-to-eat nutritious foods. Eating several small meals a day is easier than trying to eat three full meals, and helps to maintain muscle mass. Liquid food meals, available from pharmacists, may be useful if someone really cannot face eating other things. If a person experiences unintentional weight loss of more than 5 per cent of their normal body weight over three to six months, they should seek the help of a dietician via their GP or hospital consultant, as they are likely to need nutritional support.

HIV awareness

If you work in an environment where food is provided for your clients, you should ensure that those responsible for catering are aware of the particular needs of individuals with HIV.

When a high percentage of calories come from alcohol, it means that there will be insufficient vitamins, minerals, protein and essential fatty acids in the food that makes up the remainder of the diet, to enable the body to function optimally.

7. Alcohol and nutrition

A heavy alcohol user tends to be malnourished as a result of consuming too few nutrients, and also because of inefficient absorption and metabolism of nutrients in the body. Changes in urine excretion as well as vomiting, diarrhoea and intestinal bleeding, as a result of excessive alcohol intake, can also adversely affect nutrient levels in the body.

Most alcoholic beverages can be viewed as empty calories in terms of nutrients. When a high percentage of calories come from alcohol, it means that there are likely to be insufficient vitamins, minerals, protein and essential fatty acids in the food that makes up the remainder of the diet, to enable the body to function optimally.

Alcohol interrupts the secretion of some digestive enzymes and causes damage to the lining of the intestines, so that the body absorbs nutrients less efficiently. Deficiencies in nutrients, such as folic acid, can also negatively affect absorption. Damage to the liver as a result of alcohol also affects nutrient levels in the body.

Although alcohol contains around 7 kcalories/g (compared to 4 kcal/g for protein and carbohydrate and 9 kcal/g for fat), a large intake of alcohol does not tend to result in weight gain in long-term heavy drinkers, but instead causes weight loss. This is because with sustained heavy use of alcohol, the body metabolises the alcohol in a different way, which is inefficient at converting it into energy, so that energy is lost rather than being used for maintaining the body's tissues.

This alternative method of alcohol metabolism results in the generation of chemical products called 'reactive oxygen species' that cause oxidative stress, which is a process whereby protein, DNA and other components of the body undergo considerable damage. Oxidative stress results in deactivation of enzymes, altered breakdown of fat and damage to the liver cells.

Such damage is likely to be worsened by the lack of antioxidants in the diet of a heavy drinker, such as vitamins C and E.

A number of vitamins are likely to be deficient in heavy alcohol users. Alcohol inhibits fat absorption and therefore also absorption of the fat-soluble vitamins A, D, E and K. One of the major nutrient deficiencies seen as a result of alcohol-related malabsorption is thiamin deficiency, which can result in Wernicke-Korskakoff Syndrome, a neurological condition that causes damage to the brain resulting in profound confusion and amnesia. It is important for a course thiamin to be administered to alcohol misusers on entering treatment, preferably under medical supervision, to prevent further brain damage.

Magnesium deficiency may result from decreased intake and increased losses through diarrhoea, vomiting and excessive urination. Iron may be lost through intestinal bleeding. Calcium may also be excessively lost through urine and this, together with insufficient intakes and excessive loss of other minerals and poor intake and absorption of vitamins such as D and K, can result in a loss of bone density leading to bone fractures.

Such gross vitamin and mineral deficiencies justify the administration of a general vitamin and mineral supplement to people entering treatment. Care should be taken with iron, if the person has a cirrhotic liver, as iron supplements can further damage the organ. In such circumstances, it would be wise to consult a doctor before administering supplements.

Amino acids, the building blocks of protein, are poorly absorbed with alcohol use and if the liver is damaged, protein may not be metabolised efficiently. Such protein deficiency can result in serious consequences such as: poor maintenance of blood volume, an abnormal accumulation of fluid in the abdomen (ascites); reduced blood

clotting; reduced urea production resulting in excessive ammonia levels in the body, which increase the risk of hepatic encephalopathy (degeneration of the brain due to liver failure); abnormal balance of aromatic amino acids, which may also contribute to hepatic encephalopathy.

Liver damage also affects the processing of nutrients. A diseased liver is unable to take up beta-carotene efficiently from the blood to convert into vitamin A. Alcohol also affects levels of vitamin A in other tissues, increasing it in some and decreasing it in others. So care must be taken with administering vitamin supplements containing vitamin A or beta-carotene to people who continue to drink, since high levels could result in toxicity. If in doubt, consult a doctor.

Both malnutrition and alcohol use result in the accumulation of fat in the liver. A fatty liver is a precursor to liver fibrosis and cirrhosis. Decreasing the amount of fat in the diet can reduce the severity of a fatty liver.

Like those with livers damaged by the hepatitis C virus, individuals with alcohol damaged livers may similarly benefit from taking symbiotics, which help to reduce inflammation and damage to the liver (see hepatitis C section).

Overall, excessive alcohol use results in deficiencies of many nutrients, contributing to tissue damage throughout the body. It is important for current alcohol users and those in treatment to eat a balanced diet with sufficient protein and not too much fat. A vitamin and mineral supplement is likely to be necessary, but care should be taken with those who have severely damaged livers, for whom medical advice should be sought. Medical treatment should always be sought for those who are very underweight and showing signs of severe malnutrition.

Exercises with your client

Look at the vitamin and mineral tables with your client and discuss which nutrients may have been lacking from their diet as a result of sustained alcohol misuse. Discuss with them what effect low intakes of nutrients might have had on their health.

Discuss what sort of foods would help increase levels of these vitamins and minerals in their diet and how they might include these foods regularly.

The question is: which disorder drives the other – the eating disorder or substance misuse? And which should be treated first?

8. Eating disorders among drug and alcohol users

It is estimated that 50 per cent of people with eating disorders also have drug or alcohol problems. Among those undergoing treatment for substance misuse, it has been reported that up to 35 per cent of people have an eating disorder. Add to that the people who have disordered eating patterns that have not being diagnosed as a recognised disorder, and it can be seen how irregular, problematic eating behaviour is closely related to substance misuse.

The type and frequency of eating disorder tends to vary with gender and sexuality. Heterosexual men with eating disorders for example, tend to be (but are not always) compulsive eaters. Homosexual men tend to have a higher rate of eating disorders than heterosexual men. Women are more prone to anorexia nervosa and bulimia nervosa, although research has shown that, among women, substance misuse is more common in patients with bulimia and binge/purge eating disorders than in women with restricting disorders like anorexia.

However, those who restrict their food may use cocaine or amphetamines to help them to do this. This is not only seen when someone has underlying psychological problems but also when there is an external pressure to maintain low weight such as for women working in the modelling and dance professions. Such illegal drug use may be accompanied by the use of over the counter stimulants, diuretics and laxatives, as well as caffeine and cigarettes.

The question this provokes is: which disorder drives the other – the eating disorder or substance misuse? And which should be treated first?

Research has not yet clearly demonstrated whether eating disorders drive substance misuse or the converse, or whether individuals carry traits common to both disorders. In reality, this may not be important, since both eating disorders and substance misuse are likely to be coping mechanisms for the same underlying psychological factors, such as low self-esteem; or ways of dealing with external events such as sexual abuse, problems with family relationships, or the death of a loved one.

The Eating Disorders Association recommends that where there are concomitant eating disorder and substance misuse problems, at least partial rehabilitation for the drug or alcohol problem may be necessary before the eating disorder can be addressed. Your client may feel more comfortable working through both problems with you than being referred on.

Through counselling sessions with your client, you should try to establish whether they demonstrate an obsession with food that signposts an eating disorder. Since the work that you do with your clients will be addressing their primary needs, you are likely to be employing skills effective for both eating disorders and substance misuse, such as motivational interviewing, brief therapy, solution-focused work, and cognitive behavioural therapy.

In some cases, a person may have come to terms with their substance misuse problem, but still be in denial of their eating disorder. Such people may need referral on to an eating disorder specialist for help. A starting point might be through your client's GP or, if they are unwilling to go down this route, through organisations such as The Eating Disorders Association, which runs self-help groups and has a geographic directory on where to access treatment.

Some people may develop an eating disorder while undergoing treatment for their drug or alcohol misuse. Their former lifestyle while using drugs or alcohol is likely to have resulted in under nutrition and weight loss. There may be rapid weight gain once individuals are living substance-free and eating adequately. Those who experience sugar cravings may consume large amounts of calories as confectionary and fizzy drinks.

Added to this, many residential treatment centres provide their residents with more than ample amounts of hearty 'comfort food', high in fat and refined carbohydrates. It is common for those in

residential treatment to be offered a cooked breakfast as well as a cooked lunch and evening meal, both with stodgy puddings. In second stage treatment, when residents have more freedom to spend time outside the treatment centre, they may spend money on additional 'takeaway' meals. It is no wonder that residents' weights can shoot up and become an added challenge to them staying drug-free.

Where does nutrition and healthy eating advice come into treating clients with an eating disorder combined with a drug or alcohol problem? Eating disorders may be related to obsessive compulsive tendencies, so healthy eating advice should steer away from the obsessive and be simple and straightforward:

- *The Food Standards Agency's 'Balance of Good Health' plate approach (see section 2) is less likely to encourage obsessive eating patterns than counting calories and grams of sugar and fat.*
- *Since depression and anxiety are common precursors to both substance misuse and eating disorders, emphasis on the links between healthy eating and mood improvement may be the most positive approach to take. It is important for your client to understand that since their body has been starved of essential nutrients for so long, this state has had a negative effect on their mood and behaviour. But eating regularly, sensibly and healthily will provide the nutrients to make the chemicals in the brain that are needed to improve mood and behaviour patterns.*
- *It may be that a client needs to accept that some weight gain is a necessary part of their recovery.*
- *The feeling of guilt is strongly linked to eating for those with anorexia, bulimia and compulsive eating, so care should be taken not to voice judgment on your client's eating habits. Avoid terms such as 'junk food' to describe their current diet.*
- *Although exercise is an essential part of maintaining physical and mental health, you should watch out for your client approaching diet and fitness in an obsessive manner. Individuals who exercise have a higher demand for calories and nutrients than those who are sedentary, so look out for signs of extreme weight loss with exercise, indicating an inadequate intake of calories and probably nutrients.*

If you work in a residential treatment centre and you suspect that high calorie, high fat and sugar 'wholesome' meals served to residents could be contributing to rapid weight gain, see whether your menus could be changed to provide healthier meals that are lower in fat and refined carbohydrates, contain more slow release carbohydrates and are richer in nutrients – particularly those that positively affect mood and behaviour.

Be aware of how complex the issues around eating disorders and drug and alcohol users can be. For example, a person may show signs of difficulties around eating that are related to the effects of chronic diseases such as hepatitis C or HIV, or the side effects of associated medications, rather than being an eating disorder. Conversely, an individual with an eating disorder may attribute their eating behaviour to symptoms of chronic disease or side effects of medication, in an attempt to avoid detection.

If you are working with active drug and alcohol users, you may observe a person eating food in a bingeing manner and assume that this reflects an eating disorder. This is not necessarily so. Do remember that such individuals may not have had the opportunity to eat for several days, because of lack of money and their drug-taking pattern, so what you might be observing could simply be a very undernourished person, eating as much food as possible while it is available. However, extreme weight loss, as experienced by active drug and alcohol users, may in itself create disordered thinking about food.

Studies have demonstrated a direct relationship between the number of teeth that people retain and levels of fruit, vegetables and vitamin C in their diets. Furthermore, there is an indirect relationship with levels of fat and cholesterol in their diets.

9. Oral health and diet in drug and alcohol users

Poor oral health, including tooth decay, tooth loss, abscesses and gum disease, is common to drug and alcohol users. For example, a study in Ireland of methadone users aged 16-34 found that 99 per cent needed some dental treatment, with the average number of teeth needing intervention being 14.

Reasons for poor oral health include:

- *Years of neglect with poor oral hygiene and no visits to a dentist.*
- *Poor nutrition during the period of substance misuse, contributing to increased. risk of infections and weakening of the bones, including the jaw*
- *High sugar intake among heroin users, resulting from sugar cravings.*
- *The xerostomic (dry mouth) effect of opiates.*
- *High sugar intake among alcohol users who have a preference for sweet drinks.*
- *Damage to the tooth enamel by stomach acid, through vomiting.*
- *Tooth loss and damage through trauma, at times of inebriation.*
- *Jaw clenching and grinding teeth.*
- *Smoking leading to increased risk of periodontal disease.*
- *Individuals with HIV or hepatitis C being refused dental treatment.*
- *As with the general population, difficulty in accessing NHS dental treatment.*

Although methadone users may think the sugar in their methadone is the main culprit responsible for their tooth decay, a study in Ireland found no greater rate of decay among individuals taking methadone sweetened with sugar, compared to those taking methadone sweetened with an artificial sweetener. The decay process is likely to have started long before they began their methadone treatment.

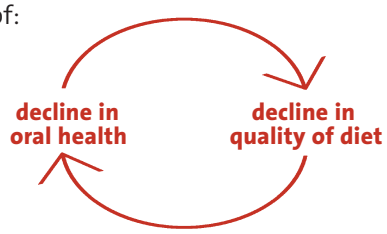
Poor oral health can impact on an individual's confidence, affecting their chances of forming relationships and securing employment. This, together with any pain experienced as a result of abscesses, inflammation and damaged teeth, can contribute to relapse in drug and alcohol users.

A diet low in nutrients can contribute to poor oral health. For example, low zinc, selenium and vitamin C can make an individual more at risk of infections and cause poor wound healing. A diet lacking vitamin C can result in bleeding gums and oral scurvy. Deficiencies of vitamin B12, pyridoxine, riboflavin and iron can result in fissures and infection of the lips, inflammation of the tongue and oral ulceration. Low levels of certain micronutrients, including zinc, iron, vitamin B12 and folic acid, have been associated with increased risk of oral mucosal disease and possible oral cancer in tobacco users.

Poor oral health can also have a major effect on a person's diet. Tooth loss, pain from infection, or poorly fitting dentures can have a major impact on food choices, because an individual finds it too painful or physically impossible to eat certain foods, particularly fruit and vegetables. They may make food choices based on what they find easy to eat, such as soft pastry products and cakes, which are high in fat.

Studies have demonstrated a direct relationship between the number of teeth that people retain and levels of fruit, vegetables and vitamin C in their diets. Furthermore, there is an indirect relationship with levels of fat and cholesterol in their diets. So the more teeth a person has, the more fruit and vegetables they are likely to eat, and the smaller the amounts of foods high in saturated fats. Micronutrient deficiency can also result in taste bud atrophy and loss of taste sensation, contributing to loss of interest in eating.

It is therefore important to stop the cyclical effect of:



What can you do to help your client?

- *Discuss with your client the impact of oral health on all aspects of their life.*
- *Help your client secure an appointment with a dentist. If you client has HIV or hepatitis C, they should still expect to be treated within a dental practice. It is unethical for a dentist to refuse treatment on these grounds and your client would have recourse to report them to the General Dental Council.*
- *Discuss how dental problems might be affecting your client's diet. If your client has difficulty eating because of tooth loss or damage, look at ways together to improve their diet. If eating raw fruit and vegetables is too difficult, they could try drinking fruit juice and smoothies, eating cooked, mashed vegetables, vegetable soups and stewed fruit. Your client's diet diary is a useful way of monitoring whether they have been able to include more fruit and vegetables in their diet.*

Bear in mind your client's lifestyle and living arrangements when discussing suitable goals. Someone living in a hostel may not have access to cooking facilities, so cooking a fresh meal from scratch every day would not be an option.

10. Changing your client's eating behaviour

A major failing around achieving healthy eating has been that nutrition and other health professionals involved have issued directives to the patient or client without finding out whether they were ready and willing to accept the advice and make the necessary changes to their diet. More often than not, such methods would be met with resistance and no changes would take place.

Over recent years it has been found that better success rates can be achieved by following methods developed in the drug and alcohol field for facilitating behaviour change. These methods involve a client-centred approach using motivational interviewing (MI) techniques and, where necessary, cognitive behavioural therapy (found useful in the treatment of eating disorders such as bulimia nervosa). This means that if you are involved in drugs counselling, you are already likely to have the skills to help your clients bring about changes in their eating behaviour.

Key elements of an MI led session could include:

- *Establishing rapport.*
- *Establishing the current scenario (over-weight, underweight, sugar cravings etc.).*
- *Establishing readiness to change.*
- *Exploring ambivalence.*
- *Exploring a typical day (how food fits into your client's life).*
- *Exchanging information (giving information about healthy eating and asking for your client's reaction to it).*
- *Exploring options.*
- *Agreeing SMART goals (Specific, Measurable, Agreed by the people concerned, Realistic and Timely).*
- *Establishing future support and agreeing monitoring.*

Asking your client to keep a diary is useful as a means of exploring a typical day and monitoring goals that have been set. In addition to recording food and drink consumed, it is helpful for your clients to write down their emotions and moods through the day as well as difficulty or ease in sleeping and any physical symptoms experienced. By doing this, your client will see how the food they eat may relate to their mood and sleep patterns. For example, it may be clear from the diary that on the days your client consumes several cans of coke, they have trouble sleeping and experience anxiety during their sleepless hours. Or perhaps, on the days they miss breakfast, they experience anxious feelings, a lack of concentration or anger, later in the morning.

Such a diary should not be used as ammunition for chastising your client for poor eating habits. It may be that they would prefer to keep their diaries private and if so, you should accept this, although it would be helpful for you both to look at it together and discuss any observations.

Bear in mind your client's lifestyle and living arrangements when discussing suitable goals. Someone living in a hostel may not have access to cooking facilities, so cooking a fresh meal from scratch every day would not be an option. It would be more appropriate to discuss with them what healthier ready cooked meals and healthier snacks they could choose. Money is likely to be a major issue for many of your clients and what budget they have available for food is an important factor when setting goals.

Commonly, residential treatment centres provide wholesome, 'comfort' type of food, which is high in refined starch, sugars and fat.

11. Considerations for residential treatment centres

Although this toolkit focuses on helping clients make changes in their eating behaviour to help improve their health and mood, another important consideration for those working in residential treatment is what food and drink your centre provides for clients during their stay.

Commonly, residential treatment centres provide wholesome, 'comfort' type of food, which is high in refined starch, sugars and fat. Frequently a cooked breakfast is served daily, and a pudding is included with dinner. Such menus tend to be lower in nutrients than optimal, and may also result in excessive weight gain for your clients.

Comfort food tends to be popular, but simple changes can be made without causing too much concern to clients.

Here are some simple ideas that can make menus more nutritious:

1. *Replace white bread with wholemeal.*
2. *Serve oily fish, such as salmon, once a week.*
3. *Replace stodgy puddings with fruit-based desserts, such as fruit compote and yoghurt or a fruit platter.*
4. *Have fruit available to residents throughout the day, in place of biscuits.*
5. *Add vegetables to casseroles, spaghetti bolognaise, curries etc. – an easy way to 'hide' vegetables from those who have vegetable aversions.*
6. *Look for vegetarian protein alternatives if your menu is meat heavy.*
7. *Reduce the salt content of meals – if you do this gradually, no-one will notice.*
8. *Serve a cooked breakfast only once a week as a treat – boiled and poached eggs are healthier alternatives to fried.*
9. *Replace sugary cereals with low sugar and salt varieties and provide a no-sugar muesli.*
10. *Replace whole milk with skimmed and semi-skimmed.*
11. *Plan lighter lunches with the main protein at this meal, saving the more carbohydrate-heavy meals for evenings.*

Another thing to think about is the availability of caffeinated drinks. Is coffee and coke available 24 hours a day? Are there non-caffeinated tea and coffee alternatives available?

If you do get negative feedback from clients, you may need to concentrate on getting your healthy eating messages across to them, and be open to their suggestions for healthier changes to your menus.

Some of the cheapest foods around are those that are highest in fat and sugar, and the challenge is in avoiding these foods and having enough money for healthy food.

12. Eating healthily on a low budget

Your client may find that one of the barriers to eating healthily is that they have only a limited amount of money to spend on food. Some of the cheapest foods around are those that are highest in fat and sugar, and the challenge is in avoiding these foods and having enough money for healthy food.

Here are some pointers that will help you client shop and eat more healthily.

1. *Always write a shopping list before going shopping and stick to it! This helps prevent spontaneous expensive or unnecessary purchases.*
2. *Shop around to compare prices.*
3. *Supermarket own brands are generally cheaper than other brands.*
4. *Supermarket 'basics' lines are cheaper still and usually of similar nutrient content.*
5. *Shop with a friend to take advantage of special offer bulk buys e.g. split large packs of meat or 'buy one get one free' offers.*
6. *Buy fruit and vegetables in season when they are at their cheapest.*
7. *Visit markets for fruit and vegetables – they tend to sell class II fruit and vegetables rather than the class I found in supermarkets, which may not be as perfectly formed, but are just as nutritious and tasty.*
8. *Frozen vegetables are often cheaper than fresh ones, especially out of season, and they still contain nutrients.*
9. *Learn to cook with cheap cuts of meat – they may take a bit more cooking but are often tastier than the more expensive cuts. Ask your local butcher, who might stock cuts not available in supermarkets – he might give you cooking ideas too.*
10. *Use turkey mince, which is lean and low cost, instead of cheap beef mince, which is likely to be high in saturated fats.*
11. *Use cheaper alternative proteins in some meals instead of meat and fish e.g. beans, lentils, quinoa (use like rice or couscous), eggs.*
12. *Use less meat and bulk out with vegetables in casseroles, curries etc.*
13. *Tinned fish are cheap and nutritious protein sources. Tinned sardines, pilchards, mackerel and salmon are cheap sources of omega-3.*
14. *Shop at the end of the day for bargains. This is when food that is approaching its sell-by date is marked down (remember fish and meat must not be kept beyond the use-by date). Market stall holders often sell fruit and vegetables cheaply at the end of the day, as they want to clear their stalls.*
15. *Energy costs money too. Boiling, steaming or microwaving is cheaper than cooking in the oven.*
16. *Take turns with friends to cook – that way you can buy cheaper bulk packs. Cooking for a few people uses the same heat energy as cooking for one.*
17. *If you have a freezer, bulk cook and freeze.*

Although some legislation exists around food labelling... manufacturers and supermarkets vary in other information they choose to present on packaging.

13. Reading labels

Understanding nutrition information on food packaging is important to help your client make healthy food choices.

Although some legislation exists around food labelling (around claims of low fat and fruit content, for example) manufacturers and supermarkets vary in other information they choose to present on packaging. Generally, manufacturers are likely to be more forthcoming with nutritional information if they want to promote their food as a 'healthy' product.

As a result of pressure from consumer groups and the government, food manufacturers are becoming more helpful in the information they provide on their packaging. This means that when your client goes shopping it is becoming easier for them to recognise which foods are healthy and which are not.

What is a little, what is a lot?

Many processed foods such as ready meals are high in salt, sugar and fat. These are cheap ways of adding taste and texture to food. Foods may also contain a lot of saturated fat, which is recognised as playing a role in cardiovascular disease.

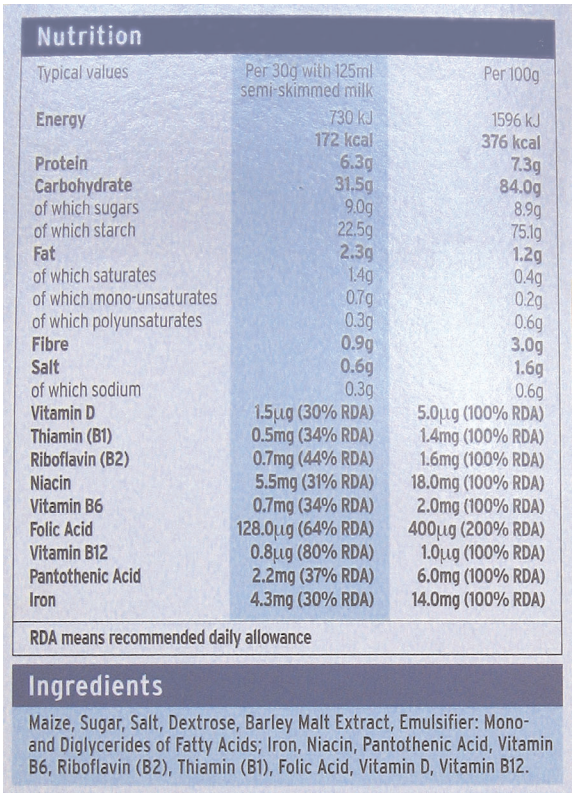
When your client is shopping it would be helpful for them to understand what are high and low levels of sugar, fat and salt in food products. Table 1 below shows the levels of sugar, fat and salt in food that the FSA considers to be low, medium and high. The nutritional information on the label will express grams/100g product as shown in the table, but might additionally show grams per recommended portion size.

Sugar

High sugar products may cause dips and peaks in blood sugar levels. This may result in fluctuating depression and elevation of mood. As part of relapse prevention, your client should avoid such sugar-induced mood changes.

Table 1 – Low, medium and high levels of sugar, fat and salt in food

	What is a little = low levels g/100g	Medium levels g/100g	What is a lot = high levels g/100g
Sugar	Less than 2g	2-10g	More than 10g
Fat	Less than 3g	3-20g	More than 20g
Saturated Fat	Less than 1g	1-5g	More than 5g
Sodium	Less than 0.1g	0.1-0.5g	More than 0.5g
Salt	Less than 0.25g	0.25-1.25g	More than 1.25g



Nutrition

Typical values	Per 30g with 125ml semi-skimmed milk	Per 100g
Energy	730 kJ 172 kcal	1596 kJ 376 kcal
Protein	6.3g	7.3g
Carbohydrate	31.5g	84.0g
of which sugars	9.0g	8.9g
of which starch	22.5g	75.1g
Fat	2.3g	1.2g
of which saturates	1.4g	0.4g
of which mono-unsaturates	0.7g	0.2g
of which polyunsaturates	0.3g	0.6g
Fibre	0.9g	3.0g
Salt	0.6g	1.6g
of which sodium	0.3g	0.6g
Vitamin D	1.5µg (30% RDA)	5.0µg (100% RDA)
Thiamin (B1)	0.5mg (34% RDA)	1.4mg (100% RDA)
Riboflavin (B2)	0.7mg (44% RDA)	1.6mg (100% RDA)
Niacin	5.5mg (31% RDA)	18.0mg (100% RDA)
Vitamin B6	0.7mg (34% RDA)	2.0mg (100% RDA)
Folic Acid	128.0µg (64% RDA)	400µg (200% RDA)
Vitamin B12	0.8µg (80% RDA)	1.0µg (100% RDA)
Pantothenic Acid	2.2mg (37% RDA)	6.0mg (100% RDA)
Iron	4.3mg (30% RDA)	14.0mg (100% RDA)

RDA means recommended daily allowance

Ingredients

Maize, Sugar, Salt, Dextrose, Barley Malt Extract, Emulsifier: Mono- and Diglycerides of Fatty Acids; Iron, Niacin, Pantothenic Acid, Vitamin B6, Riboflavin (B2), Thiamin (B1), Folic Acid, Vitamin D, Vitamin B12.

The breakfast cereal shows nutritional information per 100g and per 30g serving. Look at the values per 100g and compare them to the table above.

Is this product high, medium or low fat?

Is it high, medium or low sugar?

Is it high, medium or low salt?

Answers:

The fat content is 1.2g per 100g, which makes it low in fat. It has 0.4g per 100g of saturated fat, which makes it low in saturated fat.

The sugar content is 8.9g per 100g which makes it medium in sugar

The salt content is 1.6g per 100g which makes it high in salt!

Is it surprising that a breakfast cereal is high in salt? Most of us would buy breakfast cereals not thinking that they are salty products at all.

Traffic light labelling

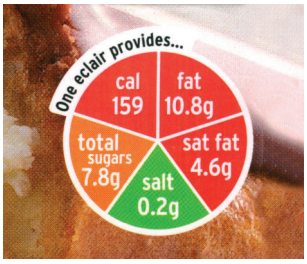
Some supermarkets have introduced 'traffic light' labelling to help shoppers identify more easily what is a little and what is a lot of sugar, fat and salt. Supermarkets have chosen their own designs, based on the red, amber, green code. Currently their definition of low, medium and high levels of salt, fat and sugar may differ slightly from that of the Food Standards Agency, but will generally be close. The 'traffic light' logo normally appears on the front face of the product and states amounts of sugar, fat, saturated fat and salt, either per 100g of product or for a recommended portion size. Knowing how much a recommended portion size is can be helpful in today's world of super-sizing.

Salt

If your client has raised blood pressure, or has ascites as a result of alcoholic liver disease or hepatitis C, they should control their salt levels. It is even more important that they are able to read food labels and make the right choices for themself.

Is it surprising that a breakfast cereal is high in salt? Most of us would buy breakfast cereals not thinking that they are salty products at all.

Examples of Traffic light labelling:

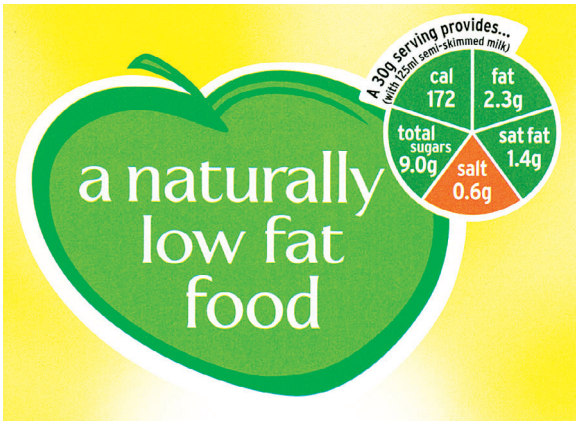


Sainsbury's

Waitrose

The photo below shows traffic light information for some cornflakes.

Are they high, medium or low in salt?



Answer:

The amber section shape for salt identifies the product as having medium levels of salt.

Note: Manufacturers may use the traffic light labelling system to describe levels in a typical serving, so in the case of these cornflakes, a serving is 30g of cereal *plus* 125ml of semi skimmed milk. This will give a slightly different result to the amounts per 100g of cornflakes alone on the nutritional information panel.

5 a day help

The Department of Health has introduced a '5 a day' logo that it allows to be placed on products containing fruit and vegetables, which contribute to the recommended minimum of five portions of fruit and vegetables a day.

5 A DAY

Just Eat More
(fruit & veg)

Some supermarkets and food manufacturers have introduced their own logos as shown in the examples below:

Waitrose

Co-op

The logos indicate the number of portions that the product contributes to 5 a day, or how much a stated serving of the product contributes to 5 a day.

Storing and cooking advice

It is important to read what the label says about keeping the product; for example 'keep chilled', meaning 'keep in the fridge'. A product that says 'do not freeze' may have been frozen once already, or its quality might deteriorate through freezing.

'Use by (a particular date)' applies to products that go off quickly, such as fresh milk and meat, and 'best before (a particular date)' is usually seen on products that can be stored for longer, such as frozen foods and dried food goods.

Cooking advice is particularly important, especially with meat products where there is risk of food poisoning on undercooking.

This packaging shows the 'Use by' date and instructions to keep the product refrigerated.

Exercises with your client

Ask your client to collect packaging from food they buy over a week (or collect samples of packaging yourself). Try to include some examples with traffic light labelling and some without.

Ask your client to:

1. *Look at levels of sugar, fat and salt in them and decide if they are high, medium or low.*
2. *Look for 5 a day logos on fruit and vegetable packaging and fruit juice. What size serving is a single portion of fruit or vegetables?*
3. *Point out any particular storage or cooking advice on the above packaging.*

Cooking advice

Clients with compromised immunity, such as those with HIV infection, have to be especially careful following storing and cooking advice, so as to avoid possible food poisoning.

Clients with compromised immunity, such as those with HIV infection, have to be especially careful following storing and cooking advice, so as to avoid possible food poisoning.

14. Further reading and information

Mood and behaviour

The Food and Mood Project
www.foodandmood.org

Hepatitis C

British Liver Trust www.britishlivertrust.org.uk

Hepatitis C Trust www.hepcuk.info

Hepatitis C: Nutrition Care – Canadian Guidelines for Health Care Providers (2003), *Dieticians of Canada* www.dieticians.ca

HIV

Nutrition guidelines for agencies providing food to people living with HIV Disease (2002), *Association of Nutrition Services Agencies* www.aidsnutrition.org

The Body www.thebody.com

Food Chain www.foodchain.org.uk
Meal delivery service for people who are housebound with HIV/AIDS

Alcohol

British Liver Trust www.britishlivertrust.org.uk

Changing your client's eating behaviour

Changing Eating and Exercise Behaviour (1996), Paula Hunt, Melvyn Hillsdon. Blackwell Publishing.

Health Behaviour Change (1999), Stephen Rollnick, Pip Mason, Chris Butler. Churchill Livingstone.

Eating Disorders

Eating Disorders Association www.edauk.com

NORCAS www.norcas.org.uk – provide training on all aspects of substance misuse and on eating disorders to workers in the substance misuse field.

Oral Health

Greater Dental Council www.gdc-uk.org

General

Food Standards Agency www.eatwell.gov.uk

NHS 5 a day www.5aday.nhs.uk

British Dietetic Association www.bda.uk.com

BBC Food www.bbc.co.uk/food – an excellent source of recipes.

Fare Share www.fareshare.org.uk

The Nutrition Society *www.nutritionsociety.org*

'Fuel for recovery' by Helen Sandwell, *DDN*, 16 January 2006
www.drinkanddrugs.net/features/jan1606/fuelforrecovery.pdf

'Serving up healthier recovery' by Claire Clarke and Sue Williams at Clouds, *DDN* 31 July 2006
www.drinkanddrugs.net/features/july3106/healthier_recovery.pdf

For other references to nutrition relating to substance misuse, visit *DDN* magazine's online features archive at www.drinkanddrugs.net and use the search facility.


Organically Gro

Ask your client to note down in their diet diary occasions when they experience negative emotions, fatigue or difficulty in sleeping.

15. Appendices

i. About vitamins

Name of vitamin	Sources of vitamin	What does it do?	What can deficiencies cause?
Vitamin A	Cheese, eggs, oily fish (e.g. mackerel), liver (very rich source – eat no more than once a week or avoid if pregnant), milk, fortified margarine and yoghurt	• helps maintain healthy skin and mucous lining e.g. nose • helps strengthen immunity • helps with vision in low light	• night blindness • growth retardation • keratinisation of membrane tissue • impaired hearing, taste and smell • increased risk of infection • reduced male fertility
Thiamin (Vitamin B1)	Pork, vegetables, milk, cheese, peas, fresh and dried fruit, eggs, wholegrain breads and some fortified breakfast cereals	• works with other B vitamins to break down and release energy from our food • helps keep muscle and nerve tissue healthy • deficiency can result in Wernicke-Korsakoff syndrome	• beri-beri – affecting cardiovascular and nervous systems • Wernicke-Korsakoff syndrome – confusion, ataxia, psychosis, coma
Riboflavin (Vitamin B2)	Milk, eggs, fortified breakfast cereals, rice and mushrooms, green vegetables	• helps keep the skin, eyes, nerves and mucous membranes healthy • helps produce red blood cells • helps produce steroids (including sex hormones and bile acids)	• dry cracked skin • sensitivity to bright light • insomnia • slow learning • anaemia
Niacin (Vitamin B3)	Beef, pork, chicken, wheat flour, maize flour, eggs and milk	• helps produce energy from our food • helps maintain a healthy nervous system • helps maintain a healthy digestive system	• pellagra – skin appears raw on exposure to sunlight • vomiting, constipation, diarrhoea • fatigue, sleeplessness, memory loss
Pyridoxine (Vitamin B6)	Pork, chicken, turkey, cod, eggs, bread, wholegrains, vegetables, soya bean, nuts, milk, potatoes, fortified breakfast cereals	• helps in storing energy in the body from our food • helps in formation of haemoglobin (which carries oxygen around the body)	• rash and cracked skin around nose • cracked lips and tongue • depression, irritability • increased risk of cardiovascular disease
Biotin (Vitamin B7)	Meat, liver, kidney, eggs, some fruit and vegetables	• helps turn our food into energy • important for the expression of genes • used by the body in making fatty acids	• scaly dermatitis • skin rash round eyes, nose and mouth • ataxia • hair loss
Vitamin B12	Animal products including fish, meat, dairy, eggs, fortified breakfast cereals	• used in making red blood cells • helps maintain a healthy nervous system • used in processing folic acid • helps release energy from food	• megaloblastic anaemia • neuropathies • degeneration of the spinal cord
Folic Acid	Green leafy vegetables, beans and peas, yeast extract, brown rice, fortified breakfast cereals	• involved in making red blood cells • reduces risk of neural tube defects in babies	• megaloblastic and macrocytic anaemia • neural tube defects – spina bifida in unborn babies • depressed mood
Pantothenic acid	Meat and vegetables, eggs, wholegrains, fortified breakfast cereals	• helps release energy from food	• deficiency extremely rare • tiredness, malaise, apathy, gut disturbances
Vitamin C	Fruit and vegetables, fruit juice. Used as a preservative in food manufacturing.	• an antioxidant – protects the body from damage by free radicals • helps the body to absorb iron	• fatigue, weakness, aching muscles and joints • delayed wound healing • bleeding gums • scurvy
Vitamin D	Oily fish, eggs, fortified margarine and breakfast cereals, sunlight	• helps maintain healthy teeth and bones	• bone disorders – rickets, osteomalacea
Vitamin E	Vegetables, vegetable oils, nuts and seeds, wheatgerm, meat, dairy products	• an antioxidant – protects the body from damage by free radicals	• affects the neuromuscular, vascular and reproductive systems
Vitamin K	Green leafy vegetables, vegetable oils, cereals, our own gut bacteria	• involved in wound healing and blood clotting • needed for strong bones	• deficiency rare, as the gut bacteria produce vitamin K • poor wound healing, blood clotting

ii. About minerals

Name of mineral	Sources of mineral	What does it do?	What can deficiencies cause?
Iron	Meat, liver, nuts, beans, wholegrains, dried fruit, dark green leafy vegetables, bread, fortified breakfast cereals. Orange juice increases absorption from non-meat sources.	• part of haemoglobin which carries oxygen around the body in red blood cells.	• fatigue, poor cognitive function • anaemia
Magnesium	Green leafy vegetables, nuts, meat, dairy	• needed for protein synthesis • important for muscle function including heart • role in bone health • synthesis of parathyroid hormone and vitamin D metabolism	• cardiovascular, skeletal, gartrointestinal and central nervous system disorders.
Sodium (sodium chloride = salt)	All foods. High levels in processed foods e.g. crisps, bread, breakfast cereal, tinned soups.	• Sodium and chloride help balance body fluids. Too much salt causes fluid retention.	• deficiency unlikely. More commonly too much in the diet, which can result in raised blood pressure.
Potassium	Fruit and vegetables, pulses, nuts, seeds	• balances body's fluids • may help reduce blood pressure • needed for muscle function • needed for insulin secretion	• rapid irregular heart rhythm • nausea, vomiting, diarrhoea • muscle weakness • irritability • paralysis
Iodine	Sea fish, shellfish, seaweed products, cow's milk (non-organic), some cereals and grain	• manufacture of thyroid hormones	• thyroid dysfunction, goitre • slow metabolic rate • lethargy, weakness, weight gain, poor concentration • oedema • myalgia
Zinc	Meat, dairy, seafood, bread and cereal products, wheatgerm	• helps with wound healing • needed for sperm production • needed for cell division	• growth retardation • mental retardation • hypogonadism • loss of appetite • loss of taste or smell • susceptibility to infection • delayed wound healing • hair loss • dermatitis
Selenium	Fish, seafood, brazil nuts, American or Finnish sourced flour products, eggs, offal, meat.	• important for the immune system • needed for sperm production • functioning of thyroid hormones • possible role in cancer prevention	• Keshan disease (form of cardiomyopathy)
Calcium	Milk, dairy products, flour, soya milk with added calcium, green leafy vegetables, tinned fish (where bones are eaten), nuts	• builds bones and teeth (with vitamin D) • regulates muscle contraction including heartbeat • involved in blood clotting	• stunted growth • weakened bones and teeth
Chromium	Meat, wholegrains, lentils, spices	• involved in the action of insulin • involved in carbohydrate, fat and protein metabolism	• impaired glucose tolerance and glucose utilisation • weight loss • neuropathy • elevated plasma fatty acids • depressed respiratory quotient • abnormalities in nitrogen metabolism

iii. Food diary

Included as a seperate pdf with this toolkit is a template for a food diary:

1 Be honest and try to list all of the food and fluid you have consumed throughout the day.

2 Ideally complete the food diary for seven days (adapting the template given). Alternatively, choose three normal / average days; possibly two work or weekdays and one home or rest day.

3 Carry this diary with you at all times on these days and complete after every meal, drink or snack.

4 Give as much detail as possible to show quantity, eg:

Teaspoons, tablespoons, cups or pints. Tin or packet size. Small, medium or large portion. Brand names or ingredients of composite meals (or cut out the ingredients list). Type of milk: skimmed, semi-skimmed or full fat. Say whether fried, steamed, boiled, roasted, fresh, frozen, canned or dried food.

5 Use the comments box to explain mood, difficulty sleeping, tiredness etc.

Click here to open the template.

iv. Ideas to make meals healthier

Below are some simple meal ideas that provide a balance of good quality protein, fruit and vegetables, beans and pulses and wholegrains. These meals are nutrient rich and provide slow release energy to help stave off blood sugar dips and accompanying dips in mood. These meal ideas include low cost meat (e.g. turkey mince) and fish (e.g. tinned tuna, coley, mackerel) so are suitable for both budget conscious residential treatment centres and clients.

For soups, hand held blenders are ideal and cost as little as £5 in supermarkets.

This sample of meal ideas gives you a flavour of how standard, familiar recipes can be adapted to be healthier.

Breakfast

meals to provide slow release energy to avoid the mid-morning sugar dips.

Home made muesli – mix together oats, rye flakes, chopped nuts, seeds and dried fruit. Serve with chopped fresh fruit, skimmed/semi-skimmed milk or low fat live yoghurt. This lacks the sugar and salt of most shop bought cereals. Oats provide slow release energy, nuts and seeds are rich in vitamins, minerals and fatty acids and dried fruit contributes to 5 a day. Live yoghurt is probiotic and helps maintain a healthy gut.

Scrambled eggs on toast – sauté onions, peppers and chopped tomatoes in a little olive oil. Add the beaten eggs and stir until set. Serve with wholemeal toast. Eggs and wholemeal toast provide slow release energy and the vegetables contribute to 5 a day.

Fruity porridge – follow instructions on the porridge oats packet, using skimmed or semi-skimmed milk and omitting salt. When nearly cooked, add a handful of dried fruit or a chopped banana per person and continue cooking for a couple of minutes – these naturally sweeten the porridge so there is no need for sugar. You could add some chopped nuts or seeds too.

Beans on toast – use wholemeal toast and reduced salt and sugar baked beans for a perfectly respectable breakfast.

Lunch

not too heavy, to avoid afternoon sleepiness

Salmon fishcakes – make with fresh or tinned salmon. Serve with a mixed salad – oily fish and 5 a day.

Quiche – use half wholemeal/half plain flour for the pastry. Sauté vegetables in a little olive oil and place on the base of the flan – e.g. onion and leak, red pepper and mushrooms to contribute to 5 a day. You could add a little trimmed, grilled bacon or flakes of cooked/tinned salmon or smoked haddock. Use skimmed/semi-skimmed milk in the filling and sprinkle reduced fat cheese on top. Serve with salad.

Spanish omelette – include sautéd onions, garlic, peppers, mushrooms and any other vegetables you like, to add to 5 a day.

Carrot and lentil soup – a hearty soup but not too heavy; just-sautéed onions and carrots, simmered with chicken or vegetable stock and red lentils, then whizzed up with a blender and seasoned. Serve with crusty wholemeal rolls.

Always have wholemeal bread and plenty of fruit available at lunches.

Dinner

comforting food that's healthy too

Shepherd's Pie

- Use turkey mince instead of beef for less saturated fat.
- Add chopped vegetables to make up 5 a day.
- Add beans such as borlotti or butter beans (choose tinned beans in unsalted water) for added fibre, slow release energy and to count as one portion of vegetables for 5 a day.
- If you grate cheese on top, use reduced fat hard cheese.

Casseroles

- Include borlotti or cannellini beans, red lentils and chopped vegetables for fibre, slow release energy and to contribute to 5 a day.
- Choose lean meat e.g chicken, turkey, or lean cuts of beef or pork, or white fish, tinned tuna or salmon, or a meat alternative such as Quorn™.
- Serve with steamed vegetables and baked or new potatoes.

Burger and chips

- Use low fat beef or turkey mince to make the burgers.
- Use wholemeal bread buns instead of white ones.
- Make oven-baked chunky chips. Toss chipped potatoes in a bag with a little olive oil then spread over a baking sheet and bake in a hot oven.
- Serve with plenty of salad.

Fish and chips

- Oven bake white fish fillets (e.g. hoki, coley, haddock, cod) with a drizzle of oil (use salmon to include oily fish).
- Mackerel fillets (oily fish) can be dipped in beaten egg and seasoned oatmeal, before oven baking and serving with plenty of lemon chunks and horseradish.
- Make chunky chips as described above.
- Serve with plenty of steamed vegetables.

v. Case studies

1. *Sally Sandford is a registered dietician working in Leeds with young people who are actively using drugs and alcohol. If drug workers suspect a client is at risk of malnutrition, they offer them an emergency food bag. These bags are given for a maximum of three days, during which time the drug worker is able to help sort out factors that may be contributing to the client's malnutrition, such as being homeless or not having received a benefit cheque.*

   Drug workers find the emergency bags a simple way of providing practical help. Young people that have received emergency food have reported that three days' guaranteed food helped them to focus on other issues, such as engaging with services that will hopefully help them into treatment.

2. *Clouds House is a first stage residential treatment centre. Claire Clark, head of treatment services at Clouds, took the brave step of overhauling menus, risking dissent from residents. Vending machines with fizzy drinks and confectionery were removed, and replaced with fresh fruit and water dispensers. Coffee in the evening was replaced with herbal teas. Chefs have reduced salt, sugar and saturated fats in meals and introduced more fresh fruit and vegetables, with more meals made from scratch. Care is taken over menus and meal preparation to ensure that they remain appealing to residents and retain elements of 'comfort food', while cutting down on levels of sugar, salt and fat. At the end of each meal time, the chefs go into the dining room to see that everyone has eaten their meals and that there were no problems. Encouragingly, the new menus have been received well by Clouds' clients.*

   Staff bought into the changes and have witnessed more settled behaviour and better sleeping patterns among residents. Clients too are noticing the benefits and are actively learning more about healthy eating through seminars they attend at Clouds, to prepare them for life beyond treatment.

vi. Click here for client leaflet

vii. Click here for client poster