Fantastic feeding funnels in medicine and art

Eating is a common theme in art but few images depict artificial nutrition, say Maureen and Richard Park

As the festive season gets underway, many will turn their attention to the fine art of eating. Although the act of eating is a common theme in art, few images of artificial nutrition exist, and in particular the use of feeding funnels.

Frida Kahlo (1907-54)

Mexican artist Frida Kahlo herself experienced the distress of requiring assistance with feeding and used her paintings as a means of expressing the physical and emotional torment she suffered. The centenary celebrations marking her birth came to a close at the end of September 2008 with a major exhibition of her paintings. On display was a remarkable image of a feeding funnel, in *Without Hope* (fig 1).

Kahlo experienced ill health for most of her life. Even before being involved in a bus crash in 1925 at the age of 18, Kahlo walked with a limp as a result of a deformed right leg from mild spina bifida and polio. At the time of the crash she suffered fractures to her spine, pelvis, ribs, and right leg. During the next 29 years she endured a medical odyssey in Mexico and abroad, seeking treatments for chronic back pain and recurrent right leg problems. She is thought to have undergone “at least 32 operations, most on her spine and right foot.” Several procedures may have been unnecessary, as reflex sympathetic dystrophy could have been the cause of her chronic pain.

Information on Kahlo’s exact medical problems at the time of painting *Without Hope* in 1945 is limited. In a letter in 1941 Kahlo mentioned that she had anorexia and dyspepsia, “I don’t eat enough—I smoke a lot—and something strange! I drink no cockteltitos or cocktelazos anymore. I feel something in my tummy that hurts and I have a continuous desire to burp. (Pardon me—burpted!!). My digestion is of the vil tizanada [the dastardly tippler].” In 1944 Kahlo was prescribed complete bed rest and a steel corset. At that time she was described as having no appetite, had lost weight, and was ordered to eat puréed food every two hours. By 1945 her digestive symptoms were causing her family such concern that she was being fed by a funnel.

The powerful impact of *Without Hope* defies its size, only 28 cm × 36 cm. The setting is a barren landscape illuminated by the moon and the sun. Far removed from the reassuring surroundings of her family home a thin, frail Kahlo lies in bed, her head inclined, and her eyes staring out at the viewer as tears fall. In her mouth is a monstrous sized funnel, overflowing with dead animals and fish, and resting on top is a skull made from sugar and inscribed with her name. The funnel is so large that it has to be supported by a wooden frame, similar to the easel that Kahlo used when painting in bed. On the reverse of the picture is an inscription, “Not the least hope remains to me... Everything moves in time with what the belly contains.”

The imagery of *Without Hope* is complex. The stylised decorative cells on Kahlo’s bed cover can be linked to the sun and moon in the background as “opposite worlds of the microscope and the solar system.” The sugar skull refers to the Mexican festival of the Day of the Dead.

Fig 1 | Frida Kahlo: *Without Hope*, 1945 (oil on masonite) Museo Dolores Olmedo Patino, Mexico City

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**PODCAST**
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Dead when families take gifts, food, flowers, and sugar skulls to the graves of the departed. In *Without Hope* the sun recalls the orange marigolds associated with this festival, and the skull—given to both the living and the dead—may reflect Kahlo’s state of mind and body as she hovers between the two worlds.

The offering of food during the Day of the Dead festivities is in stark contrast to Kahlo’s painted “horn of plenty.” Kahlo’s niece recalled how her family “would blend meats, fruits, and vegetables and feed her by means of a funnel.” But Kahlo removed all reference to the bounties of nature and instead painted only dead, rotting creatures in her grotesque funnel, as if to emphasise its (and her own) sacrificial nature. Her depiction of funnel feeding does not seem to relate to any known Mayan or Aztec ritual. Rather, it has been linked directly to illustrations in Alfonso Toro’s *La Familia Carvajal,* a book describing the Inquisition’s persecution of the Jews in 16th century Mexico, which included scenes of women and men undergoing water torture by funnel. Evidence from the diary that Kahlo began in 1944 makes it certain that she had studied this book. In *Without Hope* she has fused these influences to create a disturbing surrealist vision of her own suffering.

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**Hieronymus Bosch (c1450-1516)**

Kahlo was an admirer of Hieronymus Bosch, who was one of the earliest artists to use the funnel as a symbol, often associated with satire. One example is in *The Cure of Folly* (fig 2). The open air surgical drama is set in an idyllic landscape. Surrounding the image is an inscription, “Master, take away the stone, my name is Lubbert Das.” In the foreground the fool Hubbert sits, subjecting himself to an operation by a quack to remove the stone of madness from his head. The surgeon appears to be removing a tulip instead of a stone, a reference to the removal of Hubbert’s finances (the Dutch word for tulip also meant money). One of the most unusual details in this bizarre image is the surgeon, who wears an inverted metal funnel on his head. Historians have offered different interpretations of the funnel’s significance: as a signal, obvious to the viewer but not to the gullible patient, that the surgeon is a trickster, and as the traditional “funnel of wisdom.” By inverting it Bosch may be implying that the wearer is as much a fool as the patient, because knowledge has not been “funnelled” into him; rather, it has poured over his head without being absorbed.

**Francisco de Goya (1746-1828)**

Bosch’s use of the funnel as a motif in *The Cure of Folly* may also have inspired a drawing, *Gran Disparate* (Great Folly, fig 3), by Francisco de Goya. Goya’s long career spanned one of the most turbulent periods in Spain’s history. To escape from the repressive regime of Ferdinand VII, he left Madrid in 1824 and spent the last four years of his life as an exile in Bordeaux. As with Kahlo, Goya experienced periods of ill health that impacted on his art. He was left permanently deaf as a result of illness in 1792 (possibly the rare Vogt-Koyanagi-Harada syndrome). Sometime between 1815 and 1824 Goya completed a set of 22 etchings satirising human foolishness, *Los Disparates* (Follies). The chalk drawing, *Gran Disparate,* while similar in theme and mood to *Los Disparates,* is found in an album of sketches dating from Goya’s time in Bordeaux. In the foreground, a large male sits with his head resting on a table beside him. A man standing behind the figure pours liquid from a jug into a funnel placed in the severed trunk. Simultaneously the decapitated body is spoon feeding its own head. The title, *Gran disparate,* is written below the image. As with so much of Goya’s art, this drawing is open to interpretation. Is the figure a symbol of gluttony, feeding itself and being fed despite no longer deriving any benefit? Or, is Goya returning to the pessimistic mood of *Los Disparates* to point

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**Fig 2 | Hieronymus Bosch: The Cure of Folly, c1490 (oil on panel) Prado, Madrid**
to the misguided folly of Spain attempting to survive after cutting itself off from its liberal intellectuals?

René-Primevère Lesson (1794-1849)

The feeding funnel is rarely the sole object in a picture. However, in 1824 the surgeon and naturalist René-Primevère Lesson drew a wooden feeding funnel during a voyage to New Zealand (fig 4). The funnel was carved with interlocking curvilinear motifs. Ta moko, Maori tattooing, created deep grooves in the face, which were stained with a sooty pigment. Puréed food was passed through a feeding funnel, a korere, to the men, who were prevented from eating solid food because of the facial scarring and taboos associated with the ceremony.

Honoré Daumier (1808-79)

In contrast to the korere, the feeding funnel in Le Médecin Hydropathe (fig 5), by Honoré Daumier, has no ornamentation. Although the main treatment consisted of external application of cold water with bandaging to induce sweating, patients were also encouraged to drink large volumes of pure, cold water, “as much as his stomach could support without inconvenience—not less than twelve glasses a day, and up to twenty or thirty.” Within 10 years, after several deaths associated with hydrotherapy, Daumier’s prophetic “killing his taste for food forever!” would seem less comical.

Conclusion

These examples illustrate how an everyday object such as a feeding funnel can be transformed by the artist’s imagination and creativity. In the hands of Bosch, Goya, Maori craftsmen, and Daumier the funnel becomes a symbol of satire, pathos, ritual, and humour. For Kahlo, however, the funnel has a deeply personal connection with her own suffering. Without Hope, remains one of the most powerful images of a “fantastic feeding funnel” in art.
The plaintive words of the unfortunate boy chosen to plead for his fellow inmates still resonate. They speak of chronic want, injustice, and neglect. But how true are the sentiments underpinning this powerful popular work? A dietetic analysis of Oliver Twist’s workhouse diet, as well as contemporaneous workhouse menus, allows us to answer the question—did Oliver really need more?

**Workhouses: pauper palaces or barbarous institutions?**

In the past few decades, historians have described workhouses as “pauper palaces.” Yet others have highlighted the barbarous injustices perpetrated on inmates, most notably at Andover workhouse, where paupers were reduced to gnawing rotten bones. Terrifying rumours of floggings, starvation, and the separation of families circulated in contemporary society. Dickens was mainly responsible for the dim view of the Victorian workhouse—the Andover guardians were condemned by a select committee nine years after the publication of *Oliver Twist, or, the Parish Boy's Progress* (1837-8).

In *Oliver Twist*, Charles Dickens wrote damningly about the workhouse and the plight of Victorian children. Oliver was born in a workhouse, almost immediately orphaned, and then abandoned. He survived his first nine years at a “baby farm,” where eight in 10 children perished. He then entered a workhouse where comforts at best approached the lowest levels that could support existence. Oliver remained there for three months until he was ejected for “ ingratitude” after his request for more food.

Dickens describes Oliver’s diet as “three meals of thin gruel a day, with an onion twice a week and half a roll on Sunday.” On feast days, the inmates received an extra two and a quarter ounces (60 g) of bread. The dilemma was of “being starved by a gradual process in the house or by a quick one out of it.” But how true is this of the average workhouse?

Surviving menus and other material concerning early 19th century workhouse diets provide some answers. Jonathan Pereira’s *Treatise on Food and Diet with Observations on the Dietetical Regimen* (1843) describes the “workhouse dietaries” which were adopted for use in poorhouses throughout England in 1836 (figure).

From these six dietaries the local board of guardians of the poor selected the diet “most suitable to the circumstances” of each establishment. Pereira emphasises that they “have been proved to be sufficient in quantity and perfectly unexceptionable as to the nature of the provisions specified in each.”

In addition, great care was taken when preparing the workhouse meals. “Great dispatch is necessary in the serving. Two persons, one to cut the other to weigh, will on the average, have to serve 14 rations in two minutes. So much to be done, and, from necessity, in so short a period of time, requires some skill, and not a little practice on the part of the Carver and Weigher, to keep within a moderate loss.”

This quotation alone challenges suggestions that the food would have been rendered inedible by unskilled cooks working with unsuitable equipment.

**Dietetic analysis**

Although historians have suggested that modern dietitians might approve of workhouse diets, especially the coarse workhouse bread, no nutritional analysis of these diets has been conducted. We therefore assessed Oliver’s diet and the diets described by Pereira using the Dietplan computer program.

We calculated Oliver’s intake as 3 pints (1.76 l) of gruel a day. For our analysis we used a recipe for water gruel taken from a 17th century English cookery text. Unlike the gruel described by Dick-
ens, the gruel described in Pereira’s workhouse diets is substantial, not thin (each pint contained 1.25 oz of the best Berwick oatmeal). Dietetic analysis shows that the diet described by Dickens would not have sustained health and growth but would have resulted in multiple nutritional deficiency diseases, such as anaemia, scurvy, rickets and beriberi.

Pereira’s diets would have sustained growth in a 9 year old child unless he or she was exceptionally active (table). We used the reference nutrient intake (the amount that meets the needs of 97.5% of the population) to compare nutritional requirement with provision, although this method overestimates the requirement for most people. However, these charts are based on a 9 year old boy living today, not one who has been chronically undernourished for years and is shorter and lighter than a 21st century Western child of his age. Although in theory the emaciated Oliver would need more energy to provide catch-up growth, he would need less energy than a child today because basal metabolic rate is linked to body weight. However, the confounding factor is physical activity; present day children are less active than their predecessors, and emaciated children do not have enough energy to be very physically active.

A file containing the full dietetic analysis and a table from Pereira’s book detailing the considerable amounts of meat (beef and mutton) delivered to individual London workhouses is available on bmj.com.

### Did Oliver really need more?

*Oliver Twist* was written in monthly installments only three years after the Poor Law Amendment Act 1834. For many reasons, Dickens was strongly against this act, which led to the establishment of many workhouses for the destitute poor. The Poor Law commissioners, who regulated the workhouses, provided evidence that the poor received a better diet in the workhouse than they would have done outside it. Although many scare stories were published about alleged abuses in workhouses in the late 1830s, most did not stand up to scrutiny and conditions contrasted greatly with those described by Dickens and others at the beginning of the Victorian period. Masters could be dismissed, and another 86 (9.7%) were forced to resign, usually after complaints that were serious enough to be investigated.

Dickens would have been aware of all this. *Oliver Twist* was a deeply personal novel—Dickens’ early life had been hard. He received little formal education and after his father’s imprisonment for debt started work in a blacking warehouse at the age of 12. A recent biography states, “it is possible to see why the New Poor Law provoked in Dickens angry memories of his own deprivation, of his own separation from his family, and his own obsessive comparison of the need for food with the need for love.”

Dickens’ novel is a timeless chronicle of the abuse of childhood. Its strength and vigour still reminds us today of those who are disadvantaged and outside of society. However, our dietetic analysis and material from other books written at the time warn us not to be carried away by the force of the writing, but instead always to look at the evidence underpinning it. Dickens reminds us that fictional “truth” does not always coincide with the true facts.

### Comparison of Oliver Twist’s diet and contemporary published workhouse diets

<table>
<thead>
<tr>
<th>Dietary factors</th>
<th>Reference*</th>
<th>Oliver Twist’s diet</th>
<th>Dietary No 1</th>
<th>Dietary No 2</th>
<th>Dietary No 3</th>
<th>Dietary No 4</th>
<th>Dietary No 5</th>
<th>Dietary No 6</th>
</tr>
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<tbody>
<tr>
<td>Energy (kcal; kJ)</td>
<td>1970 (8235)</td>
<td>414 (1731)</td>
<td>1597 (6675)</td>
<td>1567 (6550)</td>
<td>1704 (7123)</td>
<td>1794 (7499)</td>
<td>1633 (6826)</td>
<td>1588 (6638)</td>
</tr>
<tr>
<td>Protein (g)</td>
<td>28.3</td>
<td>12.5</td>
<td>76.3</td>
<td>45.9</td>
<td>77.6</td>
<td>81.2</td>
<td>74.7</td>
<td>48.4</td>
</tr>
<tr>
<td>Fat (g)</td>
<td>76.6</td>
<td>9.9</td>
<td>54.1</td>
<td>55.2</td>
<td>45.1</td>
<td>54.2</td>
<td>41.1</td>
<td>57.6</td>
</tr>
<tr>
<td>Carbohydrate (g)</td>
<td>311.3</td>
<td>73.4</td>
<td>215.1</td>
<td>236.3</td>
<td>264.1</td>
<td>262.3</td>
<td>257.5</td>
<td>234.3</td>
</tr>
<tr>
<td>Iron (mg)</td>
<td>8.7</td>
<td>4.21</td>
<td>9.67</td>
<td>7.48</td>
<td>10.28</td>
<td>11.14</td>
<td>10.27</td>
<td>7.29</td>
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<tr>
<td>Calcium (mg)</td>
<td>550</td>
<td>69</td>
<td>657</td>
<td>656</td>
<td>1008</td>
<td>865</td>
<td>728</td>
<td>591</td>
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<tr>
<td>Vitamin C (mg)</td>
<td>30</td>
<td>1</td>
<td>12</td>
<td>0</td>
<td>8</td>
<td>5</td>
<td>15</td>
<td>6</td>
</tr>
</tbody>
</table>

*Dietary reference values for a 9 year old boy.*

After looking at the facts, the Poor Law commissioners can be considered to have shown “a benevolent concern for the welfare of the paupers.” That said, histories of the Poor Law show that historians should avoid generalisations. By 1803, England had 3765 workhouses, and practice must have varied in different localities. Conditions will have varied according to the size of the Poor Law union, the wealth of the ratepayers, the activities of pressure groups, and other variables. Workhouse discipline relaxed in the last two decades of the 19th century, and conditions contrasted greatly with those described by Dickens and others at the beginning of the Victorian period. Masters could be dismissed, and another 86 (9.7%) were forced to resign, usually after complaints that were serious enough to be investigated.

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ON BMJ.COM

Today’s children try out the Oliver Twist diet in a ten-minute video, along with interviews with the authors of this paper.

Find out more on bmj.com
“Come in!” barked Mr Quelch, form master of the Lower Fourth, in response to a tentative knocking at his study door. He set aside the history of Greyfriars School on which he had been working and peered over the top of his glasses at the rotund form that sidled into his office.

“Ah . . . Bunter. What do you want? This had better be important. And if it isn’t . . .” He flexed his cane meaningfully, glancing in the direction of Bunter’s ample rump in a manner fortunately now absent from stories about bespectacled public schoolboys.

Bunter blinked owlishly behind his thick, pre-NHS horn-rimmed glasses.

“Sir!” he squeaked. “It’s the school vending machine. There’s something wrong with it.”

“Wrong, Bunter? What could possibly be wrong with it?”

“Sir,” went on Bunter nervously “You know how it usually dispenses Mrs Bloater’s Carbonated Cordials? Well, the bottles now only seem to contain this colourless, odourless fluid . . .”

He waggled a plastic bottle at Quelch. “I think she’s trying to pull a fast one, Quelchy— I mean, SIR” he corrected himself quickly. “I think this is . . .” he leant forward conspiratorially “ . . . WATER!”

“Of course it’s water, Bunter you dolt!” exploded Quelch. “Junk food has been banned in schools since 2006!”

Bunter blinked, his mouth a surprised “O.” “Anything else, Bunter?”

The Fat Owl of the Remove nodded. “Er . . . yes, Sir. We don’t like this new healthier food regime— Harry Wharton, Coker, and some of the other chaps would like to you bring back Mrs Miggins’ Whopping Offal Pies, and her ‘Big Yankee’ Burgers.”

“No, Bunter.”

“But why, Sir?”

“Well, Bunter, I’d like to tell you what was in those burgers, but that will have to wait until we discuss the bovine reproductive system in biology classes. Let’s just call it ‘non-lean meat’ for now.”

Bunter’s eyes grew moist as the implications sank in. He looked down at his ample stomach. “Goodbye, old chum,” he whispered sadly. “ . . . but there’s always the tuck shop! In case, I mean, a chap was a bit peckish . . . starving, actually. And I’ve got my hamper from home every term . . . and some of the chaps are getting emergency deliveries of chips through the school railings.”

“Listen, boy. It’ll do you good to lose a bit of weight. A third of children are now overweight or obese, and, as the so-called ‘Fat Owl of the Remove’ you’re definitely one of them—more than one, probably. What’s your waist:hip ratio?”

“I don’t know sir. At my last school medical the tape measure didn’t reach all the way round.”

“I think that means you’re fat, Bunter.”

“Ooh, Sir, you can’t call me that!” admonished Bunter. “The Department of Health doesn’t allow that sort of beastly language to schoolchildren anymore. You have to say ‘overweight’.”

“Nonsense, boy— run along and get some exercise.”

“But, sir, the PE class has been cancelled—Greyfriars sold the playing fields to ObeseCo to build a new hypermarket. So it’s not my fault I’m a little . . . er . . . Rubenesque.” And with that Bunter scuttled out.

Is Greyfriars an obesogenic environment?
Quelch gazed out over Greyfriars’ grounds and wondered whether the school really was contributing to Bunter’s weight problem. Was Greyfriars an obesogenic environment? And if so, then why was Bunter so much fatter than his chums? Was it related to his postal order from home, perhaps? After all, smoking in schoolchildren is related to pocket money. Perhaps it was the same for unhealthy eating. And what was the government doing about all this anyway? He glanced through the recent “Healthy Weight Healthy Lives” strategy, and noted that the Health Minister “plans to introduce compulsory cooking for all 11 to 14 year olds.” That’s a bit drastic, thought Quelch—then again, he reflected, some of them probably deserved it.

He looked across to the new hypermarket rising above the former playing fields and thought back to the lectures given by Mr Redbeard, Greyfriars’ new politics lecturer, who said that the rot had set in with the removal of nutritional standards in school food and drink.
canteens in the 1980s and the introduction of competitive tendering. This allowed children to choose what they wanted to eat, in line with Conservative thinking on consumer choice. The Black Report had even warned nearly 30 years ago that “to leave school children to make their own free choices of a meal . . . would be likely to lead to “increases in obesity.” Well, reflected Quelch, the turkey twizzlers had certainly come home to roost now. With an average of 23 junk food outlets per secondary school, promoting healthy eating was increasingly an uphill struggle.

He examined his map of Greyfriars and its surroundings (figure). Greyfriars certainly showed no lack of green spaces, and the High Street Bun Shop was on the other side of Courtfield Common—hardly an obesogenic environment. Could the school tuck shop be to blame, then? It was right on the school premises after all . . . perhaps he should have a look at what they were selling. There were so many potential influences on young people’s diet, he reflected. “Portion distortion,” for example, in which portion sizes are stealthily increased. Worse, in a vicious cycle, overweight children are more responsive to food promotion. So, concluded Quelch, the fatter Bunter gets, the more he responds to junk food adverts, which in turn makes him even fatter. Poor Bunter had become the junk food equivalent of a perpetual motion machine. Not everyone, however, believed obesity was a problem. There were denials by some in the food industry, and even a class action against McDonalds on behalf of overweight children. . . . It all sounded vaguely familiar, thought Quelch, as he filled his trusty briar with fragrant “Old Canker” shag and lit up.

Quelch’s ruminations were interrupted as Bunter’s father pulled up to Greyfriars’ gates in the family SUV to take his stout progeny home for the weekend. Bunter’s sister Bessie was also in the car, and she was no Kate Moss either, Quelch noticed. In fact, the whole Bunter family were strikingly similar, physically. Could obesity be genetic? He remembered Mr Venter’s genetics lectures to the lower fourth. Yes, Greyfriars was in the clear, Quelch concluded. It’s Bunter’s genes that are at fault. And too much TV, of course. And all those fast food outlets. And the EU Common Agricultural Policy. And, possibly, Mr Bunter giving his son too much pocket money. Simple, really.

As he leaned out of his office window smoking his pipe he spotted the Fat Owl of the Remove in the tuck shop queue, waving a piece of paper. (Strange that the boy is still at Greyfriars, he mused. He seems rather old to still be at school.) “What’s that, Bunter? Has your postal order arrived at last?” “No sir, it’s a cheque, from the Department of Health, Sir. They are paying overweight people to lose weight now. If I keep my weight up, I might be able to make a few bob.”

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Coca-Cola douches and contraception

Deborah Anderson explains why things don’t necessarily go better with Coke

Coca-Cola douches were a part of folklore about birth control during the 1950s and 1960s, before effective contraceptive methods were readily available. It was rumoured that the acidity of Coca-Cola killed sperm, and the classic coke bottle provided a convenient “shake and shoot” applicator. Recently, an old study from our group confirming the spermicidal effects of various Coca-Cola formulations was awarded the 2008 IgNobel prize in chemistry. The press releases surrounding our IgNobel award might have repopularised this method, and soft drink douches are apparently still used to prevent pregnancy in resource-poor settings. There are, however, many reasons why women should not rely on this method.

Coca-Cola is not a strong spermicide

In our study we mixed Coca-Cola with human semen (5:1 ratio) and reported that sperm were immobilised within one minute. A subsequent toxicology study found that Coca-Cola has only a weak spermicidal effect.

Sperm can out race Coca-Cola

Data from computerised analysis of semen indicate that the forward velocity of human spermatozoa can exceed 18 cm/hour. Therefore, a well placed sperm can reach the cervical canal within seconds, thus escaping the effect of postcoital douching solution. To improve efficacy, some Coca-Cola would have to be instilled into the vagina before ejaculation, but that would undoubtedly be messy. In addition, anyone who has ever attempted sexual intercourse in a swimming pool or the sea can testify, excess watery intravaginal fluid can adversely affect lubrication. Coca-Cola use during intercourse would probably affect the mucinous biofilm that protects the vaginal epithelium, thereby increasing friction, trauma, and risk of infection.

Coca-Cola and the vaginal epithelium

As Coca-Cola is said to tenderise steaks and remove corrosion from car bumpers, we tested its effect on human vaginal tissue in vitro using an established toxicology test. Brief exposure to Coca-Cola visibly damaged the top layer of cells (figure) and decreased transepithelial electrical resistance (TEER), an inverse measure of epithelial barrier permeability (mean TEER after 30 minutes’ exposure to Coca-Cola 380 (SD 87) Ω·cm² vs mean TEER untreated cultures 548 (SD 41) Ω·cm², P<0.005). Epithelial damage and increased permeability could enhance a woman’s susceptibility to sexually transmitted infections such as HIV/AIDS.

Coca-Cola might affect the vaginal flora

Sugar facilitates fungal and bacterial growth, so the high sugar content of Coca-Cola could promote vaginal yeast and bacterial infections. This might be avoided by using Diet Coke, but carbonated beverages could have detrimental effects on lactobacilli, beneficial bacteria that colonise the healthy vagina and are essential for maintaining the normal vaginal ecosystem.

Promoting ascending infections

Douching has been associated with an increased risk of pelvic inflammatory disease and ectopic pregnancy, although it is unclear as to whether this is cause or consequence.

Unknown teratogenic potential

The Coca-Cola formula is a well guarded secret and is purported to include “a mix of exotic spices and vegetable extracts from around the world.” Because of the secrecy, it has not been possible for scientists to conduct a systematic study of potential teratogenic effects of the ingredients.

User failure

Implementation of the Coca-Cola douche requires dexterity and skill and might be unreliable, especially when practised in the dark. A BMJ article cautioned that misplaced bottle caps can cause serious medical problems.

Better methods are available

The efficacy of the Coca-Cola douche method of birth control has never been tested in a placebo controlled clinical trial, and probably never will be. Early epidemiological studies, however, reported that postcoital douching was no more effective than “rhythm” or “penile withdrawal” methods, which are unreliable. Several current contraceptive approaches, including barrier methods (condoms and diaphragms), the intrauterine device, birth control pills, and injectable hormonal methods are significantly more effective than these methods. The Coca-Cola company states that Coca-Cola is not intended for medicinal purposes. Yet, workers in sexual health services should be aware, as the Coca-Cola company continues to use such sexually charged marketing messages as: “Things go better with Coke,” and invites internet literate youngsters to “Discover more at www.letsgogether.co.uk.”

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