

2012-2022







"Our vision is that NIIM will lead independent research in Australia and worldwide.

NIIM's research scope is uniquely broad and holistic providing insights into improved health outcomes in domains including nutrition, exercise, mental health, supplements and lifestyle.

This is a distinctive positioning in health research that focuses on prevention, health literacy and empowerment.

Our goal is to deliver long-term evidence-based health benefits, which in turn supports individuals to lead healthy, productive and meaningful lives, and reduces the burden of disease for all Australians."

Professor Avni Sali AM MBBS, PhD, FRACS, FACS, FACNEM



# ABOUT

## WE ARE THE NATIONAL INSTITUTE OF INTEGRATIVE MEDICINE

The National Institute of Integrative Medicine (NIIM) is a not-for-profit charitable organisation, which brings together research, education and practice in Integrative Medicine. NIIM was established by Professor Avni Sali AM, a pioneer of Integrative Medicine in Australia, with the help of community supporters.

The NIIM Research Department was established in 2012 to conduct research into the safety and efficacy of complementary medicines, as well as emerging treatments and technologies. NIIM works with a network of valued local and international partners, such as Charitable Foundations, universities, academic institutions and other organisations.

The NIIM Research Department is celebrating its ten-year anniversary in 2022.

## WHAT IS INTEGRATIVE MEDICINE?

"The practice of Integrative Medicine refers to the blending of conventional and evidence-based natural and complementary medicines and/or therapies with lifestyle interventions to deliver holistic, patient-centred care."

- Royal Australian College of General Practitioners

The goal of Integrative Medicine is to achieve optimal outcomes in health improvement, prevention and treatment of disease.

The Integrative Medicine model focuses on the cause of the illness, not only its diagnosis and treatment. Lifestyle factors such as nutrition, mindfulness and movement form part of the 'whole person' approach to illness prevention and patient wellness.

Integrative Medicine is well suited to the care of people with chronic illnesses including cancer, heart disease, diabetes and many other diseases, but also for any person seeking optimal physical and mental health.

## NIIM'S MISSION

- 1. Conduct research into integrative treatments and technologies
- 2. Educate health professionals and the public in Integrative Medicine
- 3. Provide world class clinical practice of Integrative Medicine

NIIM works to raise awareness of the role of Integrative Medicine in medical practice and public health. This is achieved through community campaigns, public education, free public lectures and the media.

NIIM's in-house health clinic provides the community with unparalleled access to Integrative Medical doctors, complementary and allied healthcare practitioners and supportive therapies.

Through the work of NIIM, Professor Avni Sali AM continues his lifelong ambition to establish Integrative Medicine as the leading model of healthcare in Australia.



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# THE NIIM RESEARCH DEPARTMENT

## PURPOSE

The NIIM Research department commenced in 2012 with Professor Avni Sali AM and Associate Professor Karin Ried leading research projects.

In collaboration with universities and other medical bodies, the NIIM Research team conducts research into the safety and efficacy of Integrative Medicine and complementary therapies for the prevention, detection and treatment of disease.

#### The NIIM Research department seeks to:

- Build the evidence base for the use of complementary therapies independently and alongside conventional medicine.
- 2. Monitor the tolerability and safety of complementary therapies.
- 3. Build awareness and recognition of effective complementary therapies in the general public, the scientific community, government and funding bodies.

The NIIM Research department conducts research in many areas including cancer, heart health, cognition, chronic diseases and mind-body medicine.

NIIM is proud to contribute to the growing scientific evidence base showing that the Integrative Medical

approach supports the treatment of complex illnesses and improves general health and wellbeing.

NIIM has initiated and been involved in many research programs and aims to become a major provider of research as well as offering grants to undertake research in the longer term.

## **RESEARCH GOVERNANCE**

The Research Governance Committee reports directly to the NIIM Ltd Board. All trials undergo rigorous approval processes. The NIIM Human Research Ethics Committee (HREC), registered with the National Health and Medical Research Council (NHMRC), plays a key role in the ethical oversight of research in humans. It receives and considers both internal and external research proposals involving human participants to ensure they are in accordance with the relevant national standards and guidelines for research.

In undertaking this role, the NIIM HREC is guided by the NHMRC's National Statement on Ethical Conduct in Human Research, which sets out the requirements for HREC composition, ethical principles by which research should be designed and conducted, and requirements for HRECs in reaching decisions about research proposals and monitoring and reporting of approved projects.

## FINANCIAL GOVERNANCE

NIIM Research sits within the National Institute of Integrative Medicine Ltd (NIIM Ltd), a registered Charity with DGR status, providing tax deductible status for all donations.



Adem Karafilli BA, CPA

Adem is the Chair of NIIM Ltd. He is also Chairman and founder of ANGL Korp; Chairman, Top Shelf Pharmaceuticals Company Limited International Holdings; Chairman, The Hydration Pharmaceuticals Company Limited.



Prof Avni Sali AM MBBS, PhD, FRACS, FACS, FACNEM

Founder of NIIM. President - International Council of Integrative Medicine, Previous Head of School and Founder of the Post Graduate Integrative Medicine School, Swinburne University.



Adam Gregory BA, CA

CEO and Chief Investment Officer, Light Warrior Group; Chair, Investment Advisory Committee, Conscious Investment Management; NED, Made by Cow, Jamieson Coote Bonds; Goldman Sachs



Amanda Quealy BEcon (Hons), MBA, GAIC CEO of NIIM, Fellow of the Australasian College of Health Service Managers; a Top 100 Women of Influence, Telstra Business Woman of the Year.



George Papanikolopoulos BEcon/Comm, CPA

Executive Manager -Finance and Corporate Services at NIIM, Former GM of Procurement at Telstra Australia, and Director of Corporate and Investment Banking, Citigroup.



# MEET THE NIIM RESEARCH TEAM

THE NIIM RESEARCH TEAM IS LED BY PROFESSOR AVNI SALI AM, FOUNDING DIRECTOR OF NIIM, AND ASSOCIATE PROFESSOR KARIN RIED, DIRECTOR OF RESEARCH AT NIIM.



## PROFESSOR AVNI SALI AM

MBBS, PhD, FRACS, FACS, FACNEM Member of the Order of Australia

Founding Director of the National Institute of Integrative Medicine

Professor Avni Sali AM is often referred to as the father of Integrative Medicine in Australia. In 1996 he was the Founding Head of the Graduate School of Integrative Medicine at the Swinburne University in Melbourne. In 2005 he established the not-for-profit, charitable National Institute of Integrative Medicine (NIIM), and became its founding Director. In the past he was also Head of the University of Melbourne Department of Surgery at Heidelberg Hospital.

Professor Sali donates his time to several positions on medical boards and associations. He is past President of the Australasian Integrative Medicine Association (AIMA) and sits on numerous medical and other boards. He is a member of the Joint Working Party of the AIMA and the Royal Australian College of General Practitioners (RACGP) establishing the Integrative Medicine Network which oversees GP training, continuing professional development, and standards for safe ethical practice in the field of Integrative Medicine. He is also a patron and ambassador for several organisations including The Melbourne Therapy Centre, GVConnect and others.

Professor Sali's previous appointments include: Australian and New Zealand Representative of the International Society for Digestive Surgery, and Director of Victorian Health Research and Education Committee (VPHREC). Professor Sali was part of the Federal Government Complementary Health Care Consultative Forum and the National Scientific Advisory Committee in Complementary Medicine. More recently he has been appointed to the Australian Advisory Council on the Medical Use of Cannabis, providing an important opportunity for an Integrative Medicine voice to be part of a national government committee.

Professor Sali is also involved with a number of Educational Medical and Teaching Research Facilities, such as the Brain Sciences Institute at Swinburne University, Southern School of Natural Therapies, Box Hill Institute, and the Australasian College of Nutritional and Environmental Medicine (ACNEM). Professor Sali was instrumental in establishing the first post-graduate medical school in Integrative Medicine at a University: The Graduate School of Integrative Medicine, Swinburne University Melbourne, as well as the first Integrative Hospital in Melbourne.

As a highly sought after Integrative Medical expert, Professor Sali regularly contributes to a wide variety of publications, including editorials and articles in Australian and International Medical Journals.

He has authored and co-authored hundreds of publications. As a surgeon he contributed chapters in the world's two leading surgical textbooks, "Gallstones, Aetiology and Dissolution". Ellis H and Schwartz S. and Maingot's "Abdominal Operations", and has co-authored many medical books including: Kune GA, Sali A., "Surgery of the Gallbladder and Bile Ducts" (1986). Vitetta L, Sali A., "Mind Body Medicine: The Key to Health and Longevity. Chapter in Book In: Mind Body and Relaxation Research Focus", and Sali A, Vitetta L. "Ageing in General Practice: The Integrative Approach" (2008). He has also produced the health booklets: The One Page Good Diet Book and The Vitamin and Mineral Decoder.

More recently he co-authored "A guide to Evidence-Based Integrative and Complementary Medicine" published in 2011 (Elsevier Australia). In 2016, a book about his life was published entitled "Visionary Man, Visionary Medicine". In 2017 Professor Sali co-authored the text: "A Clinician's Guide to Integrative Oncology" (Springer USA) – the first textbook in Integrative Oncology primarily aimed at clinicians.

Professor Sali is an invited speaker at seminars and workshops both nationally and internationally every year. In 2018 he was invited to give a keynote presentation at the International Traditional and Complementary Medicine Conference, Istanbul, Turkey, and in 2019 presented at the 12th European Congress of Integrative Medicine in Barcelona, Spain. He also volunteers his time to give educational talks on public health in metropolitan and rural communities. He is a regular contributor of health articles to publications.



For his contribution to the community, in 2002 he was awarded the St Michael's Award for Outstanding Community Service and the Australian Humanitarian Award for Contributions to Health in 2004.

In November 2012 he was honoured to receive an Integrative Medicine award, in recognition of more than 20 years of service, at the Australian College of Nutritional & Environmental Medicine (ACNEM) 30th Anniversary Gala Dinner and Awards. In March 2013 Professor Sali was appointed as Adjunct Professor with the Cairnmillar Institute in Melbourne.

Professor Sali has been a long-term pioneer of health promotion focusing on the importance of nutrition, exercise and mind-body approaches to preventative healthcare. For example, from 1979-1981, he performed Australia's first study into the eating habits of primary school children as well as the first study investigating the role of school canteens in children's diets.

His clinical expertise is in the area of treating complex and chronic diseases, particularly cancer. As a leader in his field and through his large body of work, he has inspired and led a new generation of doctors in the practice of Integrative Medicine.

His lifelong work has been the tireless promotion of bringing evidence-based Integrative Medicine into the mainstream medical model – to become the medical paradigm of healthcare.

In 2016, Professor Sali was honoured as a Member of the Order of Australia (AM) for "significant service to Integrative Medicine as an educator, clinician and researcher, and to professional education."



ASSOCIATE PROFESSOR DR KARIN RIED PhD, MSc, GDPH, Cert Integrative Medicine

Associate Professor Dr Karin Ried is the Director of Research at the National Institute of Integrative Medicine (NIIM), Melbourne, Australia. Dr Ried is Adjunct Associate Professor at Torrens University, Australia and Honorary Associate Professor at The University of Adelaide, South Australia. A/Prof Ried has more than 25 years' experience in medical and public health research, and research interests in complementary and Integrative Medicine with a focus on nutritional health and integrative therapies. Her current research projects encompass nutritional medicine, cardiovascular, gut and brain health, diabetes, chronic diseases and cancer.

#### Qualifications

A/Prof Ried received a Masters Degree in Chemistry (1993) and PhD in Human Molecular Genetics from the University of Heidelberg, Germany (1997). Her PhD and early postdoctoral work in human genetics at the Centre of Molecular Genetics, University of Adelaide, culminated in the discovery of various genes, one of which is involved in the development of cancer. In addition, A/Prof Ried completed a Graduate Diploma of Public Health at the University of Adelaide (2001), and a Certificate in Integrative Medicine at the University of Queensland (2009).

#### Publications

A/Prof Ried is a frequent speaker at national and international conferences. Her research has been featured on national radio, television, and in the print media in Australia and overseas.

A/Prof Ried has published widely in peer-reviewed high impact journals, with more than 65 peer-reviewed articles, the majority as first author. Her publications have been cited more than 2000 times, and her current H-Factor is 23 (Web of Science).



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# **MEET THE NIIM RESEARCH TEAM**



#### AMANDA QUEALY

CEO, National Institute of Integrative Medicine

Amanda Quealy has worked in the healthcare industry for over 25 years in leadership roles in the government, corporate and not-for-profit sectors.

She is currently CEO of the National Institute of Integrative Medicine, leading a transformation and growth agenda in integrative clinical practice and research and education in complementary, lifestyle and plant-based medicine. Prior to taking up this role she was CEO of The Hobart Clinic, a private psychiatric hospital in Hobart, Tasmania, providing in-patient, day programs and outpatient consulting services. The organisation became the largest private mental health service in the state. Ms Quealy has been recognised for her work in the health sector, receiving the following awards: Australian Institute of Management, Professional Manager of the Year 2009; Telstra Business Woman of the Year (Tas) 2010; 100 Women of Influence (Australian Financial Review) 2013.



#### DR WOLFGANG MARX

Postdoctoral research fellow, Bond University

Dr Wolfgang Marx undertook his PhD at NIIM and Bond University

(2012-2016) where he investigated the use of a ginger-derived polyphenols for chemotherapy-induced nausea and fatigue.

Dr Marx is a postdoctoral research fellow and Head of the Nutraceutical Research stream at the Food & Mood Centre. Wolfgang is also an Accredited Practising Dietitian and Wolfgang's current research program covers a broad range of projects involving the use nutraceuticals for mental health, fatigue, and cognition.



#### DR NIKOLAJ TRAVICA

Postdoctoral research fellow, Deakin University

Dr Nikolaj Travica has a Bachelor in Psychology and Psychophysiology

and an Honours degree in Science, majoring in Psychology. Dr Travica completed his PhD at NIIM and the Centre for Human Psychopharmacology at Swinburne University in 2021, which examined the relationship between Vitamin C and cognitive function in healthy adults and post-operative patients. Dr Travica is an Executive Dean's post-doctoral research fellow at the Food and Mood Centre, where he is continuing to explore the link between nutrition and cognitive function, particularly during the post-operative phase.



#### DR PETER FAKLER

#### MSc PhD, Scientific consultant

Dr Fakler has a Master of Science degree (major in biology, minors in chemistry and mathematics) and a

PhD from the University of Heidelberg, Germany. Dr Fakler has been particularly interested in the roles of vitamins and other nutrients in health, especially their biochemical functions. Dr Fakler has coauthored a number of peer-reviewed journal articles including on effects of cocoa, tomato-extract, and garlic on cardiovascular health, and has contributed to NIIM's Short Course in Integrative Medicine. Dr Fakler is currently involved in establishing some exciting research and screening techniques in NIIM's laboratory, including the Pathogen Test.



#### ELIZABETH WILLARD-TURTON

Bachelor of Science (Biotechnology), Swinburne University of Technology 2016-2019

Major in Biotechnology, Minors in Chemistry and Applied Mathematics.

Elizabeth has joined the research team in 2021, and assists with current clinical trials, including the Vitamin D Study, the Cannabis Sleep Study, and Circulating Tumour Cell (CTC) Test in the NIIM lab.

THE NIIM Research team also includes: Mr Samuel Isiah, Research Coordinator, 2021-2022

**Dr Tasnuva Tamanna**, Senior Research Assistant, 2019-ongoing

Mrs Sonja Matthews, Cytologist, 2018-ongoing Ms Yeah Paye, Research Assistant, 2020-ongoing Ms Joy Hsin-Yueh Chu, Research Nurse, 2020-ongoing



# **CELEBRATING 10 YEARS OF RESEARCH**

## 2012-2022

The NIIM Research model focuses on prevention, health literacy and empowerment, supporting lifestyle change as best practice centred on evidence-based outcomes. Over the past ten years NIIM research outcomes have contributed to the understanding of how to reduce chronic disease burden in the community and improve people's lives and wellbeing, while also reducing the public health burden – a proactive and essential mission for the future of healthcare.

Clinical studies at NIIM include:

- The International Alliance COVID-19 Treatment Trial
- The Primary Australian Care Therapeutics (PACT) Trial for outpatient treatment of COVID-19
- The ISET-CTC Cancer Test
- The Prostate Cancer Screening Study
- The Light-bed PDT Cancer Treatment Study
- The Prostate Cancer PDT Treatment Study
- The Pathogen Blood Test
- The Cannabis Sleep Studies 1+2
- The Kyolic Garlic and Aerobic Fitness Trial
- The Probiotics for Hayfever Trial
- The Gut Relief Trial
- The Bone Broth Gut Study
- The Gluco-Metabolism Pre-diabetes Trial
- The GarGIC trial: Kyolic Garlic for Gut health, Inflammation, and Cognition
- The AGE at Heart trial: Aged Garlic Extract for Heart Health
- The Cocoa and Cognition Trial
- The Vitamin C and Cognition Trial

Over the past ten years, NIIM Research has conducted original research on par with international counterparts, and developed studies not often supported in mainstream research domains. For this reason, NIIM holds a unique position to advance Integrative Medicine and lead a paradigm shift in general healthcare.

Continued independent and dedicated research will enable NIIM to strengthen its advocacy and leadership position throughout Australia and worldwide, advancing the true value of Integrative Medicine.





# ACHIEVEMENTS

15+	Research projects	On a wide range of topics including the health benefits of chocolate, Kyolic Aged Garlic Extract, probiotics, nutritional and herbal supplements, and Vitamin D. Exploring cardiovascular health, gut health, pre-diabetes, respiratory health, hayfever and cancer		
40	Publications	Peer-reviewed journals		
80+	Conference presentations	Including public lectures and webinars		
3500	Cancer screening tests	Establishment of the NIIM lab and validated world-wide available ISET-CTC (Circulating Tumour Cell) Test that allows early detection of cancer and assessment of treatment effectiveness		
500+ *new*	Prostate cancer screening test	Developed, verified, and published new improved prostate cancer screening test which has an accuracy of 97-99% compared to the standard PSA-blood test, which has an accuracy of 15-25%		
500+ *new*	Pathogen test	Development and Innovation Patent granted		
8+	Research students	Supervised and completed: 2 PhD students 4 Masters students 2 Honours students		
20+	Health promotion	5+ interviews on National TV and 2+ on international TV (Japan, Germany) in 2013, 2014, 2016, 2020		
20+	Health education	<b>Radio and podcasts on topics:</b> Kyolic Aged Garlic Extract for blood pressure, Chocolate and health, Prostate cancer screening study		





# **KEY RESEARCH FINDINGS BY NIIM RESEARCH**

## **IN SUMMARY**

- 1. Healthy ageing with Kyolic Aged Garlic Extract: improve blood pressure, arterial stiffness and gut microbiota
- 2. Herbal formula improves upper and lower gastrointestinal symptoms
- 3. **Medicinal cannabis improves sleep in adults with insomnia**: a randomized placebo-controlled cross-over study
- 4. Probiotics for hayfever: a randomized double-blind placebo-controlled trial
- Therapies to prevent progression of COVID-19, including hydroxychloroquine, azithromycin, zinc, and Vitamin D3 with or without intravenous vitamin C: an international, multicenter, randomized trial
- 6. Vitamin D and prevention of respiratory illnesses
- 7. Prostate Cancer Screening test and CTC
- 8. NIIM Pathogen Blood Test research study
- 9. Rare fungal infection linked to a case of juvenile arthritis
- 10. The effect of Cocoa on Blood Pressure
- 11. The Prostate Cancer Photodynamic Therapy (PDT) study
- 12. The Lightbed Cancer Treatment study using Photodynamic Therapy (PDT)





## HEALTHY AGEING WITH KYOLIC AGED GARLIC EXTRACT: IMPROVE BLOOD PRESSURE, ARTERIAL STIFFNESS AND GUT MICROBIOTA

#### Conducted by Ried K,<sup>1-3</sup> Tamanna T,<sup>1</sup> Matthews S,<sup>1</sup> Sali A<sup>1</sup>

- <sup>1</sup>National Institute of Integrative Medicine (NIIM), Melbourne, Australia
- <sup>2</sup> Torrens University, Melbourne, Australia
- <sup>3</sup> Discipline of General Practice, The University of Adelaide, South Australia

#### Overview of the Study

Since 2008 considerable research and clinical trials have been conducted into Kyolic Aged Garlic Extract.

#### What was involved

For Blood Pressure; Trial 1: Pre-hypertensives, Trial 2: Dose-response, Trial 3: AGE at Heart trial, For Gut Health; Trial 4: GarGIC trial; and for Trial 5: aerobic fitness.

#### Outcomes

Studies showed that taking two capsules a day of Kyolic Aged Garlic Extract reduced blood pressure average in the majority of hypertensive patients similar to standard blood pressure medication. This is associated with 16-40% risk reduction in heart attack and strokes. Kyolic Aged Garlic Extract was shown to reduce arterial stiffness and normalise cholesterol and blood stickiness. It also had beneficial effects on the gut microbiota, increasing microbial richness and diversity, and a marked increase in beneficial bacteria Lactobacillus and Clostridia. Kyolic Aged Garlic Extract also has the potential to improve aerobic fitness in humans.

#### Funders

Thank you Wakunaga for funding this research study.







## HERBAL FORMULA IMPROVES UPPER AND LOWER GASTROINTESTINAL SYMPTOMS: THE GUT RELIEF STUDY

Conducted by: Ried K, Travica N, Dorairaj R, Sali A, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### **Overview of the Study**

Gastrointestinal problems affect half of western populations. Symptoms can vary from frequent reflux to Irritable Bowel Syndrome.

#### What was involved

A total of 43 participants with gastrointestinal (GI) symptoms completed the study using the Nutrition Care Gut Relief Formula which contains a combination of herbs and nutrients including curcumin, aloe-vera, slippery-elm, guar-gum, pectin, peppermint-oil, glutamine and glucosamine, shown to benefit the gastrointestinal system.

#### Outcome

The study showed that the Gut Relief Formula significantly improved the frequency and severity of upper and lower GI symptoms by 60-80%, including indigestion, heartburn, nausea, constipation or diarrhoea, abdominal pain, troublesome flatulence, and significantly improved physical functioning, energy levels, mood, and sleep by 60-80%. This also contributed to improved quality of life, while reducing intestinal permeability, and improving the microbial profile, reducing the need for reflux medication, and enabling the consumption of previous food triggers.

#### Funders

Thank you to Nutrition Care for funding this research study.







## MEDICINAL CANNABIS IMPROVES SLEEP IN ADULTS WITH INSOMNIA: A RANDOMIZED PLACEBO-CONTROLLED CROSS-OVER STUDY

#### Conducted by: Ried K,<sup>1-3</sup> Tamanna T,<sup>1</sup> Matthews S,<sup>1</sup> Sali A<sup>1</sup>

- <sup>1</sup> National Institute of Integrative Medicine (NIIM), Melbourne, Australia
- <sup>2</sup> Torrens University, Melbourne, Australia
- <sup>3</sup> Discipline of General Practice, The University of Adelaide, South Australia

#### **Overview of the Study**

Insomnia or difficulty falling and/or staying asleep is experienced by up to 30% of the general population and has been associated with low melatonin levels at midnight.

In this randomised cross-over, double-blind, placebocontrolled 6-week trial we assessed the tolerability and effectiveness of the Entoura-10:15 medicinal cannabis oil on sleep in adults with insomnia.

#### What was involved

A total of 29 participants with self-reported clinical insomnia completed the cross-over trial. Participants were randomly allocated to receive placebo or active cannabis oil then swapped after two weeks.

#### Outcome

The study showed that Entoura-10:15 medicinal cannabis oil was well tolerated and was effective in improving sleep quality, sleep duration, and associated quality-of-life in adults with insomnia.

#### Funders

Thank you to Entoura for funding this research study.



## PROBIOTICS FOR HAYFEVER: A RANDOMIZED DOUBLE-BLIND PLACEBO-CONTROLLED TRIAL

#### Conducted by: Ried K,<sup>1-3</sup> Travica N,<sup>1,4,</sup> Paye Y<sup>1</sup>, Sali A<sup>1</sup>

- <sup>1</sup>National Institute of Integrative Medicine (NIIM), Melbourne, Australia
- <sup>2</sup> Torrens University, Melbourne, Australia
- <sup>3</sup> The University of Adelaide, Adelaide, South Australia
- <sup>4</sup> Food & Mood Centre, IMPACT, Deakin University, Geelong, Australia

#### Overview of the Study

Seasonal-allergic-rhinitis (hayfever) affects about 4.6 million (20%) of Australians each year. Hayfever manifests as runny/blocked nose, and often itchy/ swollen eyes, with symptoms greatly impacting quality of life. Antihistamines are often needed to restore function, but they may trigger unwanted side-effects. Probiotics have shown promise to reduce hayfever symptoms.

#### What was involved

In this randomised double-blind, placebo-controlled, 12-week trial we assessed the tolerability and efficacy of the probiotic formula 'NC-Seasonal-Biotic' on symptoms, quality of life, and immunological and microbial factors.

Adults, who had previously suffered from hayfever symptoms were randomly allocated to probiotic or placebo trial-powder. Treatment effectiveness was assessed by symptom and quality of life, T-cell immunity (Th1/Th2 ratio) and stool-microbiome analysis. Tolerability was assessed weekly by the gastrointestinal symptom scale.

#### Outcome

Study suggests the probiotic formula 'NC-Seasonal-Biotic', if taken for 10-12-weeks, to be effective in reducing hayfever symptoms, such as runny nose and itchy eyes, and improved the quality of life and immunological parameters.

#### Funders

Thank you to Nutrition Care for funding this research study.









## THERAPIES TO PREVENT PROGRESSION OF COVID-19, INCLUDING HYDROXYCHLOROQUINE, AZITHROMYCIN, ZINC, AND VITAMIN D3 WITH OR WITHOUT INTRAVENOUS VITAMIN C: AN INTERNATIONAL, MULTICENTER, RANDOMIZED TRIAL.

Conducted by: Ried K, BinJemain T, Sali A, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### **Overview of the Study**

COVID-19 is a global pandemic and treatment with hydroxychloroquine (HCQ), zinc, and azithromycin (AZM), also known as the Zelenko protocol, plus intravenous (IV) Vitamin C (IVC) has shown encouraging results in a large number of trials worldwide. In addition, Vitamin D levels are an important indicator of the severity of symptoms in patients with COVID-19.

#### What was involved

The study involved 237 hospitalised patients with COVID-19 in seven participating hospitals in Turkey who were screened for eligibility and randomly allocated to receive either HCQ, AZM, and zinc (group 1) or HCQ, AZM, zinc plus IV vitamin C treatment (group 2) for 14 days. The patients also received nontherapeutic levels of Vitamin D3.

#### Outcome

All but one patient treated with HCQ, AZM, and zinc with or without high-dose IV Vitamin C (IVC) fully recovered. Additional IVC therapy contributed significantly to a quicker recovery (15 days versus 45 days until discharge).

A Vitamin D deficiency was present in 97% of patients with COVID-19. None had optimal Vitamin D levels.

Low Vitamin D levels were significantly correlated with a higher probability of admission to the intensive care unit and longer hospital stay. Future trials are warranted.

#### Funders

Thank you to Rinehart Medical Foundation for funding this research study.



RINEHART MEDICAL FOUNDATION



## VITAMIN D AND PREVENTION OF RESPIRATORY ILLNESSES

Conducted by: Ried K, Willard-Turton E, Sali A, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### Overview of the Study

The role of Vitamin D in building immunity to viruses and respiratory illnesses is widely accepted. However, the prevalence of Vitamin D deficiency in Australia is high, especially in older people.

#### What was involved

A meta-analysis and systemic review of 25 randomised controlled trials involving 11,321 participants aged 0-95 years concluded Vitamin D supplementation can prevent acute respiratory tract infection.

The mechanism by which Vitamin D improves immunity is well understood. Vitamin D protects against pathogens, such as the COVID-19 virus, by exerting important regulatory functions on both the innate and adaptive immune system, including increased activity of white blood cells, improved T-Cell defence and a reduction in inflammation.

#### Outcome

Several recent studies have linked Vitamin D deficiency with risk and severity of COVID-19 infection and hospitalisation.

Boosting Vitamin D levels in the body through supplementation can have a range of health benefits. The elderly and those with darker skin are particularly at risk of developing a Vitamin D deficiency.

#### Thank you

Vitamin D supplied by Metagenics







## PROSTATE CANCER SCREENING TEST AND CTC

Conducted by: Ried K, Tamanna T, Matthews S, Eng P, Sali A, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### **Overview of the Study**

The current screening test for prostate cancer, affecting 10% of men worldwide, has a high false negative rate and a low true positive rate. A more reliable screening test is needed. Circulating Tumour Cells (CTC) provide a biomarker for early carcinogenesis, cancer progression and treatment effectiveness.

#### What was involved

We studied a group of 47 men using a combination of the CTC test plus a prostate marker test. Of the 27 men screened, 25 had CTC, and 84% of those (n = 20) were positive for the prostate-specific-PSA-marker. Follow-up testing suggested suspected prostate cancer in 20/20 men by a positive PSMA-PET scan, and biopsies performed in 45% (n = 9/20) men confirmed the diagnosis of early prostate cancer. Kidney cancer or B-cell lymphoma were detected in two men with PSA marker negative CTC.

#### Outcome

Our study suggests that the combination of ISET®-CTC and PSA-marker-testing has an estimated positive-predictive-value (PPV) of 99% and a negativepredictive-value (NPV) of 97%, providing a more reliable screening test for prostate cancer than the standard PSA-blood-test (PPV = 25%; NPV = 15.5%).

The CTC test allows early detection of any type of cancer, including breast cancer, and assessment of treatment effectiveness.

New improved prostate cancer screening test

	od Test	NEW NIIM Test ISET-CTC & PSA Marker	
True positives	True negatives	True positives	True negatives
25%	14.5%	<b>99</b> %	97%
False positives	False negatives	False positives	False negatives
75%	85.5%	1%	3%





## NIIM PATHOGEN BLOOD TEST RESEARCH STUDY

Conducted by: Ried K, Fakler P, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### **Overview of the Study**

Research trial involves innovative blood testing using cytology based microscopy and genetic analysis to isolate and identify pathogens in the blood. Pathogens include Borrelia bacteria, fungi/mould, protozoa, parasites, viruses, or other infectious agents. The Pathogen Blood Test may help patients with Chronic Fatigue or Lyme disease-like symptoms.

#### What was involved

Participation in the Pathogen Blood Test Study is by practitioner referral only.

Patients provide 10 ml of blood for a Pathogen Blood Test Screen. Microscopy analysis distinguishes between normal human inflammatory cells (white blood cells), atypical human cells and non-human cells.

Further analysis on non-human cells look for specific bacteria (e.g. Borrelia, Rickettsia) and fungal/mould infection. Immuno-cyto-chemistry (antibody-antigen) testing can also be conducted for active viral infections (eg Epstein-Barr-Virus, Herpes simplex virus, Varicella zoster).

#### Outcome

Some systemic infections can mimic cancer or other chronic diseases. The NIIM Pathogen Blood Test can distinguish between Circulating Tumour Cells, atypical inflammatory cells and other pathogens.



## RARE FUNGAL INFECTION LINKED TO A CASE OF JUVENILE ARTHRITIS

Conducted by: Ried K, Fakler P, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### Overview of the Study

The symptoms of Juvenile idiopathic arthritis include joint pain, swelling, and stiffness, and standard treatment involves immunosuppressant medication. It is the most common type of arthritis in children under the age of sixteen with severe physical disability experienced by 80% of cases.

#### What was involved

A two-part Pathogen Blood Test combining cytological microscopy and genetic analysis of the pathogen by polymerase-chain-reaction DNA analysis. Microscopy revealed the presence of a large number of fungal elements among inflammatory cells in patient.

#### Outcome

Test results encouraged a radical change of the patient's treatment plan, including cessation of the regular immunosuppressants, including steroids, over six months. The patient made a progressive recovery, including complete reversion of the previously swollen and painful joints, development of a good appetite, and return to liveliness.

With the change to immune supportive integrative nutritional therapies, including intravenous Vitamin C, and oral Vitamin D, as well as aqua- and physiotherapy, the patient gained weight including muscle mass, and regained strength and movement in the hands, arms and legs. Her mood and energy levels improved and she returned to school fulltime.







## THE EFFECT OF COCOA ON BLOOD PRESSURE

Conducted by: Ried K, Fakler P, Stocks P, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### Overview of the Study

High blood pressure is an important risk factor for cardiovascular disease, contributing to about 50% of cardiovascular events worldwide and 37% of cardiovascular-related deaths in Western populations. Epidemiological studies suggest that cocoa-rich products reduce the risk of cardiovascular disease. Flavanols found in cocoa have been shown to increase the formation of endothelial nitric oxide which promotes vasodilation and therefore blood pressure reduction.

#### What was involved

Update of previous meta-analyses on the effect of cocoa on blood pressure.

#### Outcome

Meta-analysis of 40 treatment comparisons revealed a small but statistically significant lowering of blood pressure (systolic and diastolic) of 1.8 mmHg. This small reduction in blood pressure might complement other treatment options and might contribute to reducing the risk of cardiovascular disease.





## **CURRENTLY RECRUITING**

## THE PROSTATE CANCER PHOTODYNAMIC THERAPY (PDT) STUDY

Conducted by: Murphy D, Ried K, Sali A, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### **Overview of the Study**

Prostate cancer is the most common cancer in men, and the second leading cause of cancer deaths (25%) in Australia. One-in-seven Australian men will be diagnosed with prostate cancer by the age of 85, with more than 3,300 men dying each year. There is a need for better treatment, combined with reliable assessments of treatment effectiveness.

# What is involved and who we are seeking as participants

The Photodynamic Therapy (PDT) laser treatment may be effective in treating local prostate cancer. This three-month intervention study aims to assess the treatment effectiveness and safety of PDT for men between 50-80 years diagnosed with biopsy proven primary prostate cancer using fluorescent photography imaging plus pre/post urinary proteomics (analysis of proteins in the urine) and Circulating Tumour Cell (CTC) specimen analyses.

#### Funder

Thank you to RMWC-Cho Group for funding this research study.





## **CURRENTLY RECRUITING**

# THE LIGHTBED CANCER TREATMENT STUDY USING PHOTODYNAMIC THERAPY (PDT)

Conducted by: Ried K, Murphy D, Sali A, National Institute of Integrative Medicine (NIIM), Melbourne, Australia

#### **Overview of the Study**

Prevalence of cancer diagnosis is high and attributable to 30% of all deaths in Australia. There is a need for better treatment combined with reliable assessments of treatment effectiveness. The NIIM research team is conducting research monitoring the treatment effect of Photodynamic Therapy using a lightbed (Light-bed-PDT) in cancer patients by Circulating Tumour Cell (CTC) analysis.

Photodynamic Therapy (PDT) consists of two steps: the oral administration of a chlorophyll-based algalderived food-grade liquid photosensitiser, followed by LED light therapy the next day.

# What is involved and who we are seeking as participants

Participants in the Light-bed PDT study are adults diagnosed with any type of cancer.

This pilot intervention study aims to assess the treatment effectiveness and safety of Light-bed-PDT for patients with cancer using Circulating Tumour Cell specimen analyses.

#### Funder

Thank you to RMWC-Cho Group for funding this research study.



## SUPPORTING NIIM RESEARCH

## The future of Integrative Medicine

Your investment will support NIIM to continue to undertake life-changing research and support our mission. NIIM Research focuses on research projects that provide evidence that Integrative Medicine achieves better health outcomes for patients. This is a distinctive positioning in health research.

NIIM Research has a proven history of good outcomes with ground-breaking research made possible by the generosity of funders. With your funding support, we can extend our current research capabilities in Integrative Medicine and expand our reach to include conducting research for government and private organisations. We will also extend our collaboration and influence in the international research community.

We know NIIM Research can contribute significantly to the health, welfare and treatment of people across Australia. Your funding support can be targeted to specific research initiatives that are meaningful to you and make a contribution to the wellbeing and health of families, friends and the community.

Funding from philanthropic trusts, individuals and foundations plays a critical role in supporting NIIM Research, who do not typically receive government support.

We have a proven history of independent and innovative research and our supporters – current and future – are in good company.

For the past ten years, research has been conducted in Melbourne at the NIIM Head office and lab in Hawthorn but our scope of works is worldwide. Together we will work with national and international partners on research projects that will change the lives and health outcomes for communities locally and globally.

## THE FUTURE OF HEALTHCARE IS SEEDED IN NIIM'S RESEARCH.

The future of healthcare is Integrative Medicine. Your support is vital in helping us conduct this innovative and independent research. Every dollar invested today creates better health outcomes for real people tomorrow. Funding research is an investment in optimal health.

#### To discuss your research funding options:

Amanda Quealy Chief Executive Officer M: 0408 990 438 E: aquealy@niim.com.au www.niim.com.au





"There is now consensus that significant changes to the way healthcare is provided, how we live, work and look after ourselves, are needed."

Professor Avni Sali AM and A/Professor Dr Karin Ried



# LIST OF ALL PUBLICATIONS

#### 2022

Ried K, Tamanna T, Matthews S, Sali A: *Medicinal Cannabis improves sleep in adults with insomnia: A randomized double-blind placebo-controlled cross-over study.* **Sleep Health J,** under review

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