Hello Dementia News readers,

Happy New Year! Welcome back to another year of Dementia News.

On December 31 the countdown began to welcome in the New Year. Today I’d like to announce a new countdown - 36 days and counting. On February 19th, 2014, we will have some exciting news to share about the Alzheimer’s Australia Dementia Research Foundation. What is it? I hear you ask.

We are going to re-invigorate how we communicate and promote dementia research. We are very excited, and in each edition leading up to February 19 I will give you another clue about our big news.

Today I would like to formally announce that in 2014, Dementia News will be bringing you fortnightly podcasts (downloadable pre-recorded interviews) with local and international dementia researchers. The very first podcast is with Dr Muireann Irish from Neuroscience Research Australia and we will be chatting about why people with dementia have difficulties imagining future events. This will be made available on February 19. Be sure to keep posted in future editions for more exciting announcements.

You may think that research stops over the holiday season but this certainly did not happen in dementia research. There has been new and exciting research published over the past month. In fact, just today, AADRF grant recipient, Dr Daniela Gnjidic from the University of Sydney has published a study in the Journal PLOS One. Dr Gnjidic has kindly written an article about her research, especially for Dementia News and since the paper was under embargo, we delayed publishing Dementia News until today so we could bring her article to you. I also wrote about two new pieces of research published in late 2013, one reporting on the region of the brain where Alzheimer’s disease first occurs and another article confirming that a healthy lifestyle can reduce your risk of dementia.

The first Discuss article for 2014 has been written by Gerald Muench, Professor of Pharmacology at the University of Western Sydney. Professor Muench discusses whether lipoic acid can help people with Alzheimer’s disease by slowing down its progression. It is certainly an interesting read so I hope you enjoy.

As always, if there are particular topics about which you’d like to know more, or on which you’d like to contribute an article, I am always happy to receive your emails.

I look forward to bringing you many more dementia research updates in 2014.

I hope you enjoy this edition,

Ian McDonald
Dementia News editor
UNDERSTAND NEW RESEARCH

THE IMPACT OF HIGH-RISK DRUGS IN PEOPLE WITH ALZHEIMER’S DISEASE

By Danijela Gnjidic
NHMRC Early Career Fellow and Lecturer
University of Sydney

In 2011, Dr Danijela Gnjidic was awarded an Alzheimer’s Australia Dementia Research Foundation Travel Grant. She used this grant to travel overseas to Finland and collaborate with international researchers. Dementia News asked Danijela to tell us about her research, released today in the journal PLOS One.

We found that people with and without Alzheimer’s disease exposed to high-risk drugs had higher rates of hospitalisation and mortality. Through the assistance of an Alzheimer’s Australia Dementia Research Foundation travel grant, I travelled to Finland to collaborate with leading European researchers from the University of Eastern Finland to undertake this research. As part of this research project, we analysed medical records from over 33,000 people aged over 65 (half of which had been diagnosed with Alzheimer’s disease).

Our results show that 1 in 2 people with Alzheimer’s disease were treated with anticholinergic drugs (drugs used to treat asthma, incontinence and muscular spasms) and sedative drugs (drugs prescribed for depression and sleep disorders) compared with 1 in 3 people without Alzheimer’s disease. Results also show that people with and without Alzheimer’s disease taking anticholinergic and sedative drugs were more likely to be hospitalised or even die over one year compared to those who were not taking these drugs.

This study adds to the growing international body of evidence showing that drug side-effects are a leading cause of preventable hospitalisation among older people. Our study highlights the need for health practitioners and consumers to work together to implement evidence-based strategies to prevent and detect drug-related problems, particularly in people with Alzheimer’s disease.

Click on the link for more information
PLOS One

Drugs that are considered high-risk are those with a heightened risk of causing significant harm if administered via the wrong route or not as prescribed (Source: Victoria Health website).
PIN POINTING WHERE ALZHEIMER’S DISEASE BEGINS IN THE BRAIN

The lateral entorhinal cortex (LEC) has been identified as the region of the brain where Alzheimer’s disease begins. This result was published in the Journal *Nature Neuroscience*.

Dementia News asked study leader Professor Scott Small, Director of the Alzheimer’s Disease Research Centre at Columbia University in New York, if he could explain the importance of the LEC for our readers. He said: “it is a region of the brain that allows us to retain information/memories over brief delays (seconds or minutes). For example, if I give a list of words to remember, and ask you to repeat them a few minutes later, your ability to recall some words depends on your ability to retain them during the delay period, which is controlled by the LEC. The fact that the LEC is affected in the preclinical stages of Alzheimer’s disease explains the earliest memory deficits in the disease.”

Professor Small and his team followed 96 people, aged 80 on average and without Alzheimer’s disease, over three and a half years. Twelve of the participants were diagnosed with mild to moderate Alzheimer’s disease during this period. These twelve people were found to have large amounts of the Tau protein and fragments of the amyloid precursor protein in the LEC, along with changes in brain metabolic function. This same result was also confirmed in mice.

The paper builds on previous research that had found that the entorhinal cortex (of which the LEC is a part) was one of the first sections of the brain to be impacted by Alzheimer’s disease. Professor Small explained the importance of this new finding, saying “a basic tenant in neurology is that the best way to understand, diagnose, and ultimately treat any disease is to first isolate the part of the brain that is affected. The entorhinal cortex is made up of two subregions - the lateral and medial entorhinal cortex. By pinpointing Alzheimer’s disease to the lateral region we can further understand and diagnose the disease.”

So what’s next for Professor Small and his team? He told Dementia News that “we have begun clarifying why this region of the brain is most vulnerable, which has led us to a new drug discovery program.” We will keep you updated on Professor Small’s research progress.

Click on the link for further information
*Nature Neuroscience*

The amyloid precursor protein (APP) is a large protein that is found in many cells in the body (not just brain cells). The main function of APP is not well understood, but when APP breaks down in brain cells, it produces the amyloid beta protein, which is commonly found in large amounts in the brains of people with Alzheimer’s disease.
MAINTAINING HEALTHY HABITS REDUCING THE RISK OF DEMENTIA

Common New Year’s resolutions might be to quit smoking, lose weight or maintain a healthy diet. A long term and large scale UK study, recently published in the Journal *PLOS One*, has confirmed that maintaining a healthy lifestyle is the best way of increasing your chances of remaining healthy and reducing your chances of cognitive impairment.

The researchers assessed the health behaviours of 2,235 men aged 45-59 living in the Welsh city of Caerphilly in 1979. Over the next 30 years, these men provided health records and underwent five-yearly assessments, including assessment of their cognitive function. The researchers found that men who maintained healthy lifestyles had a reduction risk of certain chronic diseases and dementia.

Healthy lifestyles were assessed on the basis of five key health behaviours:
1. non smoking,
2. an acceptable BMI (18-25),
3. a high fruit and vegetable intake,
4. regular physical activity and
5. low to moderate alcohol intake.

The researchers discovered that men who consistently followed four or more of these healthy behaviours experienced a 60 % decline in dementia risk compared with those who followed none.

However, only a small proportion of the men in the study had these healthy behaviours, and a majority of participants had none. This lack of healthy behaviour in the general population was confirmed in a larger 2009 study of 15,000 Welsh adults which found that less than 1% of people followed all five health behaviours, and less than 7 % followed four.

This research further supports Alzheimer’s Australia’s Your Brain Matters program, which promotes a healthy diet, social and physical activity, and an active mental lifestyle as the best way to reduce the risk of dementia. We encourage anyone who wants to find out more about dementia risk reduction techniques to take a look at [www.yourbrainmatters.org.au](http://www.yourbrainmatters.org.au) or call our National Dementia Helpline - 1800 100 500.

Click on the links for more information

*Plos One*

*The Conversation*
Lipoic acid is a naturally occurring molecule in our body. It is present in very low amounts in almost all of the foods we eat, and can also be taken as a more concentrated supplement. It acts as a powerful micronutrient with diverse properties including antioxidant and anti-inflammatory activity and supports enzymes in mitochondria (the power plant of cells).

Lipoic acid was introduced clinically in the treatment of diabetes, where it improves the function of peripheral nerves, glucose uptake and insulin sensitivity, thus decreasing blood glucose levels. Lipoic acid has now been shown to possess a variety of properties relevant to Alzheimer’s disease. In addition to its direct ability to scavenge damaging ‘free radicals’, it neutralises heavy metals such as iron and copper, which are involved in free radical production in Alzheimer’s disease, and it can down-regulate inflammatory processes in the brain’s immune cells.

In preliminary animal studies, lipoic acid, alone or in combination with other antioxidants and nutrients such as L-carnitine, has been found to improve measures of memory in aged animals or in animal models of age-associated cognitive decline.

In humans, there are three published studies evaluating whether lipoic acid can help people with Alzheimer’s disease. The first, small study followed nine people with Alzheimer’s disease for approximately one year after treatment with cholinesterase inhibitors (a common treatment for symptoms of Alzheimer’s disease) and lipoic acid. Cognitive function was found to remain stable after one year, assessed by two different memory tests.

The same researchers then extended the study to 43 people with Alzheimer’s disease over two years. They again found that there was significantly less cognitive function decline (also assessed by two different memory tests) in those who were treated with lipoic acid compared to those who were not. The third study in Italy involved 126 people with Alzheimer’s disease who were treated with lipoic acid for 16 months. Cognitive decline was slower in this group than rates from other studies in the academic literature. However, the significance of all these studies was difficult to assess without control groups for comparison and thus it could not convincingly be said that lipoic acid slows down Alzheimer’s disease progression.

Free radicals are molecules with unpaired electrons. They can cause damage if they react with important cellular components such as DNA, or the cell membrane. Cells may function poorly or die if this occurs. To prevent free radical damage the body has a defense system of antioxidants.
Just recently, a study funded by the US National Institute of Ageing has been published in the Journal of Alzheimer’s disease assessing lipoic acid in combination with fish oil. This double-blind, randomised, placebo controlled clinical trial was conducted at Oregon Health and Science University with 39 people with Alzheimer’s disease participating over 12 months.

The study was designed to evaluate the effects of supplementation with omega-3 alone (the major ingredient of fish oil), or omega-3 with lipoic acid and compare it to the placebo. Outcome measures included performance on two cognitive tests, and one functional test known as the Instrumental Activities of Daily Living. Compared to the placebo group, those receiving omega-3 and lipoic acid showed a trend to a slower decline in one of the memory tests and significantly slower decline on the other two tests. The study suggests taking the combination of fish oil and lipoic acid each day may slow cognitive and functional decline in people with Alzheimer’s disease over 12 months.

What does the future hold?

It is important to remember while the results are promising, there is still work to be done to establish whether lipoic acid does in fact slow Alzheimer’s disease. We can also say for certain that lipoic acid is not a miracle cure for Alzheimer’s disease and that results will always vary between individuals. Because the results we have to date are derived from a small sample size, caution in interpreting the outcomes reported is warranted and you should speak to your doctor before modifying your diet. A larger clinical trial with 100 people is underway to further assess the benefit and potential mechanism of action of this novel combination therapy for Alzheimer’s disease.

Interestingly, the pet industry has already used these studies to formulate a diet for dogs with dementia. Hills Pet Nutrition is selling a diet containing lipoic acid together with Vitamin E, Vitamin C, L-carnitine and fruit and vegetable extracts for the treatment of canine cognitive dysfunction syndrome (CDS), a disorder strikingly similar to Alzheimer’s disease.
PARTICIPATE TO LEARN MORE

NATIONAL CONSUMER ADVISORY GROUPS ON DEMENTIA LOOKING FOR NEW MEMBERS

Do you have dementia, or do you care for someone with dementia? Are you interested in having a say about the needs of people with dementia in Australia?

Alzheimer’s Australia has a number of national consumer advisory groups that are currently looking for new members. These groups work with our organisation, along with policy makers and researchers from across Australia, to advocate for the needs of people with dementia and set priorities for future work. Members of the groups provide their perspective on what matters to them and are not expected to be experts in policy or research.

To find out more about the different opportunities that are available please contact Samantha Blake
E: samantha.blake@alzheimers.org.au
P: (08) 6271 1007
M: 0457 343 490.

PARTICIPANTS WITH CONFIRMED MEMORY COMPLAINTS REQUIRED IN WESTERN AUSTRALIA

Researchers from the University of Western Australia are seeking people over the age of 50 with confirmed memory complaints for a study investigating differences in our ability to perform two mental tasks at the same time. The researchers are looking at your ability to hold two tasks in mind at the same time, and to control what information you concentrate on.

Participation entails coming to the researchers’ Fremantle office for around 2 hours for some assessments of your memory and other thinking skills. The aim of the research is to help understand if and in what ways mental control abilities change with age-related illnesses. With your help, we can add to our knowledge about abnormal ageing. You will receive up to $15 to help cover travel expenses. If you have a friend/partner who is also interested in participating, please let the researchers know, as you may be able to complete the tasks together.

To help, please leave a message for Talitha Lowndes
P: 08 6488 7342
E: talitha.lowndes@uwa.edu.au.
For more information please visit the website: http://tinyurl.com/multitaskingAZ
**NATIONAL GALLERY OF AUSTRALIA ART AND ALZHEIMER’S**

The National Gallery of Australia in Canberra is providing an interactive tour that connects participants in shared intellectual activity through personal insights, interpretation, art history and memories.

When: Friday, February 7th at 10.30am  
Venue: National Gallery of Australia, Canberra  
Price: Free (bookings essential 02 6240 6632)

**DO TESTS FOR OLDER DRIVERS ACCURATELY ASSESS THEIR ABILITY TO DRIVE SAFELY?**

Researchers at the Australian National University Centre for Research on Ageing, Health and Wellbeing are calling for Canberra drivers aged 75 years and older to help answer this important question.

This involves undertaking a lab-based assessment on campus, followed by a driving assessment with a qualified driving instructor. Involvement in the study will not affect the participant’s driving licence in any way.

Participants will also be asked to keep a record of their driving experiences and take part in phone interviews.

To register for the study contact Ally Gunn  
P: (02) 6125 1457  
E: ally.gunn@anu.edu.au

**DICK SMITH FOODS $1 MILLION TO CHARITY YOU DECIDE WHERE IT GOES**

Dick Smith Foods will donate $1 million to 74 charities from 1st January to 31st December 2014, and the supporters of Dick Smith Foods will be the sole decision makers as to where the money will go.

Alzheimer’s Australia Dementia Research Foundation is one of the charities that you can vote for.

If you have a dick smith food product in your pantry here is how you can enter:
- Take a photo of the product/s in your pantry
- Email it to charity@dicksmithfoods.com.au
- Name the charity you wish to support

More information here
EVALUATION OF THE LEAD CLINICIANS GROUP INITIATIVE

As you may be aware, Health Outcomes International is undertaking the Process and Outcomes Evaluation of the Lead Clinicians Group (LCG) Initiative on behalf of the Department of Health. HOI has completed a baseline analysis and is now conducting Phase 1 of an impact analysis.

We are once again seeking the input of clinicians and others in the health sector.

An Online Survey will be available soon via email and through this e-newsletter.

BACKGROUND

The three LCG Initiative strategies are:
1. The National Lead Clinicians Group, to promote improved clinical engagement.
2. A National Clinicians Network (NCN), to promote clinical leadership and engagement through forums.
3. Providing funds to the Australian Medicare Local Alliance to work with Medicare Locals to improve clinical leadership and engagement at the local level.

For further information about the LCG Initiative

For further information about the Evaluation

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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NATIONAL DEMENTIA HELPLINE 1800 100 500

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