

LIGHTNING TALK • CLINICAL AND TRANSLATIONAL RESEARCH

[LTC1]

ASSOCIATION OF OMPK36 PORIN VARIANTS AND THE ANTIMICROBIAL RESISTANCE PATTERN OF *Klebsiella pneumoniae* ESBL AND NON-ESBL PRODUCERS***Tee Sze Ni*¹, *Hazmin Hazman*¹, *Siti Norbaya Masri*², *Nurshahira Sulaiman*¹**¹*Department of Biomedical Sciences, Faculty of Medicine and Health Sciences
Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia*²*Department of Medical Microbiology, Faculty of Medicine and Health Sciences
Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia*

Klebsiella pneumoniae has caused a wide-spectrum of nosocomial infections and is becoming a significant issue in the healthcare services worldwide due to its evolving resistance to multiple antimicrobial agents including cephalosporins. This is mainly due to the rapid spread of extended spectrum beta-lactamase (ESBL) strains among *K pneumoniae*. Studies have shown that one of the major outer membrane porins of *K pneumoniae*, ompK36 may also play an important role in the antimicrobial resistance by acting as the channel for the entry of certain antimicrobial agents. Based on ompK36 genotyping, *K pneumoniae* isolates can be classified into four major groups (Group A, B, C and D). However, studies on the antimicrobial resistance effects for each variant are still lacking. The study aims to determine the association of ompK36 porin variants of *K pneumoniae* clinical isolates and the antimicrobial resistance patterns of β -lactam antimicrobial agents.

A total of 163 clinical isolates were collected from Hospital Sultanah Aminah Johor Bahru (HSAJB) from April 2021 to 2022. Antibiotic disc diffusion test was conducted to detect the isolates possessing ESBL-producing phenotype and the antimicrobial resistance patterns. Genotyping using PCR was carried out to classify *K pneumoniae* isolates into OmpK36 Group A, B, C and D. Statistical analyses were performed using chi-square test.

In this study, 137 *K pneumoniae* isolates were classified into four ompK36 variants, designated groups A (23), B (20), C (60), and D (34), respectively. ESBL-producing *K pneumoniae* were shown to express high resistance rates for aztreonam, ceftriaxone, ceftazidime and cefotaxime in comparison to non-ESBL isolates ($p < 0.001$). Group D isolates were shown to possess high resistance rate only against aztreonam ($p < 0.05$).

In conclusion, ompK36 porin variants of ESBL and non-ESBL *K pneumoniae* were not associated with the antimicrobial resistance of β -lactam antimicrobial agents with an exception for Group D with aztreonam.

LIGHTNING TALK • CLINICAL AND TRANSLATIONAL RESEARCH

[LTC2]

THE RELIABILITY OF SKETCHANDCALC™ AREA CALCULATOR SOFTWARE IN EVALUATING THE OBTURATED SURFACE AREA OF MANDIBULAR PREMOLARS AND MOLARS

Nur Madihah Mat Yasin¹, Shuhadatul Hasanah Imam Sopingi¹, Mohamad Shafiq Mohd Ibrahim², Musliana Mustaffa³

*¹Students, Kulliyah of Dentistry (KOD), International Islamic University Malaysia (IIUM)
Jalan Sultan Ahmad Shah, 25200 Kuantan, Pahang, Malaysia*

*²Lecturer, Department of Paediatric Dentistry and Dental Public Health, KOD, IIUM
Jalan Sultan Ahmad Shah, 25200 Kuantan, Pahang, Malaysia*

*³Lecturer, Department of Restorative Dentistry, KOD, IIUM, Jalan Sultan Ahmad Shah
25200 Kuantan, Pahang, Malaysia*

The measurement consistency of an assessment tool in biomedical research is important for validation of data. This study aims to determine the reliability of SketchAndCalc™ Area Calculator software in evaluating the obturated surface area of mandibular premolars and molars between two examiners and compare to the previous studies.

30 scanning electron microscopy (SEM) images of extracted single rooted mandibular premolars and 30 SEM images of mandibular molars were obtained from previous studies. The extracted teeth were previously obturated with GuttaFlow Bioseal. Calibration between two examiners was done prior to start of the study. SketchAndCalc™ Area Calculator software was used to evaluate the volumetric percentage of obturated surface area. Inter-examiner reliability was determined between two examiners and compared to the previous studies using Intraclass Correlation Coefficient (ICC) with the following categories; ICC <0.50: poor reliability, ICC 0.50-0.75: moderate reliability, ICC 0.75-0.90: good reliability, ICC >0.9: excellent reliability.

The ICC values between two examiners were 0.979 in mandibular premolars and 0.918 in mandibular molars. Meanwhile, the ICC values between two examiners and to the previous studies were 0.844 in mandibular premolars and 0.962 in mandibular molars.

Excellent inter-examiner reliability was observed in premolars and molars; however, when compared to the previous studies, good and excellent inter-examiner reliability were observed in premolars and molars, respectively.

LIGHTNING TALK • ENVIRONMENTAL, NUTRITION AND POPULATION HEALTH**[LTE1]****IMPACT OF TRANSITION TO ONLINE TEACHING ON LECTURERS' WORK LIFE BALANCE AND MENTAL HEALTH IN A MEDICAL UNIVERSITY**

***Benjamin Kok Ze Wei¹, Cheah Yun Ni¹, Bee Swen Huey¹, Charlottee Lee Yen Shin¹,
Dalili Hezreen Binti Nazari¹, James Koh Kwee Choy²***

*¹School of Medicine, International Medical University, 126, Jalan Jalil Perkasa 19
Bukit Jalil, 57000 Kuala Lumpur, Malaysia*

*²Division of Medicine, International Medical University, 126, Jalan Jalil Perkasa 19
Bukit Jalil, 57000 Kuala Lumpur, Malaysia*

COVID-19 pandemic is an ongoing global pandemic caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS CoV-2). Lecturers for healthcare professions have been tasked with substituting practical training with online content for students. We collected data on demographic characteristics, experience of online teaching, work-life balance, and mental health status. More than two thirds (78.5%) of the surveyed lecturers were of middle aged and younger with majority of them were from the faculty of medicine. Almost all (91%) had previous experiences with the conventional way of conducting the teaching before the crises of covid-19. This institution has done well in providing the necessary training for teaching online and only a handful have not received any training at all. The training has resulted in 77.1% of the respondents achieving satisfactory knowledge to conduct classes online. Most lecturers reported having extended hours of work due to preparing teaching materials for online classes but had more flexibility with their working hours. Most lecturers responded that they had overall good physical health despite some disturbances to the sleep. Unfortunately, many also reported having their mental and emotional wellbeing affected.

The results of this study also compared different age groups of university lecturers and the impact of online teaching on their mental health status. Interestingly, senior lecturers had lower stress levels compared to their younger counterparts. Most lecturers had low depression and anxiety scores but had high levels of stress. The levels of depression, anxiety, and stress levels among those in the generation Y age group were higher in contrast to the Baby Boomers age group. Generation X also had higher stress levels compared to Baby Boomers. Staff not in the school of medicine (NSOM) had higher scores in both PHQ9 and PSS compared to staff in the school of medicine (SOM).

LIGHTNING TALK • ENVIRONMENTAL, NUTRITION AND POPULATION HEALTH**[LTE2]****PREVALENCE AND FACTORS OF PUBLIC SPEAKING ANXIETY AMONG MEDICAL STUDENTS IN UNIVERSITI PUTRA MALAYSIA*****Fong Yan Bin¹, Nuraina Shahirah¹, Vishnu Venugopal¹, Zawiah Mansor¹, Siti Aisah Mokhtar²****¹Faculty of Medicine and Health Science, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia**²Department of Community Health, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia*

Public speaking anxiety (PSA) is fear of speaking in front of others and can be accompanied by physical symptoms such as an elevated heart rate, shortness of breath and/or panic attacks. It is a highly prevalent condition and important for medical students as it may have negative effects of public rapport, confidence level and credibility of future doctors. However, there was very limited evidence among medical students especially in Malaysia. Therefore, this study aims to study the prevalence and factors associated with PSA among medical student in University Putra Malaysia (UPM).

A cross-sectional study was conducted among medical students in UPM in year 2022. A simple random sampling was performed according to the year of study and public speaking anxiety level was assessed using Personal Report of Public Speaking Anxiety (PRPSA) questionnaire which was self-administered and factors associated such as sociodemographic, behavioural and skill factors. Descriptive statistics, chi-square test, Mann Whitney test and logistic regression were conducted to identify the prevalence and associated factors.

A total of 362 respondents were included in the analysis. Prevalence of moderate to high public speaking anxiety was 49.3%. There were significant associations between psychological flexibility, public speaking experience and public speaking training ($p < 0.05$). Indian respondents were found to have significantly lower percentage of public speaking anxiety compared to other races (OR:0.219, 95%CI: 0.054;0.893).

A surprisingly high percentage of PSA among medical students compared to available studies in Malaysia warrants further action to ensure production of high quality future doctors who can communicate better with patients and public. PRPSA questionnaire can be used by faculty to screen for PSA among medical students for further intervention. Public speaking training to increase psychological flexibility by university can benefit all medical students especially those suffered with PSA.

LIGHTNING TALK • ENVIRONMENTAL, NUTRITION AND POPULATION HEALTH**[LTE3]****THE RELATIONSHIP BETWEEN PAIN AND ACTIVITIES OF DAILY LIVING WITH POSTURAL BALANCE IN PRIMARY BILATERAL KNEE OSTEOARTHRITIS PATIENTS***Yuan Heng Lim, Zulkarnain Jaafar**Faculty of Medicine, University of Malaya, Jalan Professor DiRaja Ungku Aziz, 50603 Kuala Lumpur, Malaysia*

Most knee osteoarthritis (OA) patients suffer from pain and functional disability at some point in their disease progression. They are also prone to falls due to impairment of their joint proprioception. In view of these factors, in this study, we wish to determine the relationship between pain and activities of daily living (ADLs) with postural balance in patients with primary knee OA.

A cross-sectional study was done involving twenty subjects with primary bilateral knee OA (15 females and 5 males), with a mean age of 69.2 ± 10.4 years. The pain and ADLs subscales of the Knee Injury and Osteoarthritis Outcomes Score (KOOS) were administered. Postural stability of the subjects was assessed using the Biodex Balance System. The primary outcome was the overall stability index (OSI). Pearson's correlation was used to determine the association between the variables of interest.

There was a significant positive correlation with moderate strength between the KOOS pain score and the OSI ($r=0.40$, $p=0.04$). However, there was no correlation between KOOS ADLs function and OSI ($r=0.10$, $p=0.33$). There was no significant association between both KOOS scores and the other parameters of postural stability (anterior-posterior and medial-lateral stability index). Majority of the knee OA subjects felt unstable (65%) and were afraid of falls (75%). The increased severity of knee OA (Kellgren/Lawrence grade) was also linked to an increased risk of falling.

Subjects with a higher KOOS knee pain score have a poorer dynamic balance, probably due to no compensatory actions being activated at the knee joint as yet. Hence, factors that can be involved in these compensatory actions such as knee joint muscle strength and muscle flexibility should be assessed in future studies.

LIGHTNING TALK • ENVIRONMENTAL, NUTRITION AND POPULATION HEALTH**[LTE4]****ASSESSMENT OF PARENTAL STATURE, PARENTING STYLE, HYGIENE, AND HEALTHY LIFESTYLE AS RISK FACTORS FOR STUNTING AMONG TODDLERS IN INDONESIA: A PROTOCOL OF SYSTEMATIC REVIEW*****Mazaya Putri Amriviana¹, Cut Khairunnisa², Teguh Haryo Sasongko^{3,4}****¹Faculty of Medicine, Malikussaleh University, Lhokseumawe, Indonesia**²Department of Public Health, Faculty of Medicine, Malikussaleh University, Lhokseumawe, Indonesia**³Department of Physiology, School of Medicine, International Medical University, Kuala Lumpur, Malaysia**⁴Institute for Research, Development, and Innovations, International Medical University, Kuala Lumpur, Malaysia*

Reducing prevalence of stunting has been the focus of the current administration in Indonesian government, as delineated in the National Medium-Term Development Plan (RPJMN) 2020-2024. Globally, there are many studies addressing risk factors of stunting, however, we do not know the current research landscape in Indonesia. This systematic review aims at exploring outcomes of stunting research in Indonesia by focusing on four risk factors, namely, parental stature, parenting style, hygiene, and healthy lifestyle.

Studies will be searched through PubMed (MEDLINE), Google Scholar, and Mendeley. We will include Indonesian toddler under five years old, living in Indonesia. The exposure of interests includes parental stature, parenting style, hygiene, and healthy lifestyle. We will include prospective and retrospective cohort, case-control, and analytical cross-sectional studies. We will exclude stunted toddlers with congenital disease, whose parents are having achondroplasia, whose parents are having mental disorders, and evidence of absent biological relationship. We will include mixed studies if they include stunting children in at least 70% of their participants. Quality of the included studies will be assessed using the appropriate JBI (Joanna Briggs Institute) critical appraisal tool. Data will be extracted using a standardised data extraction form and will be analysed using Cochrane's RevMan 5.3. If we identify heterogeneity in the studies, we will do sensitivity analysis and examine subgroups according to social economic status, presence of comorbid disease, parental level of education, ethnicity, race, and religion.

This systematic review is expected to provide a clearer picture about stunting research in Indonesia, especially in the context of parental height, parenting style, hygiene, and healthy lifestyle as risk factors.