**Sue Radd – How the Mediterranean diet can prevent dementia**

>> Welcome to the podcast series of Raising the Bar Sydney. Raising the Bar in 2017 saw 20 University of Sydney academics take their research out of the lecture theatre and into bars across Sydney all on one night. In this podcast, you'll hear Sue Radd's talk, Could the Mediterranean Diet Affect Dementia. Enjoy the talk.

[ Applause ]

>> Good evening, everyone. Absolutely delighted that so many of you could have turned up on a night like this. And tonight, before I get going talking about how dementia's going to be a massive problem around the world in the future for most of us and what you can do differently on your plate to help reduce your risk, I thought we might start out with a little quiz. Just to see how much you already know. OK? So, it's going to be a very quick quiz, true or false, and all I need you to do is to yell out true or false according to which way you're feeling swayed. All right. So, here we go. Dementia is the fifth leading cause of death in Australia. True or false? Oh, a bit mixed. It's actually false. It's the second leading cause of death in Australia. Most people think it's cancer or something like that. No, dementia's right up there. By the time you are diagnosed with dementia, you've already had it for 20 years. True or false? True. Maybe 30. It's a very silent disease that starts off and you really have no idea that it's happening and it's only when you have a lot of structural changes in the brain that then they diagnose the full-blown dementia. Next one. Prince Henrik of Denmark was recently diagnosed with dementia after he declared he would not be buried in a specially made sarcophagus with the Queen of Denmark unless he was made king. True or false? It is true. Yes. Next one. The Egyptians, when they mummified their dead would scoop out the brains, as they didn't think them to be very important, like the heart or the lungs. True or false?

>> True.

>> Wow, you know that one. That's great. The Mediterranean diet is more effective at preventing a second heart attack than medication. True or false? Actually, it is true based on data by the Lyon Diet Heart Study in France, which showed many years ago that if you put people on a Mediterranean style diet, the risk reduction for having a second heart attack is much greater than if you put them on the best medication that we currently have. And the last one, light olive oil is lower in fat than regular oil and should therefore be preferred. True or false? You're right, it is false. Because it's not lower in fat. What it's lower in are things like polyphenols. These are potent antioxidants that have anti-inflammatory effects on the brain. So, do not buy light olive oil or in fact any refined oil at all. So, in Australia currently, dementia is the second leading cause of death, but the primary cause of disability in those age 65 and over. And it's going to be a massive problem around the world. At the present time, every three or four seconds, there's a new case of dementia diagnosed and by the time I finish this talk, there will be at least another 600 people diagnosed with dementia globally. Now, the problem is this, we have no medical cure. We have nothing to prevent it, nothing to reverse it, nothing to slow it down. And if you're somebody who's been diagnosed with what's called MCI, mild cognitive impairment, which can kind of be likened to what pre-diabetes is to diabetes, MCI is to dementia, a pre-clinical stage. People who have MCI, the majority will convert to full-blown dementia within just five years. So, if there's anything out there that can help just slow this progression in decline in cognition, it's a good thing. It's going to have massive public health benefits. And where the research at the moment is is here. Researchers have-- are moving away somewhat from just studying people who have dementia to see what can be done because there are limited things that can be done. They're looking for windows of opportunity earlier to see if they will work better. And they have found that we really need to be intervening for dementia at least 20 or 30 years before it presents in its full-blown state. So, if you're here tonight and you're in your 30's-- anyone in their 30's? If I had said 60's, you probably wouldn't want to raise your hand, but there's someone in their 30's. You need to take action now. And, for the rest of us, it's never too late. There are always benefits that can be gained, but the maximum benefits will be gained the earlier you start. So, that's one key message I'd like you take out from tonight's talk. The second one is they're looking at targeting risk factors for dementia, which include lifestyle. So, risk factors, particularly vascular risk factors, which are things like having uncontrolled diabetes or uncontrolled blood pressure or being very, very overweight. If you can manage these, the risk of-- in midlife-- the risk of having dementia later in life is significantly reduced. Similarly, lifestyle risk factors. The usual culprits. Smoking. Physical inactivity. Mental inactivity-- not doing anything very stimulating, not learning something new, like a new language. And, of course, social connectedness. There's something very important about being connected with people and having that social contact for healthy brain ageing. But the area that I'm particularly interested in is diet. And when I use the word diet, it's what you eat. That's actually the technical meaning of the word diet, not the magazine diets you go on and then you go off. Of all the diets that have been studied, the Mediterranean diet has the most evidence behind it in terms of its effects on memory and thinking, otherwise known as cognition, and even potentially on the structure of the brain and that's what I'm going to tell you about tonight. In the past, researchers would look at specific foods or specific nutrients and you might have read about some of these, omega three and B12 and so on, but the research has also been moving now towards studying dietary patterns rather than single foods because we got to a bit of a dead end studying single foods. None of them seem to do it all. But, when you study the whole pattern, you're actually studying a lot more because you're also looking at the synergies that occur when you eat all these foods together. So, the Mediterranean diet is a whole pattern and indeed it's a cuisine. It's more than just a pattern of foods that you consume. So, what do we know about the Mediterranean diet so far? The observational studies-- so these are population studies where they look at large numbers of people, they follow them up for many years, they study their diets, and then they try and connect the dots and look for any statistical associations between what people eat and the health outcomes-- suggest that the Mediterranean diet has great promise in slowing cognitive decline. So, just to give you an example. Overall, there are many of these studies and they pretty much conclusively show that the people that stick most to a Mediterranean style dietary pattern have the lowest rates of cognitive decline, have the lowest risks of dementia, particularly Alzheimer's disease, have the lowest risks of converting from MCI to dementia, so the pre-dementia stage to dementia. And even people who already have Alzheimer's disease have more than a 70% reduced risk of dying prematurely. So, there's about a 50% risk reduction if you stick quite well to a Mediterranean diet pattern from these observational studies. Of course, they're not clinical trials. And we have most recently conducted a large systematic review screening all the papers ever been published around the world for randomised controlled trials or clinical trials where we actually get people to go on particular diets and look at the outcomes. After screening more than 6000 papers that mention cognition or brain structure and the Mediterranean diet, we only found five studies, so there are not many clinical trials out there as yet. But, of these, the very best one, which is called the PREDIMED study from Spain. And the reason it's a good one-- there are many reasons, but it included more than 1500 people who were put on the Mediterranean diet as compared to a low-fat diet for more than four years. So, it's quite a long study, lots of people. Yes, they are in a Mediterranean country, but actually put on two types of Mediterranean diets. One Mediterranean diet with extra virgin olive oil, which was given to them for free to make sure they would have enough. The other one, Mediterranean diet with extra nuts, again, to make sure that they would consume enough nuts, and compared against the low-fat control group. What they found-- and they used a whole bunch of neurocognitive tests. If you look at, for example, what's called the domain of global cognition, so that's your overall performance in memory and thinking, they found that it didn't matter which of those two dietary patterns you were on. They were very protective in terms of the loss that would be expected over four years with natural ageing. So, people on the Mediterranean diet basically improved their cognition or didn't decline, whereas people on the low-fat healthy diet, may I add, declined at the rate that you would expect people to decline in four years. So, we know something's going on. So, it wasn't just the overall global domain, they looked at another domain which they call frontal, but that stood for executive function. And some of you will know executive function is sort of the higher order function where we have to process information, make decisions, plan. There were also moderate to high effect-- large effect sizes showing that the Mediterranean diet protects that frontal part of the brain. The part of the brain that has to do the heavy lifting when it comes to our everyday thinking. So, we think there's something definitely going on and we definitely need more RCTs, randomised controlled trials, but what to do in the interim. Should we just wait, or do we take action now? I guess many years ago when scientists first connected smoking to lung cancer, some might have thought, well, we better wait until we're absolutely certain, whereas others thought there's nothing to lose if we tell people to stop smoking now. In fact, it might help them. My personal belief is that there's no need to wait because already this dietary pattern is known to be extremely healthy and extremely delicious, may I add. And the Australian National Health and Medical Research Council has already rated the evidence for cardiovascular disease-- so that's heart attack or stroke-- and the Mediterranean diet as being level one. It doesn't get higher. And they're now recommending that doctors should be using and prescribing this diet to people who have risk factors for cardiovascular disease. The dietary guidelines already promote it, not just here, but in the U.S. So, there are many, many reasons why this pattern could help you anyway and if it turns out to also be protective for brain, well, that's just going to be the cherry on the top.

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>> So, what exactly is this dietary pattern? It was defined in the 1950's and 60's in southern Italy and Greece, particularly the island of Crete. It was a frugal dietary pattern. It was predominantly plant-based. So, much more plants on your plate compared to animal-based products. It also did not have discretionary foods, like packets of chips or biscuits or fast food. They were nonexistent because people were just coming out from the second world war and this massive food, you know, globalisation hadn't yet taken effect. So, I thought tonight what I would do is just share with you seven tips to adopt more of a Mediterranean diet if that's what you would like to do. And I'm going to show you some foods which will help us get through this. Firstly, the thing that binds it all together and the reason why Professor Antonia Trocopolu [assumed spelling] from the University of Athens says the Greeks consume the most vegetables is because they drown them in olive oil. So, I'm going to send this around. You can have a little sniff. This is extra virgin olive oil. The only type you want to buy. And you want fresh extra virgin olive oil, which you can now get and very good extra virgin olive oil in Australia because the polyphenol content declines with storage. You want to be consuming at least two to three tablespoons a day, personally. But, in the study we're about to run with five universities in Australia-- Sydney University is one of them-- Maintain Your Brain study-- we will be recommending people consume four tablespoons a day because that is much closer to the traditional Cretan intake where the early researchers describe the food as literally swimming in olive oil. And there are good reasons for this because when you cook vegetables in olive oil, you actually increase the bioavailability of the nutrients that they contain. The antioxidants that they contain and olive oil itself, if it's the extra virgin one, is a rich contributor of these polyphenols. Now, some of you may have never heard of polyphenols, but may have heard that red wine is good for the heart. The only good thing about red wine, apart from the taste for some, is the polyphenols. So, olive oil, extra virgin olive oil, is very rich in polyphenols. The second thing that really characterises the dietary pattern are legumes. So, these are dried chickpeas, but they can be any beans and legumes really were the poor man's meat. OK? In South Korea, they have a saying-- and of course the legume there is the soya bean-- the soya bean is the meat from the soil. And I thought when I first heard that there's a lot of wisdom in there. And we now recognise that plant-based sources of protein, like legumes, are incredibly protective against multiple chronic diseases because they lower inflammation in the body, including in our brain. They reduce your insulin resistance. They do all the right things. So, you want to try and have two or three main meals based on legumes. So, not a little side dish, but main meals. Now, how much bread would they have consumed in the traditional Mediterranean diet? A little or a lot? A lot. Even up to half a kilo a day for a good man. Everyone's so afraid of eating carbs today, but yet this dietary pattern that was associated with very low risks of cardiovascular disease included a lot of carbohydrate. It's just that it was the right carbohydrate. It was unrefined and unprocessed. And one of the things they do in the Mediterranean, particularly the Cretans or in Greece, they didn't put butter or margarine on their bread. What do they do? Drown it in oil and also add some dried oregano, which may I say is used to season a whole lot of dishes. Now, we're going to send around a few of these so you can have a little sniff because this is real oregano. A little while ago, choice magazine looked at the oregano sold in Australia in the shops and they found that more than 50% of them are adulterated. They're mixing other leaves with real oregano. This is pungent. This is very strong because it's very rich in these phytonutrients that have powerful antioxidant and anti-inflammatory effects and they use it on everything. On salads. When they're cooking dishes. It really makes, as my father once said, oh, this tastes like lamb, and it was chickpeas. The other thing is vegetables. Vegetables were a main course. They were not a side dish. And they ate very simply. I'm just going to show one vegetable tonight because this is particularly important for our brain. And these are the dark green leafy vegetables. They can be any types of dark green leafy vegetables. They're important for a number of reasons. Two that I'll mention are lutein and nitrate. Lutein is preferentially taken up by your eyes and your brain. No other part of the body sucks up the Lutein from your bloodstream except your eyes and your brain and we think it's a really important antioxidant that protects our brain and our eyes from damage. Nitrate in your body is converted to something called nitric oxide. What does nitric oxide do to your blood vessels? It relaxes them and it keeps you young at heart. So, the British Heart Foundation now recommends that people eat these pretty much every day because of vascular disease. And vascular dementia is the second leading-- most prevalent type of dementia. So, get into the dark, leafy greens. And a classical combination is beans and greens. Beans and greens. Any green and any bean go together really well, jazzed up with lots of garlic and onion and lots of olive oil. Now, fish. Some people think that they had fish at every meal. Well, in the traditional Mediterranean diet, it very much depended where you lived. If you lived near the water, you might have a lot of fish, but if you lived inland, beans, legumes, were your protein. So, fish, like little sardines, are very rich in omega three. Does anyone know how many fish oil capsules equivalent are in this little can of sardines weighing only about 100 grammes? Oh, someone's informed. A wild guess. Well, actually depends which sardines, but between five and nine capsules equivalent. These are loaded in omega three, these little fish. And yet, often in Australia, people don't even eat sardines because they smell or they're not used to them. In the Mediterranean, these little fish are highly prized. And, in fact, the locals even if you go to Greece now will always buy the little fish. It's the tourists that buy the big fish like swordfish. Little fish are also less contaminated with pesticides and mercury and other things. So, my suggestion is try and swap two of your red meat meals-- because red meat was very low in the diet-- with two fish meals. So, you've got your top proteins really will be your beans and some fish and red meat, eh, if you're lucky, one or twice a month because that is all they would have had. Because-- not that they didn't like meat. It just wasn't around. There were no factory farms. So, you had to raise the animal. You had to do all the heavy lifting to get it onto your plate. Now, another really important thing. Can everyone see what these are? They are-- these are from Tassie [assumed spelling]. I just bought 10 kilos and I have my husband cracking them at night if he watches television. That's the job of the television viewer. And I'm going to-- who would like to taste a really fresh Tasmanian walnut? I'm going to-- anyone else? I've got a few more. OK. Catch. Anyone else? And for those of you-- you don't have to crush them-- oh, one there? You can throw that one. For those that need them cracked, Denzel Washington here is going to go and show you this trusty-- I want you to taste a real walnut. A real walnut is creamy and lightly sweet. Now, these are really six months old, but if you've tasted walnuts from the shops in the plastic bags, they're really partially oxidised. That's why they taste bitter. If you get the real deal, it's so delicious, you will eat them every day. And, in fact, you'll eat a fair amount of them and nuts are very protective for memory and thinking and they were a major part of the Mediterranean diet. So, a handful a day or about 30 grammes is perfect. When it comes to snack foods, what was the original snack and dessert? Fruit. And yet, in westernised countries, fruit is often relegated to the oh, yeah, sometimes category. It's not even considered a dessert. If you go to Italy even today on their dessert trolley, you will often just see a nice pear in a bowl or a bunch of grapes because fruit is still highly prized in the Mediterranean-- this should be our go-to snack. It's full of fibre, which does wonderful things for your microbiome, so that's the good bugs that live in your gut. We need to feed them because if we don't feed them, metabolites or substances produced by nasty bacteria are more likely to get in through the gut wall and we can talk more about that if you're interested in that during question time. And the other tip I'm going to leave you with before I conclude is this. Now, I'm sure they didn't have these water bottles in traditional times. This is my glass water bottle. But water was the original drink. There were no sugary drinks. No soft drinks. It was water. So, what I would suggest to you is to try and get in at least five cups a day of pure water. Not counting juice, coffee, tea. Pure water. Because we already have data from a large observational study in the U.S. suggesting there's something special about five cups of pure water a day. People who have five cups or more compared to those who have less than five cups a day, the first group have a significantly reduced risk of heart attack. And we know hydration is really important for cognition. OK. So, hopefully tonight I've been able to give you just a few tips that you might take home and open your eyes just a little wider to some of the potential benefits of the Mediterranean diet. We know dementia is going to be big in the world. It's already big now in Australia, being the second leading cause of death. It's going to be number one everywhere. We're all going to be affected in some way and there are no medical treatments that can reverse or prevent, but your diet and your lifestyle can be really, really powerful. And it's time to take action and we should take action now. It's going to be a delicious journey and you want to take the whole family with you on the journey as well and they're going to thank you for that. So, without further ado, I think if I can ask you to raise your glasses of water or anything else-- and what we want to do is raise the bar on dementia. We want to commit to making take-- or taking small little steps or making small little changes by including Mediterranean style foods in our lifestyle that could have very big results. Thank you very much.

[ Applause ]

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