

International

Abnormal brain wiring behind body dysmorphia

Abnormal brain wiring may explain why some people become so fixated on their appearance that their obsession makes it hard for them to function, a new study suggests. The study included people with body dysmorphic disorder, a mental illness that causes people to believe they are disfigured and ugly, even though they look normal. These patients have abnormal network-wiring patterns across the brain, the University of California, Los Angeles (UCLA) researchers discovered. Earlier UCLA research showed that people with body dysmorphic disorder process visual information abnormally. In line with that finding, this study revealed that people with this disorder have abnormal connections between brain regions involved in visual and emotional processing. The findings, published in the May issue of *Neuropsychopharmacology*, suggest that abnormal brain wiring in people with body dysmorphic disorder may cause impaired information processing.

‘We found a strong correlation between low efficiency of connections across the whole brain and the severity of [body dysmorphic disorder],’ study senior author Jamie Feusner, an associate professor of psychiatry, said in a university news release. ‘The less efficient patients’ brain connections, the worse the symptoms, particularly for compulsive behaviours, such as checking mirrors.’ For the study, the researchers examined brain scans of 14 adults with body dysmorphic disorder and 16 adults without the disorder.

Computers contribute to children’s near-sightedness – survey

Recent surveys show that the average child spends 1 - 3 hours daily on a computer while surfing the Internet, doing homework, talking online with friends and playing video games. Children are starting to use computers at a younger age. Many ophthalmologists who specialise in children’s vision say sustained computer use puts children at higher risk for childhood myopia, and research seems to support this. A study of 253 children between the ages of 6 and 10 at the University of California at Berkeley School of Optometry found a strong correlation between the

amount of time young children spend on the computer and their development of nearsightedness. Computer use strains the eyes more than reading a book or magazine because it’s harder to maintain focus on computer-generated images than on printed images. This is especially true for young children, whose visual system is not fully developed. According to the American Optometric Association, children may be especially vulnerable to computer-related vision problems for several reasons: they have a limited degree of self-awareness and may perform a task on the computer for hours with few breaks. This prolonged activity can cause focusing and eyestrain problems. Children assume that what they see and how they see is normal – even if their vision is impaired or slowly deteriorating. Because computer workstations are often arranged for adult use, this can increase the risk of children sitting too near the screen or adopting unusual postures that can lead to eyestrain and neck, shoulder and back strain.

Less calories equals more – a diet conundrum

Restricting food intake increases the reward value of food, and the more successful people are at caloric-restriction dieting, the greater difficulty they will face in maintaining the restriction.

The story is a familiar one: most people are able to lose weight while dieting but once the diet is over, the weight comes back. Many of us can personally attest that caloric deprivation weight loss diets typically do not produce lasting weight loss. Oregon Research Institute (ORI) senior scientist, Dr Eric Stice, and colleagues, provide results in a recent issue of *NeuroImage* that further our understanding of how and why most weight loss diets fail, and provide a more comprehensive description of the impact of caloric restriction. Results suggest that restricting food intake increases the reward value of food, particularly high-calorie, appetising food (chocolate milkshakes), and that the more successful people are at caloric-restriction dieting, the greater difficulty they will face in maintaining the restriction. Additionally, abstaining from food intake for longer durations of time also increases the reward value of food, which may lead to poor food choices when the individual

eventually does eat. Results imply that dieting characterised by meal skipping and fasting would be less successful than weight loss efforts typified by intake of low energy-dense healthy foods. ‘These results are unique,’ said Stice, ‘in that these data are the first to suggest that elective caloric restriction increases the degree to which brain regions implicated in reward valuation and attention are activated by exposure to palatable foods.’

New lab-created killer flu strain

Senior scientists have criticised the ‘appalling irresponsibility’ of researchers in China who have deliberately created new strains of influenza virus in a veterinary laboratory. They warned that there is a danger that the new viral strains created by mixing bird flu virus with human influenza could escape from the laboratory to cause a global pandemic, killing millions of people. Lord May of Oxford, a former government chief scientist and past president of the Royal Society, denounced the study published in *Science* as doing nothing to further the understanding and prevention of flu pandemics. ‘They claim they are doing this to help develop vaccines and such like. In fact the real reason is that they are driven by blind ambition with no common sense whatsoever,’ Lord May said. ‘The record of containment in labs like this is not reassuring. They are taking it upon themselves to create human-to-human transmission of very dangerous viruses. It’s appallingly irresponsible,’ he said.

The viral-mixing study was carried out by a team led by Professor Hualan Chen, director of China’s National Avian Influenza Reference Laboratory at Harbin Veterinary Research Institute. Professor Chen and her colleagues deliberately mixed the H5N1 bird flu virus, which is lethal but not easily transmitted between people, with a 2009 strain of H1N1 flu virus, which is highly infectious to humans. When flu viruses come together by infecting the same cell they can swap genetic material and produce ‘hybrids’ through the re-assortment of genes. The researchers were trying to emulate what happens in nature when animals such as pigs are co-infected with two different strains of virus, Professor Chen said. ‘The studies demonstrated that H5N1 viruses have the potential to acquire mammalian transmissibility by re-assortment with the human influenza viruses,’ she wrote in an

e-mail. 'This tells us that high attention should be paid to monitor the emergence of such mammalian-transmissible virus in nature to prevent a possible pandemic caused by H5N1 virus.' 'It is difficult to say how [easily] this will happen, but since the H5N1 and 2009/H1N1 viruses are widely existing in nature, they may have a chance to re-assort,' she added. The study, carried out in a laboratory with the second highest security level to prevent accidental escape, resulted in 127 viral hybrids between H5N1 and H1N1, five of which were able to pass by airborne transmission between laboratory guinea pigs. Professor Simon Wain-Hobson, a virologist at the Pasteur Institute in Paris, said it is very likely that some or all of these five hybrids could pass easily between humans and possess some or all of the lethal characteristics of H5N1 bird-flu. 'Nobody can extrapolate to humans except to conclude that the five viruses would probably transmit reasonably well between humans,' he said. 'We don't know the pathogenicity [lethality] in man and hopefully we [never will]. But if the case fatality rate was between 0.1 and 20 per cent, and a pandemic affected 500 million people, you could estimate between 500 000 and 100 million deaths.' He continued: 'It's a fabulous piece of virology by the Chinese group and it's very impressive, but they haven't been thinking clearly about what they are doing. It's very worrying. The virological basis of this work is not strong. It is of no use for vaccine development and the benefit in terms of surveillance for new flu viruses is oversold.'

Africa

WHO Africa report confirms funding crisis

The World Health Organization (WHO) says regardless of promises of better healthcare by governments and donor countries, millions of mothers, newborn babies and children continue to die each year in Africa from preventable diseases. The WHO has found that some of the continent's biggest problems are getting worse and the rates of death during childbirth and among young children are increasing. Although Africa has 11% of the global population, it has 60% of the world's HIV/AIDS cases and 90% of world malaria cases, mainly in children under 5.

The African Regional Health Report, the first study to look at health trends among 738 million Africans, said more investment was needed to cut disease and tackle poverty and because of AIDS and armed conflicts, the

health situation in many African countries has not improved in recent years and in some cases has worsened. The WHO says a 'silent epidemic' in African countries accounts for 19 of the 20 countries with the highest rates of maternal mortality worldwide and the highest death rate worldwide for babies up to a month old. The WHO says in Africa it stands at 43 per 1 000 live births or four times the rate in Europe. Although the report was not all negative and successes, such as Uganda's AIDS programme, Mali's community health centres, and the greater availability of antiretroviral drugs used to treat people with HIV/AIDS, were highlighted, it does reveal the difficult health challenges facing African countries.

South Africa

SA's battle against the bulge

It's a statistic to die for: South Africa is among the top three countries in the world in obesity rankings, after the USA and Great Britain. And then it gets worse. In a recent survey conducted by the SA Medical Research Council, it was found that 61% of the South African population is overweight, obese or morbidly obese. In addition, 70% of all South African women over the age of 35 were overweight or obese, with 33% of black women exposed to the greatest risk and a quarter of coloured, white and Indian women following suit. In contrast, 18% of white men over the age of 35 are obese, followed by 9% of Indian, 8% of coloured, and 6% of black men. With an estimated 2.8 million people annually dying as a result of being overweight or obese, it's time for South Africans to take stock, says the Self-Medication Association of

South Africa (SMASA). To mark International Self-Care Day on 24 July, SMASA challenges South Africans with a body mass index (BMI) of 25 and higher to help to reduce their risk by losing weight through staying active and making smart food choices, thereby improving health and quality of life. 'It's the ideal opportunity to take care of your and your family's health by giving your health – and your medicine cabinet – a health check,' says Allison Vienings, SMASA executive director. SMASA is an independent organisation committed to promoting responsible self-care and self-medication to the South African public. She says SMASA urges people with a BMI of 25 and higher to take obesity, the 'silent killer', seriously, because of the number of diseases with little or no noticeable symptoms in the early stages associated with it. These diseases include, among others, hypertension, hyperlipidaemia, type 2 diabetes, heart disease and various forms of cancer. There are numerous reasons mentioned and debated as to why the South African obesity statistics look so dire. One of the biggest scapegoats seems to be the increasing westernisation and urbanisation of the South African population over the past few decades, resulting in people living a more sedentary lifestyle and an increase in the consumption of fast food with its extremely high salt, sugar and fat content. Added to that, South Africans' alcohol consumption is among the highest in the world. Further, 49% of South Africans claim to do no exercise and 71% have never attempted to cut down on their food intake. Even worse, 78% of obese and 52% of morbidly obese South Africans believe they are perfectly healthy and only 47% of South Africans believe that exercise and fitness are critical to good health.

Women's health rights campaigner lauded

Professor Quarraisha Abdool Karim, Associate Scientific Director of CAPRISA (Centre for the AIDS Programme of Research in South Africa) received the Order of Mapungubwe: Bronze by the South African State President on Freedom Day (27 April 2013) in recognition of her 'outstanding work in the field of HIV/AIDS and tuberculosis research and health policy development'. The Order of Mapungubwe is South Africa's highest honour.

Chris Bateman

chrisb@hmpg.co.za

