Conference Proceedings

2019 – 27th International Conference on Research in Life-Sciences & Healthcare (ICRLSH), 24-25 December, Bangkok

24-25 December 2019

CONFERENCE VENUE

Asian Institute of Technology (AIT), Conference Center, Bangkok, Thailand

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Preface:

Healthcare And Biological Sciences Research Association (HBSRA) is an international forum of researchers, academicians and practitioners for sharing knowledge and innovation in the field of healthcare and life-sciences. HBSRA aims to bring together worldwide researchers and professionals, encourage intellectual development and providing opportunities for networking and collaboration. This association meets with its objectives through academic networking, meetings, conferences, workshops, projects, research publications, academic awards and scholarships. HBSRA strives to enrich from its diverse group of advisory members. Scholars, Researchers, Professionals are invited to freely join HBSRA and become a part of a diverse academic community, working for benefit of academia and society through collaboration and vision.

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Our mission is to make continuous efforts in transforming the lives of people around the world through education, application of research & innovative ideas.
KEYNOTE SPEAKER

Dr. Nurkhamimi Zainuddin
Dean, Faculty of Major Language Studies, Universiti Sains Islam, Malaysia

Topic: Innovating Life Sciences & Medical Education in the Fourth Industrial Revolution

Nurkhamimi Zainuddin holds a PhD in Computer Assisted Language Learning from International Islamic University Malaysia. He is currently the Dean of the Faculty of Major Language Studies, Universiti Sains Islam Malaysia (USIM). His research focus is on Teaching Arabic as a Second Language and Technology Enhanced Pedagogy. He was also the Deputy Chairman of The Malaysian e-Learning Council for Public Universities (MEIPTA). Nurkhamimi is currently the editor of the International Journal of Language Education and Applied Linguistics (IJLEAL), International Young Scholar Journals of Language and Malaysian Journal of Educational Technology. He is the recipient of USIM excellent service award for the year 2016 & 2018 and Outstanding Open Educational Resources (OER) award 2017. To date, he is actively involved in numerous researches in the area of Open & Flexible Learning. Instead, he coined his own term which is FLOOC (Foreign Language Open Online Course) by adapting the concept of “Learning Buffet”.

Profile web links

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**PRESENTERS**

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**Abstract**

**Watcher Water Samples Analysis for Microbial Growth in Sokoto Metropolis**

Rukayya Abubakar

Laboratory Science Department, Umaru Ali Shinkafi Polytechnic, Sokoto, Nigeria

Twenty samples of sachet water from ten (10) different brands were collected in Sokoto metropolis. The sample brand collected in Sokoto Sagir, M. Safiya, AIB, Tanoma, Acceptable water, Kamramiyo, De-Sunet, Zam-Zam, Dan hutu, and Runji were examined for their physical properties such as taste, colour, odour and presence of particles. The microbial analyses have carried out for the entire sample using multiple tube techniques and gram staining procedure. Metallic green sheen colour and gram negative rod were observed under the micro-scope, indicating the presence of faecal coli form in ten brands that were observed. The entire ten brands showed positive for general coli form while only eight in the confirmatory test were positive of faecal coli form (Excluding Sagir and M-Safiya). Based on the above result, it is of great advice that all the manufacturers of the above analysed brand should improve the quality of their product brand in terms of water treatment and packaging.

**Keywords:** Sachet water, Sokoto Metropolis

**Association of Skipping Breakfast with Primary Dysmenorrhea Among the Nursing Officers in the 20-30 Age Group**

S.J.W. Withanage

Cancer hospital Maharagama, Ministry of Health, Sri Lanka

Deepthi Gunasena

Department of Microbiology, Faculty of Science, University of Kelaniya, Sri Lanka

Amaranath Karunanayake

Department of Physiology, Faculty of Medicine, University of Ruhuna, Sri Lanka

**Abstract**

**Introduction**: Breakfast is the first meal after 8-10 hours of fasting. Association between skipping breakfast and various diseases was observed in previous studies. Primary dysmenorrhea is a common problem among young women. Its monthly recurrence reduces performances and quality of life. The objective of the study was to determine the prevalence of dysmenorrhea and its association with skipping breakfast nursing officers in the 20-30 age group.

**Methods**: The nursing officers from one government and one private hospital recruited randomly according to the exclusion and inclusion criteria. Primary dysmenorrhea was defined as persisting dysmenorrhea after menarche. A self-administered questionnaire was used for data collection.

**Results**: Four hundred sixty-one nurses were recruited (mean age 25.3 SD 1.4). Prevalence of dysmenorrhea was 60.5%. Prevalence of skipping breakfast, according to the pattern of skipping; not skipping 40.6%, less or equal to 1 time per week 32.5%, more than one time per week 26.9%.

Prevalence of dysmenorrhea among the none breakfast skipping group was 54% and 65% in breakfast skipping group. Univariate analysis using Chi-square test showed a significance association between dysmenorrhea with skipping breakfast. \[ P = 0.018, \ OR = 1.58, \ 95\% \ CI = 1.06-2.35 \]. When categorising, according to the pain severity, 36% had mild pain, and 24% had moderate-severe pain. Moderate-severe pain was significantly associated with skipping breakfast \[ P = 0.013, \ OR = 1.78, 95\% \ CI 1.11-2.89\].

**Conclusion**: Skipping breakfast was associated with primary dysmenorrhea and high pain severity among the unmarried, nursing officers in the 20-30 age group.
Azam bakhtiarian  
Department of Pharmacology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

Razieh Afshar moghaddam  
Department of Pharmacology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

Abstract  
The main vascular abnormality seen in endotoxemia is impaired contractile responses to vasoactive agents. This study examines the aortic response to 5HT1A, 5HT1B1D & 5HT2A receptors agonist & antagonist in aortic rings of chronic endotoxemic rats. Chronic endotoxemia induced by intraperitoneal injection of 1 mg/kg lipopolysaccharide (Salmonella typhimurium) for 5 days. Control rats received intraperitoneal injection of saline (1 ml/kg) for 5 days. Rats divided into 3 groups. In first group, DOI hydrochloride used as an agonist & sarpogrelate hydrochloride as an antagonist of 5HT2A receptor. In second group, (R)-(++)-8-OH-DPAT hydrobromide used as an agonist & WAY100135 as an antagonist of 5HT1A receptor. In third group, Zolmitriptan used as an agonist & GR127935 hydrochloride hydrate as an antagonist of 5HT1B1D receptor. Thoracic aorta removed for pharmacological examination and placed in organ bath. Real-time PCR & histopathological study performed to investigate gene expression & tissue protein localization of receptors. Cumulative 8-OH-DPAT & zolmitriptan in separate experiments caused first-doses vasorelaxation in control group. The same treatments generated enhanced vasodilation during endotoxia. The contractile response to DOI hydrochloride converted to relaxation response in endotoxin-treated group. PCR studies showed significantly enhanced expression of 5HT1A receptor gene in endotoxemic aorta while the expression of 5HT1B1D & 5HT2A receptor genes were diminished. Histopathological studies showed mild focal inflammation and damaged endothelium in endotoxemic aorta. In conclusion, data support the evidence for lipopolysaccharide-induced increase in endothelium-dependent relaxation & impaired vasoconstriction in aortic rings of endotoxemic rats.

Keywords: Endothelium, Vasodilation, Endotoxins, Aorta, Serotonin

Md. Mosfequr Rahman  
ERCICRLSH1928056

Bullying Victimization and Adverse Health Behaviors among School-going Adolescents in South Asian Countries

Md. Mosfequr Rahman  
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Abstract

Objective To assess the association between bullying victimization and adverse health behaviors among adolescents in two South Asian countries. Study design Data for this cross-sectional analysis were extracted from the Global School-based Student Health Survey (GSHS) in Bangladesh, 2014, and in Nepal, 2015. We compared the relative frequency of several adverse health behaviors that were found among adolescents who had and had not experienced bullying in 30 days preceding the survey. We assessed these relationships using multivariable logistic regression models. Results The prevalence of bullying victimization that occurred for a minimum of one day during the 30 days preceding the survey was 24.5% in Bangladesh and 50.9% in Nepal. This study observed consistent, strong and sometimes graded relationships between bullying victimization and adverse health-risk behaviors. For example, in Bangladesh, the odds of attempted suicide were found to be higher in adolescents that experienced bullying for 1–2 days (Adjusted Odds Ratio [AOR]: 2.92; 95% confidence interval [CI]: 1.64–5.19), 3-5 days (AOR: 3.55; 95% CI:1.69), 6-9 days (AOR: 5.33; 95% CI: 1.24–22.77), or 10 days or more (AOR: 9.83; 95% CI: 4.17–23.16) (P for trend <0.001) during the 30 days preceding the survey than adolescents who did not experience bullying. Conclusions Exposure to bullying among school-going adolescents was found to be common in Bangladesh and Nepal, and is associated with several adverse health behaviors. Screening and interventions that prevent adolescents from being bullied could potentially reduce the chance of these adolescents engaging in adverse health behaviors.
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<td>Amit Gupta</td>
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<tr>
<td>Amit Gupta, Tanmay Dutta</td>
<td>RNA Biology Laboratory, Department of Chemistry, Indian Institute of Technology Delhi, Hauz Khas, New Delhi, India</td>
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**Abstract**

Small RNAs (sRNA) play a pivotal role in controlling majority of the physiological functions in prokaryotes. Majority of the physiological processes in bacteria are modulated by these regulatory sRNAs primarily by base pairing with their target mRNAs. RyeA is a ~270 nucleotide long sRNA, a part of which (~104 nucleotide) is complementary to RyeB. RyeA and RyeB in the stationary phase constitute a toxin-antitoxin system and function antagonistically to each other where RyeA normalizes accumulation of RyeB toxin by acting as RNA sponge. Apart from that no additional information is known about the regulation of RyeA expression in bacteria. In this current study, we comprehensively investigate how RyeA expression is regulated at different growth phases. Based on our current observations, it was elucidated that RyeA expression is regulated neither by stationary phase-specific σ-factor nor by RNA chaperon Hfq. However, Ribonuclease BN was identified as an important regulator, which modulates the expression of RyeA during exponential phase. As a consequence, stability of RyeA improves in the exponential phase upon deletion of rbn gene. Conversely, abundance of RyeB in the stationary phase leads to RyeA degradation by acting as RNA trap. The regulatory mechanisms deciphered in the present study throw more light on the role of RyeA in E.coli.

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<td>Seyyedeh Elaheh Mousavi</td>
<td>Berberine Nanomicelles Attenuate Cirrhotic Cardiomyopathy Induced by Bile Duct-Ligation in A Rat Model: Possible Involvement of NO-Cgmp Signaling</td>
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<tr>
<td>Seyyedeh Elaheh Mousavi</td>
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**Abstract**

Research Objectives: Cirrhosis is associated with cardiac chronotropic and inotropic dysfunctions, which are known as cirrhotic cardiomyopathy. In this condition, a rise in pro-inflammatory cytokines results in up-regulation of inducible nitric oxide synthase (iNOS) and nitric oxide (NO) overproduction. cGMP is a NO-induced effector molecule. Berberine (BBR), an isoquinoline-derived alkaloid isolated from Rhizoma coptidis, possesses anti-inflammatory and anti-oxidative effects. However, poor bioavailability and short half-life have limited its clinical applications. Accordingly, this study aimed to examine effect of BBR loaded micells in cirrhotic cardiomyopathy in a rat model of bile duct-ligation (BDL) and further to clarify possible NO-cGMP role.

**Methodology:** BBR-loaded micells contained 0.3 mg/mL of the drug. Three days following BDL induction, the rats were orally treated with nanoBBR (50 mg/kg, p.o.), BBR (50 and 100 mg/kg, p.o.) and silymarin (100 mg/kg, p.o.) for 28 consecutive days. To clarify the role of NO-cGMP, a selective iNOS inhibitor, aminoguanidine (AG) 100 mg/kg, i.p., on days 14-28, was administered. Moreover, expression of iNOS in the left ventricle and nitrite concentration in plasma were calculated using immunohistochemistry (IHC) and Griess reagent methods, respectively. Ventricular tumor necrosis factor alpha (TNF-α), interleukin -1beta (IL-1β) and cGMP were measured using ELISA method.

**Findings:** Ventricular TNF-α, IL-1β, iNOS, cGMP, and serum nitrite increased significantly in BDL rats. In contrast, BBR, nanoBBR and silymarin treatments markedly lowered their levels. AG increased nanoBBR50 mg/kg effect and it significantly had lower levels of the cardiac markers compared with nanoBBR 50 mg/kg.

**Conclusion:** NanoBBR restored impaired cardiac markers and its effect was in a significantly lower dose in comparison with BBR and silymarin. NanoBBR probably improve the cardiac state.
by down regulations of inflammatory mediators. As a result, a decrease in iNOS, nitrite and cGMP was observed. Consequently, this effect could be mediated at least in part by NO-cGMP pathway.

**Keywords:** Cirrhotic Cardiomyopathy; Bile Duct-Ligation; Nanoberberine; NO-Cgmp; Rat

Hyosung Kim
ERCICRLSH1928059

Regenerative Mechanism and Pain Control Efficacy of Photodynamic Therapy on Peripheral Nerve Injury Model

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Abstract

Photodynamic therapy (PDT), known to elicit cell death, is usually applied in dermatology and cancer therapy. We hypothesized that, if PDT is properly applied, it may modulate biological process and help regenerate damaged tissue. In peripheral nerve injury for which no effective treatment has yet developed, we evaluated regenerative efficacy and analyzed mechanism of PDT. First, we measured the cellular viability and toxicity of rat schwann cell line treated with the variable concentration of Indocya

nin Green, Chrolin e6 (Ce6), and Hematophorphyrin and the variable energy density of light. Then, we evaluated regeneration efficacy on in vitro extracorporeal axon injury model and in vivo peripheral nerve injury model. The viability of the schwann cells was slightly improved at 1-10 nM of photosensitizer concentration. Especially, the viability was increased for 23% after treated with Ce6 and 1440mJ of light exposure. In the Scratch wound healing assay using Ce6, the relative scratch gap of 720 mJ group was 54% decreased than PBS group. From RNA-seq analysis, mRNA associated with immune cell transmigration was significantly upregulated. However, myelination related mRNAs were also upregulated in enrichment analysis of schwann cell genes. In quantitative PCR analysis, proinflammatory cytokine and schwann cell differentiation related gene expression level of 720 mJ group were increased than PBS group. In the in vivo PNS injury model, the group treated with PDT had 28% improved motor neuron function than control group in rotarod performance test. Sensory function of treated group was also improved than the control group in mechanical and cold allodynia test. These results suggest that controlled PDT can improve peripheral nerve regeneration through promoting immune cell migration, regulating inflammatory process and increasing myelination. Furthermore, on in vivo study, PDT also showed pain control efficacy, not only nerve regeneration efficacy. Therefore, PDT regulating biological processes is expected to be a novel treatment option for peripheral nerve regeneration and pain control.

**Keywords**: Photodynamic Therapy, PNS, Regeneration, Pain, Mechanism
## LISTENERS

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