

# SUBMISSION

## MENTAL HEALTH INQUIRY

### PRODUCTIVITY COMMISSION

#### INTRODUCTION:

Imaging studies reveal progressive damage to brain tissues in people who experience psychosis or mood disorders. Neurobiological evidence points to a chronic state in which the brain adapts to a low energy and lipid metabolic environment (Laupu, 2018). If this is so, then the development of mental disorders can be interrupted in their infancy. By intervening early in the progression of mental disorders; societal burden from loss of productivity and lack of economic participation may be severely limited.

Primary healthcare is paramount to global mental health. Here in Australia primary healthcare has a critical role in mental health promotion, prevention and early intervention. In my opinion, primary healthcare has a distinct relevance to our indigenous and remote localities. While technology is producing excellent health results for remote communities, I fear disadvantage is a real barrier to obtaining mental well-being. I recently spoke at the Royal Society of Queensland meeting that explored 'preconditions of health in remote and indigenous communities.' Mental disorders are prevalent in aboriginal communities (Parker & Milroy, 2014). I outlined the historical role of the Australian government in limiting access to nutritious foodstuffs for indigenous communities. I acknowledged that the continual problem facing indigenous and remote communities is transportation, reliability of nutritious supplies and poor soils for gardening. I also reported that Australian medical advice is behind international best practice across G20 countries. One reason I put forward is that Australia is yet to fully embrace the World Health Organisation comprehensive action plan (2013-2020).

#### GAP IN AUSTRALIAN MENTAL HEALTHCARE

Having observed international best practices, our main problem appears to be a lack of mental health literacy around evidence-based strategies promoting self-management. This approach to mental well-being is exemplified by the work of Silver Ribbon, Singapore. There mental health literacy is taught in the workplace, to help maintain mental health.

Yet mental health literacy is devoid of traction within mental healthcare services. I see young people and disadvantaged groups presenting in mental health inpatient facilities. Here in Queensland inpatient facilities provide practical mental health education that consists of pharmaceutical related issues, human right acknowledgement and information pertaining to accessing available services and support groups. I believe we can do more. It could as simple and cost effective as an education campaign. However, this would first require a change in ethos to take place. This change must be guided by policy from the top to underscore the vital role of this commission.

## NUTRITIONAL PSYCHIATRY UPDATE

Dr Emil Kraepelin proposed that mental disorders were metabolic, however when the oral administration of desiccated thyroid gland produced limited clinical results, he tested for a recessive gene which he dispelled in 1916 (Laupu, 2018; Noll, 2007). Over a century of data consistently reveals poor eating patterns amongst people with psychosis or mood disorders. These are skipping meals and erratic eating patterns where the person stops eating for a period and then ferociously binges (Laupu, 2017; Noll, 2007). For other people, a history of mild hypoxic injury is the contributing factor because the brain needs both oxygen and specific nutrients for maintaining the cognitive processes that govern our thoughts, mood, emotions, behaviours, judgement, perception, memory.

## PREVENTION OF MENTAL DISORDERS IN VULNERABLE POPULATIONS

Vulnerable populations of people are those who maintain eating patterns that consistently provide inadequate nutrients for the brain. These populations are not limited to people with an underlying gastrointestinal problem who experience trauma (post-traumatic stress disorder), fussy eaters, people with an established eating disorder, busy professionals (for instance, doctors, air traffic controllers), displaced peoples, those who have experienced natural or man-made disasters, disadvantaged youth and those who over exercise at the expense of adequate oxygen and nutrients (conduct disorders). People who have a history of mild hypoxic brain injury are also at risk such as, sports people, those who have experienced a traumatic injury through accident.

Eating patterns and mild hypoxic injuries represent a simple and presumably cost-effective target for public awareness campaigns. The brain requires selenium, iron, zinc and iodine to produce thyroid hormones (Laupu, 2016). It is this disruption to the supply of thyroid hormones that leads the brain to adapt to inadequate energy and lipid metabolic processes (Laupu, 2017). From a neurobiological perspective, there is a single mechanism associated with the development of psychosis or mood disorders. This mechanism pervasively favours apoptosis (neuronal cell death) at the expense of autophagy (neuron reprogramming) and cell survival (Laupu, 2017; Laupu, 2018). A second intracellular signalling pathway linked to hypoxic brain injury, is reliant on adequate levels of magnesium, manganese and copper for metabolic fine-tuning activity and the ability of the brain to cope with oxidative stress (Laupu, 2018). An example of foodstuffs that are high in the essential micronutrients to meet brain requirements, are seafood, seaweed or protein (Laupu, 2016).

It has been known since the 1930s that improved diets are insufficient to reverse mental disorders (Laupu, 2016). Disruption to the supply of thyroid hormones impacts energy and lipid metabolic processes and produces epigenetic changes. Epigenetics are dietary or hypoxic-induced changes to how the gene sequence is read (gene expression). Some genes become silenced by these epigenetic influences and are skipped when the sequence is read. This is an adaptive RNA process that alters our response to stress and is thought to be passed on to offspring in readiness for their brain's low energy and lipid metabolic environment (Laupu, 2018).

## ROLE OF TOBACCO, ALCOHOL AND ILLICIT SUBSTANCES

People who heavily use alcohol, tobacco products and/or illicit substances are widely represented amongst the mental health population. The reason for this is that alcohol, tobacco use and illicit substances enhance the oxidative stress that the brains of people with an existing mental health condition are unable to cope with. These negative lifestyle factors including chronic marijuana use, exacerbates symptoms because the brain is unable to cope with the increased oxidative stress that chronic use produces.

## EARLY INTERVENTION

Given the shared neurobiological mechanism, mental disorders involving psychosis or mood disorders are capable of being reversed in the early stages. Definitive studies were conducted during the Christchurch earthquake sequence (Rucklidge et al, 2014; Rucklidge et al, 2012; Rucklidge et al, 2011) and were verified by work undertaken during the Canadian floods (Kaplan et al, 2015). Imbedded in this work was the finding that combination micronutrient supplementation significantly (ES 0.69-1.31) reversed indices of stress, anxiety and depression (Rucklidge et al, 2014).

## A HOLISTIC APPROACH TO MENTAL HEALTHCARE

Holistic care is the core business of nurses. It should be a small step for mental health nurses to provide mental health literacy. I believe that various sectors including education and workplaces can contribute to improving mental health, economic participation and productivity through educating their stakeholders about mental health literacy. Mentally healthy workplaces can in part be achieved by ensuring staff receive their entitled meal breaks and adequate nutrition/ education is made available to them. This is an area that could be supported by union representation.

The community needs to collectively take responsibility for the care of their brain. It may be presumptive to suggest that we tend to forget our brain is an organ in our central nervous system. Once damage to brain tissues and epigenetic changes have occurred it is difficult to reprogram these cellular RNA processes. There is, however, a supplement entering the marketplace to address quality of life for people experiencing chronic psychosis or mood disorders. This brain well-being supplement aims to maintain health and well-being while optimizing energy and lipid metabolic processes. It will be sold under the brand name Dr. Laupu's®.

I would genuinely like to thank the commission for undertaking this work and facilitating input from the community as I know it is not an easy road.

Kind regards,

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