Hello Dementia News readers,

Lots of exciting progress being made in dementia research and you may have noticed some media reports over the past fortnight around potential new treatments and diagnostic methods. Also announced earlier this month were this year’s Nobel Prize winners. The Nobel Prize for Medicine and Physiology was awarded to Professors’ James Rothman, Randy Schekman and Thomas Südhof who discovered how different cell components are transported within the cell. Their research formed the basis for our understanding of how brain cells communicate. This understanding of cell biology has assisted researchers to develop and test treatments for dementia. This research has been ongoing since the 1970s and shows us the importance of long-term research programs (and funding), as well as the value of being persistent.

As is often the case, I had lots of different research projects to choose from in putting together this edition. I chose three different studies for the Understand section. One tells us how peanut butter could potentially be used to diagnose Alzheimer’s disease, another adds to our understanding of the importance of exercise, and another study reports on an existing drug that has lessened dementia symptoms in mice with a form of dementia called Prion disease. In this edition’s Discuss section I have delved a bit further into diet and the importance of what we eat for brain health.

Finally, congratulations are in order for all those who raised money by running the Melbourne Marathon two Sundays ago. Twenty five runners have raised more than $15,000 for dementia research. Thank you for choosing the Alzheimer’s Australia Dementia Research Foundation, and thank you to everyone that supported them.

I hope you enjoy this issue,

Dementia News editor,
Ian McDonald

Did you know there are over 100 diseases that may cause dementia. The most common causes of dementia include Alzheimer’s disease, vascular dementia and dementia with Lewy bodies.
Smelling peanut butter could be a possible diagnostic tool to identify Alzheimer’s disease. This intriguing result was published in the *Journal of Neurological Sciences* by researchers from the University of Florida, USA.

The researchers categorised 94 participants aged in their 60s and 70s into four groups, based on their likely diagnosis:

- People with probable Alzheimer’s disease.
- People with mild cognitive impairment.
- People with other forms of dementia.
- People without any brain impairment (control group).

Participants were required to block one nostril close their eyes and mouth then tell the researcher as soon as they could smell a small amount of peanut butter that was being moved towards their nose, one centimetre at a time. The process was repeated with the other nostril and the results compared to see whether one nostril was more sensitive than the other.

Interestingly, people with probable Alzheimer’s disease were less likely to detect the peanut butter with their left nostril, with an average difference of 12cm detection distance between nostrils. The researchers also found that 10 out of the 24 people with a mild cognitive impairment who participated in the trial displayed the same left nostril impairment as those people with probable Alzheimer’s disease. In contrast, people with other forms of dementia showed slightly better sensitivity on average in their left nostril. There was no difference between nostrils for the age matched control group.

Dr Jennifer Stamps who led the study explained that the method could potentially prove useful in helping clinicians differentiate between Alzheimer’s disease and other forms of dementia, noting that Alzheimer’s disease can affect the part of the brain responsible for smell. However, Dr Stamps also said that “this is currently not a reliable test for people with a history of nasal polyps, severe head injury, stroke, or seizures.” Dr Stamps intends to conduct larger trials, and is particularly interested in whether this test could be used to determine which people with a mild cognitive impairment may develop Alzheimer’s disease.

Dr Alex Bahar-Fuchs, an Australian researcher funded by the Alzheimer’s Australia Dementia Research Foundation who has also done research on smell and dementia said “losing your sense of smell is a genuine problem among people with mild cognitive impairment and Alzheimer’s disease, and this has been known for some time. The issue is not so much about whether a smell test using peanut butter or another pure odorant can diagnose those who already have Alzheimer’s disease, but whether assessment of the sense of smell can aid in predicting which people with mild cognitive impairment are more likely to develop Alzheimer’s disease.”

For more information click on the links below:

Media link: 7 News

Journal link: *Journal of Neurological Sciences*
ANOTHER REASON WHY EXERCISE IMPROVES BRAIN HEALTH

A protein, elevated during endurance exercise, has been shown to enhance brain health in mice. This result was reported in *Cell Metabolism* by researchers from the Harvard Medical School, USA. The researchers found that mice given access to a running wheel for 30 days had increased levels of a range of proteins important for brain function. This included the brain derived neurotrophic protein (also referred to as brain derived neurotrophic factor, or BDNF).

This study is novel, as the researchers did not previously know how exercise increased BDNF. They are now much more aware of the molecular pathways that are enhanced by exercise and the brain proteins that are involved in these pathways. The researchers initially found that BDNF was significantly enhanced during exercise and based on this, developed an experimental protein-based drug. They found that when injected into the mouse, their drug enhanced production of BDNF, irrespective of exercise level.

Dr Bruce Spiegelman who was involved in the trial said “what is exciting about this result is that when our experimental drug was injected into the bloodstream, it mimicked some of the effects that endurance exercise has on the brain.” However, researchers are still a long way off trailing this drug in humans, and the researchers first want to understand if an increased production of BDNF actually improves brain function and memory. Alzheimer’s Australia recommends engaging in regular physical activity to not only enhance brain health but your body and heart. See our latest paper on physical activity and brain health here.

For more information click on the links below:
Media link: MNT
Journal link: *Cell Metabolism*

The brain derived neurotrophic protein (or factor) promotes development of new brain cells and the connections between brain cells that allow learning and memory. It also helps prolong survival of brain cells.

SCIENTISTS ONE STEP CLOSER TO REVERSING CELL DAMAGE CAUSED BY DEMENTIA

An experimental drug given to mice with a form of dementia known as prion disease, has succeeded in preventing the cellular damage caused by toxic protein build-up in the brain, and in improving cognitive symptoms associated with the disease. This research was published in the Journal of Science Translational Medicine by researchers from the United Kingdom.

Alzheimer’s Australia National Research Manager Dr Chris Hatherly said “the novel part of this study is that instead of trying to stop or reverse the build-up of abnormal proteins in the brain, the researchers have succeeded in preventing damage to the brain cells by modifying the cells’ stress response’ to those proteins.”

“What the researchers have essentially shown is that brain cells try to compensate for the increased volume of abnormal proteins that accumulate in cells affected by dementia. They do this by reducing the level of other proteins that are produced as part of normal cell function. You could think of this stress response as similar to appetite suppression during a bout of gastro. In normal circumstances, a reduced appetite would help the body fight off the virus. But if the body’s immune response were to fail and the gastrointestinal virus were to continue, ongoing suppression of appetite would result in the body slowly starving.”

“What this study has shown is that an existing drug may be able to prevent brain cells from using this stress response to keep them functioning normally even in the presence of this particular form of dementia called Prion disease.”

Dr Hatherly finished by saying: “We have seen lots of breakthroughs like this before in mice that have failed to translate into treatments for humans. This is a positive finding, but much more research and numerous hurdles will have to be cleared before we could consider any kind of safe and effective treatment in humans.”

For more information click on the links below:
Media link: Sky News
Journal link: Science Translational Medicine
Poor diet is a well-established risk factor for Alzheimer’s disease and other forms of dementia. Researchers have also associated factors such as excessive alcohol consumption and obesity with an increased risk. In 2012, Alzheimer’s Australia launched the Your Brain Matters program which has an array of information about maintaining a healthy diet to boost brain health - click here.

The importance of diet for brain health is still making the headlines, with a recent review of long term diet and health data from Japan being published in the Journal of Alzheimer’s Disease by William Grant from the Sunlight, Nutrition and Health Research Centre in San Francisco, USA. Comparing data from 1961 and 2008, results show that the incidence of Alzheimer’s disease in Japan increased with the uptake of the ‘Western diet’—a diet high in fat, sugar, meat and processed foods.

Currently, a growing number of studies are supporting the benefits of the ‘Mediterranean diet’ a dietary pattern to reduce the risk of Alzheimer’s disease – see Dementia News edition 8, 2013.

The Mediterranean diet includes fresh fruit, vegetables, fish and cereals, and is relatively low in sugars and saturated fats. A review study published in the journal Epidemiology by researchers from University of Exeter, UK, showed that people consuming a Mediterranean diet had a slower rate of cognitive decline and lower risk of developing Alzheimer disease. However, the study did point out that not all the data reviewed showed consistent results.

According to Samantha: “the Mediterranean diet contains lots of good fats (such as omega 3 and unsaturated fats) and we have Australian data, soon to be published, which suggests that those who eat this type of diet have less decline in their day to day brain function such as planning, remembering tasks and attention span.”

So what is it about the Mediterranean diet which makes it beneficial? Researchers currently think two mechanisms might be at work. The first of these is thought to be associated with high antioxidant foods helping to reduce oxidative stress - a process that damages cells. The second is associated with the reduced risk of cardiovascular disease - a major risk factor for Alzheimer’s disease – that is also associated with the Mediterranean diet. While progress is being made, there is still more research required in order to develop the best nutritional advice for reducing the risk of conditions such as Alzheimer’s disease. If you are concerned, consult your GP before making any major changes to your diet.

For more information click on the links below

Japan Study
Media link: Asian Scientist
Journal link: Journal of Alzheimer’s Disease

Mediterranean diet
Media link: News.com.au
Journal link: Epidemiology

A protein that metabolises fat in the liver has been linked to the part of the brain that controls memory and learning. Having excess fat (particularly around your belly) can reduce the amount of this protein. So a good diet is vital, but so is exercise and keeping that waist line within recommended levels. See original paper here.
WEBINAR - TO WHOM I MAY CONCERN®
VIDEO: OUR SIDE OF THE FENCE

Join in and watch the online premiere of To Whom I May Concern video, Our Side of the Fence, where you are invited to join a group of people diagnosed with dementia on their side of the “fence” -- the fence that divides them from the rest of society because of their diagnosis.

While there, you will learn firsthand what it is like to live with the symptoms of dementia, and what the view of the world is like from “our side of the fence.” At the end, you will walk out the gate back to your side, but you will carry with you the words of those who can’t leave. This webinar will take place in two parts:
1. Video of the scripted reading of Our Side of the Fence

Register by clicking on Eventbrite.
Date of Webinar: Tuesday, October 22, 2013
Time: 10 a.m. PT, 11 a.m. MT, 12 noon CT, 1 p.m. ET, 7 a.m. in Hawaii, and 6 p.m. in the UK.

To Whom I May Concern is an interactive theatre project involving people with dementia as partners in creating the script and as performers of the play. Today’s script is based on the free-flowing conversations of this group, captured over the past 5 months using video conferencing technology. The resulting scripts and videos have become unique educational opportunities for professionals and caregivers to better understand the experience of dementia.
Visit the To Whom I May Concern website.

WEBINAR - A MEETING OF THE MINDS: WITH GUEST NICOLE BATSCH ON THE TOPIC OF STIGMA

Join in a webinar with guest Nicole Batsch, co-author, World Alzheimer Report 2012: Overcoming the Stigma of Dementia, and a global consultant in aging and dementia. She is also a PhD Candidate at the Institute of Gerontology, Kings College London. Nicole will discuss how the stigma of dementia is experienced by those diagnosed with the disease and their care partners, what is being done to combat stigma, and will report on the recent Alzheimer Europe conference.

Register by clicking on Eventbrite.
Date: Tuesday, October 29
Time: 10 am PT, 11 am MT, 12 noon CT, 1 pm ET, 7 am Hawaii and 6 pm UK.

DEMENTIA AWARENESS WEEK PRESENTATIONS NOW ONLINE

Missed the launch of the 2013 Dementia Awareness Week in Sydney?
The presentations from the keynote speakers are now available online.

Dr Kristine Yaffe - http://youtu.be/PA_43z0w__w
Dr Bryce Vissel - http://youtu.be/nm4OgR2v0wk
HOW DOES STRESS AND NUTRITION AFFECT CARERS DNA?

Are you a Carer, aged 45-90 years and living in metropolitan Adelaide?

Dr Caroline Bull and her colleagues at CSIRO are examining the relationship between the physical and emotional health of primary carers of individuals with Alzheimer’s disease. They aim to identify practical, effective ways to prevent damage to DNA, reduce disease risk and improve the long term health and wellbeing of carers who experience high levels of stress.

The study will require a single blood sample and small saliva sample to study stress, DNA health, and nutrition factors, as well as questionnaires about participants’ regular diet, psychological wellbeing, stress burden, thinking and memory.

For further information please download the information sheet and medical screening questionnaire from the Alzheimer’s Australia website by clicking here.

For further information please contact: Clinical Trial Manager, Julia Weaver on Phone: (08) 8303 8876 or Email: CRUstudies@csiro.au.

INVESTIGATING CARERS’ ATTITUDES TO AGEING AND IMPACT DURING THEIR CARING JOURNEY

This research project is interested in how your attitudes to ageing and impact levels may change while you are caring for your loved one.

The research team is looking for older carers (>55yo) living with the person they are caring for (and these care-recipients can have any problem, ranging from dementia, diabetes, stroke, depression, etc).

You will initially need access to a telephone and will then be posted out a number of questionnaires to complete.

For more information please contact Samantha Loi
P: (03) 9816 0436
E: Samantha.Loi2@svhm.org.au
UNDERSTANDING SLEEP IN CARERS OF PEOPLE WITH DEMENTIA

Alicia Allan, a PhD candidate from QUT is conducting research on sleep in people with dementia and their carers out in the community.

She is seeking participants for this research so the research team can better understand some of the causes of sleep difficulties in those who provide care to people with dementia.

The study is aiming to capture the amount of sleep disturbance carers experience as a result of their care role, and also investigate some of the factors, such as activity and light exposure, that might be associated with disturbed sleep in people with dementia and carers who live at home in the community. The research is conducted in-home, is observational only and doesn’t require any change in daily routines or behaviour.

Participants can live anywhere in Australia.

Find out more information via the web link: www.carrsq.qut.edu.au/sleep.

Contact Alicia Allan for more information
E: alicia.allan@qut.edu.au
P: 0447 325 479

CONTACT

Any questions or comments are welcome.

To subscribe/unsubscribe or if you have any information you would like to see included in future editions please contact:
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