Food and mood

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Food and mood

Date of acceptance: June 9 2000.

Aims and intended learning outcomes
The aim of this article is to provide an overview of current scientific understanding of how foods and nutrients affect mood and behaviour.
After reading this article you should be able to:
■ Examine the evidence demonstrating that particular foods and nutrients have an effect on mood.
■ Appreciate the complex nature of food-mood inter-relationships and how they vary between individuals.
■ Appreciate the impact of psychological factors on mood and food consumption.
■ Recognise that modifications to diet, physical activity and attitudes to food can be managed to help improve mood.

Introduction
It is commonly believed that what we eat and drink has an impact on our moods. As moods, in turn, are linked to behaviour and mental and physical performance, it is important to determine whether these food-mood relationships are real or imagined.
Although still relatively poorly understood, there is increasing scientific evidence that explores some of these food and mood interactions. This evidence helps to identify where food has a true physiological impact on mood state. It is also helpful to understand how these relationships are mediated by psychological factors.

How does food influence mood?
The underlying principle is that substances in foods interact with the body’s chemistry to exert a change in mood. The active ingredients in the food might be the nutrients themselves, principally carbohydrates, alcohol, vitamins and minerals, or other components such as caffeine and theobromine, which are found in chocolate.
It is important to realise, however, that mood can also influence the decision to eat or drink and the choice of food and drink. After consumption of a particular food, a person’s expectation of its effect on mood might influence his or her belief of what, if any, effect has actually occurred.

The serotonin theory
One early theory (Fernstrom and Wurtman 1971) suggested that the consumption of carbohydrate alters the balance of amino acids in the blood, which in turn causes an increase in serotonin, a chemical in the brain. Serotonin has a number of important functions, including the regulation of sleep, appetite and impulse control. It also has a key role in the elevation of mood, so if carbohydrates can boost serotonin levels they might improve mood.
Wurtman and Wurtman (1989) went on to develop the theory and argued that carbohydrates might help to relieve depression. It has also been proposed that people suffering from seasonal affective disorder (SAD or the ‘winter blues’) and premenstrual syndrome might have low serotonin function, which makes them feel low. People suffering from these ailments often report a craving for carbohydrates and it is suggested that this is the body’s attempt to self-medicate (Wurtman and Wurtman 1989).
However, there is a flaw in the carbohydrate and serotonin theory, which was highlighted in a recent review by Benton and Donohoe (1999). More than 30 human studies were examined to determine the amino acid profile in the blood after consuming meals varying in carbohydrate...
content. It was found that only when the protein component of the meal was less than 2 per cent did the resulting amino acid profile favour a rise in serotonin levels in the brain. Benton and Donohoe (1999) highlight that even in foods considered to be high in carbohydrate, such as bread and potatoes, 15 per cent and 10 per cent of calories respectively come from protein. This means that there are very few instances when the level of carbohydrate in a meal is high enough to have a direct impact on serotonin levels.

Carbohydrate craving itself is a misnomer. Foods that are commonly craved, particularly by women (Drewnowski et al 1994), are chocolate, ice cream, doughnuts, cakes and biscuits. These foods all taste sweet and so are perceived as being rich in sugar – a carbohydrate. But, in fact, most of the calories from these foods are actually provided by fat. In addition, these foods all contain enough protein to negate any effect of carbohydrate on brain serotonin. For example, about 8 per cent of calories in ice cream and about 5 per cent in chocolate are from protein. So there must be another reason why these foods are commonly craved.

**The pleasure principle**

Pleasure plays a significant role in determining food choice, as people tend to consume foods they enjoy eating and avoid those they don’t. However, pleasure is not a simple or universally agreed property of a food, but an interplay between the individual’s current physiological needs, such as hunger level, previous experience of eating a particular food, and the food’s sensory properties.

The pleasure of eating could be enhanced by opioids such as β-endorphins, which are released in the body as the food is eaten. Drugs that mimic opioids, such as morphine, have been shown to increase food intake, whereas drugs such as naloxone, which block opioid receptors, reduce food intake (Drewnowski et al 1994). Perhaps craving for highly desirable foods is simply down to the pursuit of pleasure. Eating foods we enjoy is likely to improve mood, just as doing anything we enjoy is likely to cheer us up.

**The effects of cravings**

A food craving can be described as an urge to eat a particular food. Cravings appear to be commonplace and at least 60 per cent of people report that they experience them (Gibson and Desmond 1999). There are differences between the sexes in the attitudes and emotions related to this behaviour. Men who report food cravings typically interpret them as being initiated by hunger, whereas women are more likely to link cravings with negative moods, stress and boredom. Negative feelings, such as guilt and remorse following indulgence in the craved foods, also appear more frequently in women (Macdiarmid and Hetherington 1995). Often, a craved food is a ‘forbidden’ food, such as chocolate, which probably contributes to women labelling themselves as addicts or chocoholics.

**TIME OUT**

Why is chocolate such a commonly craved food and is there such a thing as a chocoholic?

**Is chocolate addictive?**

Gibson and Desmond (1999) have summarised the evidence relating to whether psychoactive substances in chocolate create a true drug-like addiction. Cocoa contains a number of potentially psychoactive chemicals:

- Anandamides, which act at the same site in the brain as cannabis.
- Tyramine and phenylethylamine, which act in a similar manner to amphetamine.
- Theobromine and caffeine, which are both known to have stimulant properties.

For these chemicals to create an addiction, they would need to be present in doses shown to have a pharmacological effect. However, these substances are present at low concentrations in chocolate. For example, it has been shown that 2 to 3g of phenylethylamine is needed to have an antidepressant effect, but a 50g bar of chocolate contains only a third of a milligram (BNF 1998).

Some of the chemicals in chocolate are also present in other foods at similar or higher doses. For example, tyramine is present in larger doses in cheese, yeast extract and pickled herrings, yet these are not regularly described as craved foods (Gibson and Desmond 1999).

Michener and Rozin carried out a classic study in 1994, which clearly demonstrated that chocolate craving is due to sensory factors rather than the presence of pharmacologically active substances. Participants were given a series of boxes that contained milk chocolate, white chocolate, cocoa powder capsules or white chocolate with cocoa. When the participants experienced a chocolate craving, they opened a box and ate the contents. If the chemicals in cocoa are responsible...
for chocolate craving, the consumption of pure cocoa should alleviate the craving.

It was found that milk chocolate satisfied the craving, whereas white chocolate was not so effective. Adding cocoa to white chocolate did not make any difference and cocoa powder was not effective at all. White chocolate provides the texture but not the full taste of milk chocolate. It seems, therefore, that chocolate craving is down to the pleasure principle — people want its unique taste and feel in the mouth.

**Premenstrual cravings**

There is good evidence that food intake varies throughout the menstrual cycle in most women. Vitos and Davies (1996) reviewed the studies examining the amount and types of food consumed at different phases of the menstrual cycle. They found that studies reported an increase in calorie intake premenstrually. These increases ranged between 4 and 35 per cent above the amount of calories consumed post-menstruation, with the lowest calorie intake being around the time of ovulation.

Other studies have examined basal metabolic rate (BMR) throughout the menstrual cycle. It has been demonstrated that BMR rises premenstrually and drops around the time of ovulation (Bisdee et al 1989). Women are often aware of an increased premenstrual appetite and it appears that this is partly in response to increased energy expenditure at that time.

Apart from an increased appetite, cravings, particularly for sweet foods, are also reported to be more common premenstrually. Studies examining food intake have found that, although there is an increase in carbohydrate consumption, there is also an increase in fat and protein intake (Vitos and Davies 1996). In other words, carbohydrate intake does not increase disproportionately to other nutrients. Barr et al (1995) suggest that the cravings represent appetite, rather than a specific craving for carbohydrate.

**TIME OUT 2**

What explanation and advice would you give to female patients asking about premenstrual cravings for sweet foods?

**Mid-morning blues**

Many people believe that eating sugar-rich foods causes a "rush" in blood sugar, which is followed by a fall in blood sugar (hypoglycaemia), accompanied by feelings of tiredness, low mood and possibly even dizziness and shaking. These lows are often suffered in the mid-morning or mid-afternoon.

Although many people report these symptoms, they are very rarely associated with low blood sugar levels except in people with diabetes who are taking medication (Williams, personal communication). Under normal circumstances, blood sugar levels are kept under tight control by hormones such as insulin and glucagon. However, symptoms similar to those of hypoglycaemia can be induced by stress, particularly hyperventilation or over-breathing. Many people who suffer hyperventilation are unaware that their breathing pattern has changed, but this can be enough to change blood chemistry and cause a variety of distressing symptoms. These symptoms are related to stress and anxiety in many cases, and normally clear up when the cause is recognised and treated.

Although it is perceived that sugar-sucrose-rich foods have the greatest impact on blood sugar levels, this is not the case. The glycaemic index (GI) is used to assess the blood glucose response of a food. GI cannot be predicted based on whether the carbohydrate is in the form of starch or sugar (Table 1). In fact, sucrose (table sugar) has a lower GI than either white or wholemeal bread. The form of the food is important, however. Foods where the starch is less available for digestion, such as pasta, are absorbed more slowly than bread. Similarly, fat slows down the absorption of carbohydrate, which is why chocolate has a lower GI than pure sugar or potatoes.

**TIME OUT 3**

Using reference material, explain the mechanism behind the control of blood sugar levels and how levels are controlled when food is eaten.

**Carbohydrate and alertness**

A recent major review of the effects of carbohydrate-rich meals and drinks on mood and alertness (Reid and Hammersley 1999) examined the results of all human studies since 1983. Half of the studies reported some evidence that carbohydrate had an effect on alertness. Most of these studies found that consuming carbohydrate made people more sleepy and relaxed. In contrast, the other studies found no specific

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**Table 1. Glycaemic index of selected foods**

<table>
<thead>
<tr>
<th>Food</th>
<th>Glycaemic index*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>138</td>
</tr>
<tr>
<td>Cornflakes</td>
<td>119</td>
</tr>
<tr>
<td>Chips</td>
<td>107</td>
</tr>
<tr>
<td>White bread</td>
<td>100</td>
</tr>
<tr>
<td>Mashed potatoes</td>
<td>100</td>
</tr>
<tr>
<td>Wholemeal bread</td>
<td>99</td>
</tr>
<tr>
<td>Shredded wheat</td>
<td>99</td>
</tr>
<tr>
<td>Porridge</td>
<td>87</td>
</tr>
<tr>
<td>Cakes</td>
<td>87</td>
</tr>
<tr>
<td>Sugar (sucrose)</td>
<td>87</td>
</tr>
<tr>
<td>Chocolate</td>
<td>84</td>
</tr>
<tr>
<td>Banana</td>
<td>83</td>
</tr>
<tr>
<td>White rice</td>
<td>81</td>
</tr>
<tr>
<td>Muesli</td>
<td>80</td>
</tr>
<tr>
<td>Boiled potatoes</td>
<td>80</td>
</tr>
<tr>
<td>Popcorn</td>
<td>79</td>
</tr>
<tr>
<td>Brown rice</td>
<td>79</td>
</tr>
<tr>
<td>Sweetcorn</td>
<td>78</td>
</tr>
<tr>
<td>Orange juice</td>
<td>74</td>
</tr>
<tr>
<td>White spaghetti</td>
<td>59</td>
</tr>
<tr>
<td>Brown spaghetti</td>
<td>53</td>
</tr>
<tr>
<td>Apple</td>
<td>52</td>
</tr>
<tr>
<td>Lentils</td>
<td>38</td>
</tr>
<tr>
<td>Fructose</td>
<td>32</td>
</tr>
<tr>
<td>Soya beans</td>
<td>23</td>
</tr>
<tr>
<td>Peanuts</td>
<td>21</td>
</tr>
</tbody>
</table>

*Glycaemic index is the impact that a food has on blood glucose levels relative to the effect of white bread (Food and Agriculture Organisation/World Health Organization 1998)
effects of carbohydrate on moods. For example, where subjects were given drinks containing pure carbohydrate in the form of sucrose (sugar), compared with drinks containing aspartame, no effects on mood were reported. In studies examining the impact of meals, a general reduction in alertness was reported after eating lunch, but there was no difference between the high protein and high carbohydrate versions.

Reid and Hammersley (1999) offered some suggestions as to why the results of such studies are so diverse:

- Most studies into the effects of meals on alertness are carried out at lunchtime. Alertness levels tend to fall in the early afternoon, regardless of what is eaten at lunchtime, due to natural circadian rhythms.
- It is likely that the effects of carbohydrate are subtle and that some people are more sensitive to them than others.
- Eating specific foods might affect how participants rate their feelings independently of any physiological changes. For example, people might feel depressed after a fatty meal simply because they expect to.

**Emotions**

It is considered that emotions are intense feelings that last up to a few hours (Oatley 1992), whereas moods are less intense but generally last longer. For example, when experiencing the emotion of sadness, feelings can be so intense that it might be impossible to function normally. However, when experiencing a sad mood, it might be possible to function relatively normally and only consciously think about being sad intermittently. If moods are relatively long-lasting, perhaps longer term studies would give a better insight.

In 1987, de Castro asked participants in a study to keep diet diaries for nine days. He calculated the proportion of calories obtained from carbohydrate and found that a higher carbohydrate intake was associated with feeling less depressed and more energetic. Other studies have supported this finding. For example, when high, medium and low carbohydrate diets were followed for seven days, the low carbohydrate diet was linked to increased feelings of anger, depression and tension (Keith et al 1991). When a high protein, low carbohydrate breakfast was given for three weeks, there were increased reports of anger (Deijen et al 1989). This suggests that high carbohydrate diets might have a general beneficial effect on mood. However, the mechanism remains obscure.

**TIME OUT 4**

Which foods are rich in carbohydrate and how would you encourage their consumption in someone who believes they are fattening?

**Caffeine: a psychoactive drug**

Caffeine is a naturally occurring substance that has been identified in coffee beans, cocoa beans and tea leaves. Levels of caffeine are highest in coffee, but there is a significant amount in tea. The amount of caffeine added to drinks such as colas and ‘pep-up’ drinks varies according to the manufacturer.

It is commonly believed that caffeine has a stimulant effect and there are many studies that demonstrate this. For example, caffeine has been found to enhance vigilance, increase alertness and improve mood and reaction time (Fagan et al 1988, Frewer and Lader 1991). However, most of these studies have used participants with a history of caffeine consumption. Therefore, after being deprived of caffeine overnight, the positive effects reported might simply be due to the relief of withdrawal, rather than to a true beneficial effect (Rogers and Dernoncourt 1998).

It could be that pre-existing differences in personality determine caffeine use. For example, people who find it hard to wake up in the morning might have learnt that caffeine increases their alertness and energy levels at this time, whereas other people avoid caffeine because it is over-stimulating or is irritating to the stomach.

Even if the benefits of caffeine are, in fact, the reversal of withdrawal, many of the population are regular caffeine consumers and so the ‘hit’ of caffeine has a real effect on their day-to-day mood. The negative effects, such as headaches, fatigue and depressed mood, when caffeine is denied to regular coffee drinkers are now believed to be the effects of withdrawal. These effects should be borne in mind by anyone attempting to give up caffeine drinks. However, all symptoms disappear after about two weeks (Rogers and Dernoncourt 1998).

**Alcohol and mental health**

It is well known that alcohol intoxication has a profound effect on mood and behaviour. Similarly, there is no doubt that excessive drinking can harm mental health, but there is some
evidence that light or moderate drinking could actually be beneficial.

Chick (1999) has reviewed the available evidence and found that 13 out of 16 population studies associated light or moderate drinking with better emotional wellbeing and social adjustment. Table 2 provides a definition of drinking habits. It is not clear, however, if these studies demonstrate cause or effect. For example, it could be that the social opportunities linked to light drinking provide the emotional benefits, rather than the alcohol itself. A few studies carried out in institutions for older people have found that light drinking associated with social activity is beneficial (Becker and Cesar 1973, Mishara et al 1975). In the same way, going to the pub provides an opportunity to socialise, which often improves mood.

A review of the literature on drinking and cognitive ability (Parsons 1998) concluded that there is a safe threshold of about 21 or 28 units of alcohol per week for women and men respectively (3 or 4 units per day), after which is a continuum of decline. One unit of alcohol is found in a small glass of wine, one measure of spirits or half a pint of lager. People drinking five or six units a day were found to have some cognitive inefficiencies, those drinking seven to nine units a day showed mild cognitive deficits, and more than ten units a day led to cognitive deficits equivalent to those found in diagnosed alcoholics.

**Thiamine**

Benton and Donohoe (1999) outlined a number of studies showing that a poor thiamine status (but not necessarily a clinical deficiency) might be linked to negative mood states. For example:

- Poor thiamine status was linked with introversion, inactivity, fatigue and decreased self-confidence in young adult males.
- Taking daily supplements of 10mg of thiamine for six weeks was associated with greater feelings of wellbeing and less fatigue in a group of older females who had poor thiamine status to start with.
- An improvement in thiamine status in young adult females was associated with reports of being more clearheaded and energetic.

However, thiamine deficiency is so rare in the UK population that it is unlikely to be an important determinant of mood. It is, however, responsible for the severe psychological effects of Wernicke-Korsakoff’s syndrome seen in some alcoholics.

**Iron and lethargy**

Iron deficiency is one of the most common deficiencies in the developed and developing worlds. In 1990, a study found that 4 per cent of British women had haemoglobin levels below 11g/dl, the level used to indicate anaemia (MAFF/DoH 1990). Another study in 1995 found that one in 12 of a nationally representative sample of pre-school children were anaemic (MAFF/DoH 1995).

It is well documented that anaemia results in feelings of fatigue, apathy and depressed mood. It has also been suggested that a low iron status without frank anaemia might contribute to feelings of anxiety and depression (Rangan et al 1998). The tiredness resulting from a low iron status could also decrease the motivation for exercise (Benton and Donohoe 1999), depressing mood still further.

**TIME OUT**

Using reference material, give examples of foods that might be recommended for someone with iron deficiency anaemia. What foods/nutrients will increase the uptake of iron? What might decrease iron uptake if consumed at the same time as iron-containing foods?
Effect of mood on food intake

As well as the view that certain foods and their constituents could have an effect on mood, there is also evidence that mood states themselves have an impact on the amount and types of foods eaten. In a recent study carried out by Macht (1999), 107 female and 103 male participants were asked to report how various characteristics of eating changed with emotions of anger, fear, sadness and joy.

This study found that hunger was rated as higher during feelings of anger and joy than during fear and sadness. Anger increased comfort and impulsive eating, whereas feelings of joy increased eating for pleasure.

In Macht’s study (1999), individual characteristics such as dietary restraint (the level to which food consumption is consciously restrained), body mass index (weight relative to height) and gender were taken into account and were found to have less impact on food consumption than the emotional states themselves. However, Macht suggests that for people with eating disorders, anger might be a trigger for binge eating. Therefore, binge eating therapy should perhaps include helping people cope with frustration and anger in ways other than eating.

How psychology intervenes

Emotions and moods are affected by physiological and cognitive factors. Cognitive factors will often override physiology, and the same applies to mood. For example, if a group of dieters are asked to consume a high calorie food during the course of an experiment, this might trigger anxiety and other negative emotions because of the perceived fattening nature of the food. This means that any true effects of the nutrients in the food would be masked (Reid and Hammersley 1999).

Learned factors are also likely to influence mood in everyday life. Prized or palatable foods are likely to elevate mood, regardless of their nutrient composition. It has also been suggested that eating certain foods unconsciously triggers emotions and moods associated with its consumption. It has been found that even the smell of a particular food can stimulate intense emotional experiences (Tyng 1982).

It is also believed that the situation in which a food or drink is consumed has an important effect. This could be because the psychological impact is only desirable under certain circumstances. For example, behaviour after alcohol consumption is readily affected by the social situation in which it is consumed (Booth 1994).

Past experience of the physiological effect of consuming a particular food or drink can also have an impact on food choice and rated mood after consumption. This expectation can be strong enough to induce the effect. For example, someone might expect to feel more alert after consuming a cup of coffee, so might do so even if the coffee is decaffeinated (Flaten and Blumenthal 1999).

Complex interactions

It is clear that substances in our food have a real impact on body chemistry. These effects are different in different people. This is clearly demonstrated in the case of caffeine: some people find it to be beneficial, whereas others cannot tolerate its stimulating effects. Similarly, Reid and Hammersley (1999) predict that the effects of carbohydrate will vary from person to person.

Apart from hunger, a whole range of factors affect a person’s food choices. These include social and cultural norms, previous exposure to certain foods, taste and pleasure. All of these are also linked to moods and emotions, so it is an extremely complex process to identify how food influences mood or vice versa.

The impact of thoughts and expectations relating to food cannot be underestimated. These thoughts have the ability to override any true physiological effects, but equally they might also enhance them.

TIME OUT

Give appropriate methods of increasing physical activity levels in sedentary individuals suffering from mild, non-clinical depression.
Positive thoughts

There are a number of potential ways in which it might be possible to minimise the negative and maximise the positive effects of food on mood. Food provides pleasure through its taste and other sensory properties and this can improve mood and feelings of satisfaction. However, if consumption of pleasurable foods gets out of control, feelings of guilt and related negative mood states can result. The best strategy is to manage the intake of favourite or crave foods to maximise the pleasure they provide without overconsumption.

In a recent study by Gibson and Desmond (1999), participants were trained to eat chocolate either when hungry or when full over a two-week period. Chocolate craving was found to increase in those trained to eat chocolate when hungry. Conversely, chocolate craving was reduced in those who only ate chocolate when full (after a meal). The authors suggest that their findings could be used to help people control their appetites for highly desirable foods, by including them in measured amounts with meals and avoiding them when hungry.

As emotions occur independently of foods, it is useful to diagnose when there is a true link with food consumption and when the food is being used to explain an underlying problem. For example, the symptoms associated with hypoglycaemia are probably caused by stress or anxiety rather than food. Once recognised, steps can then be taken to treat the underlying problem.

For some patients, particularly psychiatric patients and those with eating disorders, it might be worth checking for poor self-esteem, which could be contributing to negative mood states. Marginal intakes of thiamine and iron might also be present in those with poor eating habits. Foods rich in these nutrients are beneficial.

There is some evidence to suggest that diets rich in carbohydrates have a general beneficial effect on mood (Benton and Donohoe 1999). This provides another good reason to promote high carbohydrate diets to patients. Other aspects of a healthy lifestyle might also be important, particularly physical activity.

There is good evidence (Fox 1999) that exercise is effective in improving people's mental wellbeing, largely through improved mood and self-esteem. Indeed, it has been found that moderate levels of physical activity can be as effective as psychotherapy in reducing depression.

Conclusion

It is clear that food does have a real effect on how we feel, but for the most part, in a very subtle and complex way that is essentially mediated by psychological factors. This complexity contrasts strongly with popular beliefs that particular foods have a dramatic impact on moods and behaviour.

Although deficiencies of certain vitamins and minerals can depress mood, other negative effects that are attributed to food constituents are more likely to occur for other reasons. However, the beneficial effects of psychological activity on mood are irrefutable. So the current advice to eat a well-balanced, high carbohydrate diet and take regular exercise is likely to make us feel good emotionally as well as physically.

TIME OUT 7

Now that you have completed the article, you might like to think about writing a practice profile. Guidelines to help you write and submit a profile are outlined on page 55.
Test your knowledge and win a £50 book token

This self-assessment questionnaire (SAQ) will help you to test your knowledge. Each week you will find ten multiple-choice questions broadly linked to the continuing professional development (CPD) article. The answers might not be found in the article itself and you may wish to use reference books to assist you. The key words listed at the beginning of the CPD article are used as a basis for the questions.

Note: There is only one correct answer for each question.

How to use this assessment
There are several ways that you can make use of this assessment.

I You could test your subject knowledge by attempting the questions before reading the article, and then go back over them to see if you would answer differently.

II Alternatively, you might like to read the article to update yourself before attempting the questions.

The answers will be published in Nursing Standard in two weeks' time.

Prize draw
Each week there is a draw for correct entries. If you wish to enter, send your answers on a postcard to: Nursing Standard, Nursing Standard House, 17-19 Peterborough Road, Harrow, Middlesex HA1 2AX, or via email to: karen.kelly@rcn.org.uk

Ensure you include your name and address and the SAQ number. This is SAQ No 57. Entries must be received by 10am on Tuesday October 10. This week's successful winner will receive £50 in book tokens.

I When you have completed your self-assessment, cut out this page and add it to your professional portfolio. You can record the amount of time it has taken you, and don't forget to include any time spent consulting other sources to find answers. Space has also been provided for you to add any comments and additional reading you might have undertaken.

II If you wish to further your professional development, you might consider writing a practice profile.

1 Which chemical in the brain regulates sleep, appetite and impulse control?
   a) Dopamine
   b) Serotonin
   c) Noradrenaline
   d) Monoamine-oxidase
   e) Depression

2 What do most men believe initiates their food cravings?
   a) Guilt
   b) Hunger
   c) Stress
   d) Boredom
   e) Depression

3 Which chemical contained in cocoa acts at the same site in the brain as cannabis?
   a) Caffeine
   b) Theobromine
   c) Tyramine
   d) Phenylethylamine
   e) Anandamide

4 What is more likely to satisfy a chocolate craving?
   a) Cocoa
   b) Milk chocolate
   c) Dark chocolate
   d) White chocolate
   e) Hot chocolate

5 What has less impact on blood sugar levels than sucrose?
   a) Chocolate
   b) Chips
   c) Glucose
   d) White bread
   e) Porridge

6 What is associated with feeling less depressed and more energetic?
   a) Fat
   b) Protein
   c) Carbohydrate
   d) Vitamin
   e) Mineral

7 What combination is likely to increase incidence of anger?
   a) High protein, low carbohydrate
   b) High fat, high protein
   c) Low carbohydrate, low fat
   d) Low fat, high protein
   e) No fat, high protein

8 How long do the withdrawal effects of caffeine take to disappear?
   a) 2 hours
   b) 22 hours
   c) 2 days
   d) 2 weeks
   e) 2 months

9 What emotion is most likely to be a trigger for binge eating?
   a) Joy
   b) Grief
   c) Anger
   d) Guilt
   e) Love

10 How many grams of alcohol are there in one unit?
   a) 0.8
   b) 8
   c) 18
   d) 28
   e) 38

Report back
This activity has taken me _______ hours to complete.
Other comments: ________________________________________________________________

Now that I have read this article and completed this assessment, I think that my knowledge is:
  Excellent
  Good
  Satisfactory
  Unsatisfactory
  Poor

As a result of this I intend to: ______________________________________________________

Answers
Answers to SAQ No 57 questions
1 c 2 d 3 a 4 d 5 b 6 e 7 b 8 e 9 b 10 d

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What do I do now?

- Using the information in Box 1 to guide you, write a practice profile of between 750 and 1,000 words – ensuring that you have related it to the article you have studied. See the examples in Box 2.
- Mark the title of the entry as: practice profile and include your name, followed by the title of the article, which is Food and mood, and the article number, which is NS59.
- Complete all of the requirements of the cut-out form provided and attach it securely to your practice profile. Failure to do so will mean that your practice profile cannot be considered for accreditation.
- RCN members are entitled to three free entries. Additional entries will be charged at £10. Using an A4 envelope, send for your free RCN assessment or enclose the £10 fee (£15 for non-RCN members) to: RCN CPD articles, Royal College of Nursing, Freepost CF 3790, Cardiff CF4 1ZZ by September 27 2001 (cheques payable to RCN). Please do not staple cheques or vouchers to your practice profile and cut-out slip – paper-clips are recommended.
- You will be informed in writing of your result. Ten continuing education points are awarded for successful completion of this CPD article. You are entitled to one retake if you are unsuccessful.
- Feedback is not provided: notification of accreditation indicates that you have been successful. If you wish your practice profile to be considered for publication in Nursing Standard, indicate this in the place provided on the cut-out form.
- Keep a copy of your practice profile and add this to your professional profile – copies are not returned to you.
- Study the checklist (Box 3).

Box 1. Framework for reflection

- What have I learnt from this article?
- To what extent were the intended learning outcomes met?
- What do I know, or can I do, now, that I did not/could not before reading the article?
- What can I apply immediately to my practice or client/patient care?
- Is there anything that I did not understand, need to explore or read about further, to clarify my understanding?
- What else do I need to know/extend my professional development in this area?
- What other needs have I identified in relation to my professional development?
- How might I achieve the above needs? (It might be helpful to convert these to short/medium/long-term goals and draw up an action plan).

Box 2. Examples of possible practice profile entries

Example 1 After reading a CPD article on ‘Communication skills’, Jenny, a practice nurse, reflects on her own communication skills and rearranges her clinic room so that she will sit next to her patients when talking to them. She makes a conscious decision to pay attention to her own body language, posture and eye contact, and notices that communication with patients improves. This forms the basis of her practice profile.

Example 2 After reading a CPD article on ‘Wound care’, Amajit, a senior staff nurse on a surgical ward, approached the nurse manager about her concerns about wound infections on the ward. Following an audit which Amajit undertook, a protocol for dressing wounds was established which led to a reduction in wound infections in her ward and across the directorate. Amajit used this experience for her practice profile and is now taking part in a region-wide research project.

Box 3. Portfolio submission

Checklist for submitting your practice profile

✓ Have you related your practice profile to the article?
✓ Have you headed your entry with: the title practice profile; your name; the title of the article; and the article number?
✓ Have you written between 750 and 1,000 words?
✓ Have you kept a copy of the practice profile for your own portfolio?
✓ Have you completed the cut-out form and attached it to your entry?
✓ Have you indicated whether you would like your practice profile to be considered for publication in Nursing Standard?
✓ Have you enclosed your cheque?

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