

This section of the journal serves to highlight the works and researches done by local doctors or doctors either in Brunei Darussalam or in collaborations with other centres that have been published in regional or international journals. This also includes works published as part of collaboration with centres outside of Brunei Darussalam. These works include review articles, original articles and case reports published between 15th August 2015 to 14th December 2015. (Some publications have been published or indexed at a later date after publication ahead of print. Also included publications that had been missed in the previous issues).

Sodium content of processed food in Brunei Darussalam

Zakaria Kamis, Roseyati Yaakub, Sok King Ong, Norhayati Kassim

J Health Res. 2015 June;29(3):153-64.

ABSTRACT

Prevalence of hypertension is increasing in Brunei Darussalam. Knowledge on the current status of sodium content in processed foods is important to establish concrete baseline data for monitoring of future public health initiative in reducing population exposure to sodium. The study aimed to establish a comprehensive database on sodium content of processed foods, to determine the extent of processed foods that meet sodium benchmarks of two established food nutrient guidelines, and to compare the mean sodium content of processed foods in Brunei Darussalam and other countries. Sodium content in milligrams per 100 gram was obtained from the packages of processed foods in major supermarkets. Data collected included names of products, country of origin or manufacture and serving size. Proportion of food products that meet the sodium benchmarks and mean sodium content of food sub-categories were analysed. Data from 1470 food products were collected, in which 425 (29%) did not display quantity of sodium on the packages. We analysed 806 food products with sodium guidelines in 11 food categories and 52 food sub-categories. Overall, 411(51%) food products did not meet the recommended sodium benchmarks. Nine food sub-categories consisted of all food products with sodium content above the recommended benchmarks. The greatest difference between the means sodium content and the recommended benchmarks was found in recipe mixes (Asian), fresh and frozen meat and poultry as well as soup and broth sub-category. Faced with an increasing prevalence of hypertension, Brunei Darussalam is in definite need of a national sodium reduction initiative. Strategically targeting consumer education on commonly consumed foods with the highest sodium content

and facilitating food reformulation among food manufacturers in and outside Brunei Darussalam may serve as an effective strategy in reducing the population salt intake.

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Article if freely available from the journal website at <http://www.jhealthres.org/abstract.php?abname=Sodium%20Content%20of%20Processed%20Foods%20in%20Brunei%20Darussalam&id=790>

Sperm Factors and Oocyte Activation: Current Controversies and Considerations.

Amdani SN, Yeste M, Jones C, Coward K. Biol Reprod. 2015 Aug;93(2):50. doi: 10.1095/biolreprod.115.130609. Epub 2015 Jul 8.

ABSTRACT

The beginning of embryogenesis is preceded by a sequence of events mediated by the release of intracellular calcium in the ooplasm, a multifaceted process known as oocyte activation. It is now well established that a sperm protein factor introduced into the oocyte at the time of gamete fusion is responsible for initiating the cascade of signaling events involved. Several sperm proteins have been hypothesized as the sperm oocyte-activating factor (SOAF) over the years, with phospholipase C zeta 1 (PLCZ1 or PLCzeta) emerging as the strongest candidate. A large body of consistent and reproducible evidence, from both biochemical and clinical settings, has accumulated in support of PLCzeta, and data clearly demonstrate that oocyte activation ability can be rescued in PLCzeta-deficient sperm by either PLCzeta cRNA or recombinant PLCzeta protein. However, a series of recent publications has challenged the dominance of PLCzeta and proposed an alternative candidate protein, WBP2 N-terminal like (WBP2NL or PAWP). These events

have led to significant debate, fueled by the opposing views of two independent laboratories, each defending its own respective SOAF candidate. This raises important questions with regards to the relative importance of these two proteins in diagnostic and therapeutic medicine, and invites urgent research attention. Here, it is our intention to reflect upon this now very controversial area in order to engage the scientific and clinical communities in addressing the true importance of these two sperm proteins.

NOTE: Collaboration between researcher affiliated with local institution (Siti Nornadhirah Amdani; PAPRSB Institute of Health Sciences, Universiti Brunei Darussalam, Jalan Tungku Link, Gadong, Brunei Darussalam with external centres

Can respiratory physiology predict?

Verberk WC, Bartolini F, Marshall DJ, Pörtner HO, Terblanche JS, White CR, Giomi F.
Ann N Y Acad Sci. 2015 Aug 31. doi: 10.1111/nyas.12876. [Epub ahead of print]

ABSTRACT

Predicting species responses to global warming is the holy grail of climate change science. As temperature directly affects physiological rates, it is clear that a mechanistic understanding of species vulnerability should be grounded in organismal physiology. Here, we review what respiratory physiology can offer the field of thermal ecology, showcasing different perspectives on how respiratory physiology can help explain thermal niches. In water, maintaining adequate oxygen delivery to fuel the higher metabolic rates under warming conditions can become the weakest link, setting thermal tolerance limits. This has repercussions for growth and scaling of metabolic rate. On land, water loss is more likely to become problematic as long as O₂ delivery and pH balance can be maintained, potentially constraining species in their normal activity. Therefore, high temperatures need not be lethal, but can still affect the energy intake of an animal, with concomitant consequences for long-term fitness. While respiratory challenges and adaptive responses are diverse, there are clear recurring elements such as oxygen uptake, CO₂ excretion, and water homeostasis. We show that respiratory physiology has much to offer the field of thermal ecology and call for an integrative, multivariate view incorporating respiratory challenges, thermal responses, and energetic consequences. Fruitful areas for future research are highlighted.

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Recurrent ascites secondary to endometriosis in a dialysis patient.

Saad AS, Chong CL, Ping LY, Tan J, Chong VH.
Saudi J Kidney Dis Transpl. 2015 Sep;26(5):1013-4. doi: 10.4103/1319-2442.164594.

NO ABSTRACT.

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Article if freely available from the journal website at http://www.sjkdt.org/temp/SaudiJKidneyDisTranspl2651013-7987214_021307.pdf

Medical physics aspects of cancer care in the Asia Pacific region: 2014 survey results.

Kron T, Azhari HA, Voon EO, Cheung KY, Ravindran P, Soejoko D, Inamura K, Han Y, Ung NM, TsedenIsh B, Win UM, Srivastava R, Marsh S, Farrukh S, Rodriguez L, Kuo M, Baggarley S, DilipKumara AH, Lee CC, Krisanachinda A, Nguyen XC, Ng KH.
Australas Phys Eng Sci Med. 2015 Sep;38(3):493-501. doi: 10.1007/s13246-015-0373-2. Epub 2015 Sep 7.

ABSTRACT

It was the aim of this work to assess and track the workload, working conditions and professional recognition of radiation oncology medical physicists (ROMPs) in the Asia Pacific region over time. In this third survey since 2008, a structured questionnaire was mailed in 2014 to 22 senior medical physicists representing 23 countries. As in previous surveys the questionnaire covered seven themes: 1 education, training and professional certification, 2 staffing, 3 typical tasks, 4 professional organisations, 5 resources, 6 research and teaching, and 7 job satisfaction. The response rate of 100% is a result of performing a survey through a network, which allows easy follow-up. The replies cover 4841 ROMPs in 23 countries. Compared to 2008, the number of medical physicists in many countries has doubled. However, the number of experienced ROMPs compared to the overall workforce is still small, espe-

cially in low and middle income countries. The increase in staff is matched by a similar increase in the number of treatment units over the years. Furthermore, the number of countries using complex techniques (IMRT, IGRT) or installing high end equipment (tomotherapy, robotic linear accelerators) is increasing. Overall, ROMPs still feel generally overworked and the professional recognition, while varying widely, appears to be improving only slightly. Radiation oncology medical physics practice has not changed significantly over the last 6 years in the Asia Pacific Region even if the number of physicists and the number and complexity of treatment techniques and technologies have increased dramatically.

Global diversity, population stratification, and selection of human copy-number variation.

Sudmant PH, Mallick S, Nelson BJ, Hormozdiari F, Krumm N, Huddleston J, Coe BP, Baker C, Nordenfelt S, Bamshad M, Jorde LB, Posukh OL, Sahakyan H, Watkins WS, Yepiskoposyan L, Abdullah MS, Bravi CM, Capelli C, Hervig T, Wee JT, Tyler-Smith C, van Driem G, Romero IG, Jha AR, Karachanak-Yankova S, Toncheva D, Comas D, Henn B, Kivisild T, Ruiz-Linares A, Sajantila A, Metspalu E, Parik J, Vilems R, Starikovskaya EB, Ayodo G, Beall CM, Di Rienzo A, Hammer MF, Khusainova R, Khusnutdinova E, Klitz W, Winkler C, Labuda D, Metspalu M, Tishkoff SA, Dryomov S, Sukernik R, Patterson N, Reich D, Eichler EE.

Science. 2015 Sep 11;349(6253):aab3761. doi: 10.1126/science.aab3761. Epub 2015 Aug 6.

ABSTRACT

In order to explore the diversity and selective signatures of duplication and deletion human copy-number variants (CNVs), we sequenced 236 individuals from 125 distinct human populations. We observed that duplications exhibit fundamentally different population genetic and selective signatures than deletions and are more likely to be stratified between human populations. Through reconstruction of the ancestral human genome, we identify megabases of DNA lost in different human lineages and pinpoint large duplications that introgressed from the extinct Denisova lineage now found at high frequency exclusively in Oceanic populations. We find that the proportion of CNV base pairs to single-nucleotide-variant base pairs is greater among non-Africans than it is among African populations, but we conclude that this differ-

ence is likely due to unique aspects of non-African population history as opposed to differences in CNV load.

NOTE: Collaboration between researcher affiliated with local institution (Muhd Syafiq Abdullah; RIPAS Hospital, Bandar Seri Begawan, Brunei Darussalam) with external centres.

Article if freely available from PubMed Central at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4568308/>

Dysphagia aortica: a rare cause of dysphagia.

Abdul Haziz SR, Bickle I, Chong VH.

BMJ Case Rep. 2015 Sep 15;2015.

pii: bcr2015211726. doi: 10.1136/bcr-2015-211726.

ABSTRACT

Dysphagia is uncommon; however, it is considered a warning symptom, especially in the elderly population, and should prompt consideration of a neoplasm of the oesophagus. Dysphagia aortica is rare and often not considered in clinical practice. It is caused by any abnormality of the aorta that results in dysphagia. These include thoracic aortic aneurysm, aortic dissection and even a tortuous aorta. Our case is of an elderly woman, in her early 70s, with a history of treated colorectal carcinoma and hypertension, who presented with progressive dysphagia to solid foods, which, on investigations, showed a tortuous aorta causing compressions of the oesophagus at multiple levels. She was managed with dietary adjustment and optimal control of blood pressure.

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Role of biomarkers for early detection of intra-abdominal sepsis: a clinician's perspective.

Chong VH.

Hepatobiliary Pancreat Dis Int. 2015 Oct;14(5):458-60.

No Abstract

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Article if freely available from Journal Website at <http://www.hbpdint.com/EN/Y2015/V14/I5/458>

Psychiatric morbidity and socio-occupational dysfunction in residents of a drug rehabilitation centre: challenges of substance misuse management in a Bruneian context.

Ho H, Adanan AM, Omar R.

BJPsych Bull. 2015 Oct;39(5):213-7. doi: 10.1192/pb.bp.113.046300.

ABSTRACT

Aims and method In 2011, a psychiatric clinic was started in Pusat Al-Islah, a drug rehabilitation centre. Our aim was to record self-reported socio-occupational dysfunction and patterns of drug misuse and to evaluate the usefulness of a psychiatric screening tool. A two-phased approach using the Self-Reporting Questionnaire (SRQ) and the Mini International Neuropsychiatric Interview (MINI) was used to examine the rates of psychiatric diagnoses. Results Methamphetamine was the most commonly misused substance in 94.5% of residents. High levels of socio-occupational dysfunction were reported. In total, 5.5% met criteria for major depressive disorder, 4.8% for lifetime psychotic disorder and 11.5% for suicidal ideation. In addition, 13.3% reported previous untreated mental health problems. Clinical implications A screening tool such as the SRQ can be used to identify those needing further psychiatric assessment. Interventions to address amphetamine misuse and associated socio-occupational dysfunction are required. Societal views and legislation influence the management of substance misuse problems in Brunei.

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Article if freely available from PubMed Central at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4706200/>

Problem-Solving Coping and Social Support as Mediators of Academic Stress and Suicidal Ideation Among Malaysian and Indian Adolescents.

Khan A, Hamdan AR, Ahmad R, Mustaffa MS, Mahalle S.

Community Ment Health J. 2015 Oct 23. [Epub ahead of print]

ABSTRACT

This study examined whether productive coping styles and social support were significant mediators of the relationship between academic stress and suicidal ideation. The survey was performed on a sample of 300 Malaysian and 300 Indian college students. The participants completed psychological assessments of productive coping styles, social support, academic stress, and suicidal ideation. Significant cultural and demographic differences emerged. Indian students reported higher suicidal ideation and academic stress than did Malaysian students, and Malaysian students received more social support and had better problem-solving coping styles than did Indian students. Overall, students who were male, non-religious, and from low-income families reported more academic stress and more suicidal ideation. Productive coping styles and overall social support strongly affected the relationship between academic stress and suicidal ideation among both countries' participants.

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NOTE: Collaboration between researcher affiliated with local institution (Roslee Ahmad; Psychological Studies and Human Development, Sultan Hassanah Bolkiah Institute of Education, Universiti Brunei Darussalam, Brunei) with external centres.

Article if freely available from PubMed Central at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4568308/>

Gastric Cancer and Paraneoplastic Pemphigus.

Basir N, Telisinghe PU, Chong VH.

Indian J Surg. 2015 Dec;77(6):545-6. doi: 10.1007/s12262-015-1311-y. Epub 2015 Jul 5.

ABSTRACT

Paraneoplastic pemphigus is a relatively rare but significant acquired autoimmune mucocutaneous disorder that is characterised by diffuse erythema, painful blistering and sores of the skin and mucus membranes. The underlying pathogenesis is believed to be triggered by altered immune system in response to underlying neoplasm. The manifestations can predate, occur at the same time or after the diagnosis of cancer. Associations with gastric cancer have only been reported twice. A 78-year-old

lady presented with a month's history of extensive skin lesions that started off as bullous lesions and biopsy revealed bullous pemphigus. Endoscopy for anemia revealed gastric cancer. This case reinforced the need to consider underlying malignancy in elderly patient with new onset dermatological presentation.

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Transdermal delivery of oxybutynin chloride proniosomal gels for the treatment of overactive bladder.

Rajabalaya R, David SR, Chellian J, Xin Yun G, Chakravarthi S.

Drug Deliv. 2015 Dec 3:1-10. [Epub ahead of print]

ABSTRACT

CONTEXT: Overactive bladder (OAB) is a common problem and anticholinergic drugs are first-line therapy, but they have side effects.

OBJECTIVE: Development of oxybutynin chloride (OC) proniosomal gels and analyses of its efficacy for OAB treatment.

MATERIALS AND METHODS: Phase separation coacervation was used to prepare proniosomal gels using various non-ionic surfactants, lipids, soy lecithin and isopropyl alcohol. Gels were characterized with regard to entrapment efficiency (EE), vesicle size, surface morphology (using environmental scanning electron microscopy [E-SEM]), stability, attenuated total reflectance Fourier transform infrared (ATR-FTIR) spectroscopy, in vitro skin permeation, in vivo animal studies and histopathology.

RESULTS AND DISCUSSION: EE was 87-92%, vesicle size was 0.38-5.0 μm , and morphology showed some loosened pores in proniosomes after hydration. ATR-FTIR spectroscopy showed no significant shifts in peaks corresponding to OC and excipients. Most formulations exhibited >50% permeation but the cholesterol-containing formulations P3 (Span 20:Span 60 [1:1]) and P4 [Tween 20:Tween 80 (1:1)] had the highest percent cumulative permeation. P3 and P4 also showed faster recovery of cholinergic effects on salivary glands than oral formulations. P3 and P4 had pronounced therapeutic effects in reduction of urinary frequency and demonstrated improvements in bladder

morphology (highly regenerative surface of the transitional epithelium).

CONCLUSION: These results suggest that OC could be incorporated into proniosomal gels for transdermal delivery in the treatment of OAB.

NOTE: Collaboration between researcher affiliated with local institution (Rajan Rajabayala; Pengiran Anak Puteri Rashidah Sa'adatul Bolkiah Institute of Health Sciences, Universiti Brunei Darussalam, Brunei Darussalam) with external centres.

Electronic Health Object: Transforming Health Care Systems From Static to Interactive and Extensible.

Almunawar MN, Anshari M, Younis MZ, Kisa A.

Inquiry. 2015 Dec 8;52. pii: 0046958015618665. doi: 10.1177/0046958015618665. Print 2015.

ABSTRACT

Electronic health records (EHRs) store health-related patient information in an electronic format, improving the quality of health care management and increasing efficiency of health care processes. However, in existing information systems, health-related records are generated, managed, and controlled by health care organizations. Patients are perceived as recipients of care and normally cannot directly interact with the system that stores their health-related records; their participation in enriching this information is not possible. Many businesses now allow customers to participate in generating information for their systems, strengthening customer relationships. This trend is supported by Web 2.0, which enables interactivity through various means, including social networks. Health care systems should be able to take advantage of this development. This article proposes a novel framework in addressing the emerging need for interactivity while preserving and extending existing electronic medical data. The framework has 3 dimensions of patient health record: personal, social, and medical dimensions. The framework is designed to empower patients, changing their roles from static recipient of health care services to dynamic and active partners in health care processes.

NOTE: Collaboration between researcher affiliated with local institution (Mohammad Nabil Almunawar, Universiti Brunei Darussalam) with external centres.