Department: **Public Health**

Assessment Of Gestational Diabetes Mellitus Knowledge And Associated Factors Among United Arab Emirates University Students: A Cross-Sectional Study

Main presenter: **Meera Rashed Alshamsi**

Supervisor: **Prof. Fatima Almaskari**

Co-presenters: **Sara Saif Almahrooqi   Taif Abdulla Alyammahi   Waad Ibrahim Alhammadi**

Abstract: *Background/Aim: The burden of gestational diabetes mellitus (GDM) is increasing globally. Its knowledge is paramount for successful management and preventive strategies. Our study aimed to assess GDM knowledge and associated factors among United Arab Emirates University (UAEU) students.*

Methods: Online questionnaire was used to collect data from UAEU students, 18years and above. Main outcome was the proportions of students who ever and never heard of GDM. Chi-square and T tests were used to assess associations between students' characteristics and their knowledge status.

Results: 902 students participated. 75.3% of them have heard of GDM before. More than half of the students in all colleges have heard about GDM before with the highest proportions being 86.2%, 84.2% and 78.8% in colleges of Medicine, Education and Science, respectively. Proportion of females who ever heard of GDM is higher than males (81.7%vs50%, p=0.0001). Furthermore, increased age, being married, working in the health sector, and having family history of diabetes have statistically significant associations with knowledge status.

Conclusion: Our study identified where the gaps in GDM knowledge among the university students were and highlights the need to accelerate targeted GDM awareness campaigns among them as well as the general population in United Arab Emirates.

Department: **Public Health**

Chronic Disease Rates As Reported By United Arab Emirates University Students: A Cross-Sectional Study

Main presenter: **Meera Rashed Alshamsi**

Supervisor: **Dr. Maryam Bashir**

Co-presenters: **Waad Ibrahim Alhammadi   Shooq Abdulsalam Alshehhi   Hind Ahmed Alhosani**

Abstract: *Background/Aim: Chronic disease burden is increasing globally. In the United Arab Emirates (UAE), the burden of diseases like obesity, diabetes and other cardiovascular diseases are increasing and there is need to explore their patterns for targeted interventions. To our knowledge this is the first study describing multiple chronic diseases among university students in UAE.*

Department: **Public Health**

Changes In Recreational Screen Time And Its Association With Eye Health Among Age 10-17 In Abu Dhabi And Alain During Covid-19: A Cross-Sectional Study

Main presenter: **Maitha Musabbeh Alfazari**

Supervisor: **Dr. Azhar Talal**

Co-presenters: **Alreem Almenhali   Anwar Alshamsi   Manayer Alteneiji**

Abstract: *Background:The COVID-19 pandemic led to a total lockdown and the switch to online which led to an increase in screen-time which ultimately affected eye health. Despite the ongoing studies about the effects of screen-time, there is a noticeable gap in the research on the younger generation's screen-time and eye health. This study aims to investigate the changes in leisure screen-time during COVID-19 pandemic among 10–17 year-old students, and assess an association between leisure screen-time and eye health in Abu Dhabi and AlAin.*

Methods:This cross-sectional quantitative study investigates the change of screen-time and its association on eye health of 499 10–17 year-old students, selected randomly from 441 schools all around Abu Dhabi and AlAin. A validated questionnaire consisting of 21 questions will be piloted among 10-15 students to check for cultural appropriation.

Results:This study results will estimate the changes on leisure screen-time during COVID-19. This study will also estimate the prevalence of eye problems among 10–17 year-old who had changes of leisure screen-time during COVID-19.

Conclusion:This study aims to highlight the obvious gap in research regarding changes in leisure screen-time and its association with eye health among ages 10-17 years-old in Abu Dhabi and AlAin and raise awareness regarding the issue.

Department: Public Health

Prevalence Of Stunting Among Children And Adolescents In United Arab Emirates: Disparity By Gender

Main presenter: **Ahmed Juma Alkaabi**	Supervisor: **Dr. Syed M.Shah**

Co-presenters:

Abstract: *Background: Chronic undernutrition among children and adolescents has sever implication for health and education attainment. According to the most recent report (2021) of global nutritional status UAE is lacking data the rate of linear growth stunting.*

Study Objective: This study aimed to examine the prevalence of stunting in children and adolescents aged 12 to 18 years in Al Ain, UAE Schools and evaluated the difference in the prevalence by gender

Methods: We used a cross-sectional study design to recruit a random sample (n=550) from list of 111 schools in Al Ain. Stunting was defined as a height-for-age z score below 2 SDs of the median, using the Center for Diseases Control and Prevention (CDC) growth charts.

Results: The overall prevalence of stunting was 3.7% (95% CI 2.3-5.7). The prevalence of stunting varied by nationality, 6.4% in South Asian, 4.1% in native Emirati, 3.0% in Arabs, and 0% in westerners (USA, Canada, European countries). The prevalence of stunting was 5.3% among females as compared to their male counterparts (2.1%).

Conclusion. Linear growth stunting in Emirati children and adolescents, particularly in females is significant health problem and it needs immediate attention to prevent its implications to health and education.

Department: **Department Of Family Medicine**

Knowledge, Attitudes And Practices On Household Food Waste In The United Arab Emirates

Main presenter: **Ahmed Juma Alkaabi**

Supervisor: **Dr. Moienudeen Khan**

Co-presenters: **Fakhra Khalifa Al Rubaei   Maryam Nasser Mohamedali Alfadli   Ayesha Ebrahim Mahmoodi Alblooshi**

Abstract: *Introduction: Food waste has a major impact on most of the sustainable developmental goals (SDGs). In the United Arab Emirates (UAE), an estimate of 2.7 kilograms of food/per person daily is wasted which is more than twice the rate of European households. This study examines knowledge, attitudes, and practices towards food waste among UAE residents.*

Methodology: Ethical approval was obtained, and the study was conducted using a validated questionnaire. The questionnaire assessed socio-demographic measures along with several other variables relating to food waste management knowledge, attitude and practice.

Results: A total of 1052 UAE residents participated in the study. Knowledge has a significant direct effect on attitude and an indirect impact on practicing food waste management. Attitude has substantial effect on practicing food waste management

Recommendations/Conclusions: Educational and training programs are needed to improve the population's knowledge. Improving attitudes through stakeholders' interventions will assist in reducing the food waste print and thus achieve SDGs.

Department: **Public Health**

Depression in Chronic Disease Patients In The UAE

Main presenter: **Ahmed Juma Alkaabi**

Supervisor: **Prof. Fatma Al-Maskari**

Co-presenters: **Khalid Mahmoud   Ahmed AlKous**

Abstract: *Chronic diseases is the leading cause of mortality and morbidity. It is also associated with an increased prevalence of depression and poor disease outcome.*

Aims and Objectives: to estimate the prevalence and correlates of depression in a sample of chronic disease patients in Al-Ain city, UAE.

Materials and Methods: A cross sectional study was conducted in seven primary care centers of Al-Ain city using the patient Health Questionnaire (PHQ)-9. Medical students with the help of a research assistant were able to collect 417 completed questionnaires. Data was analyzed using SPSS (version 26).

Results: The prevalence of Depression was 21.1% (95% CI: 17.5% - 25.3%) based on a cut-off score of 8; Severe depression was present in 1.7% and mild-moderate in 34.7 % of the participants. Depression was statistically significantly associated with increasing age (p:0.006), low level of education (p:0.000), increase duration of chronic disease (p:0.051) presence of asthma (P:0.002) and cardiovascular disease (p:0.005).

Conclusion: The study highlights for health care professionals and policy makers the importance of mental health as part of a comprehensive management plan for patients with chronic diseases such as asthma and cardiovascular diseases. A multidisciplinary comprehensive program will improve the long-term outcomes of these patients.

Department: **Genetics and Genomics**

Understanding The Cellular Trafficking Of Missense Pathogenic Variants Of Natriuretic Peptide Receptor (Npr2)

Main presenter: **Hamda Saeed Musafir**	Supervisor: **Professor Bassam Ali**

Co-presenters: **Hamda Saeed Musafir   Sara Husam Ouda**

Abstract: *Acromesomelic dysplasia, type Maroteaux (AMDM, OMIM#602875) is a rare congenital bone dysplasia characterized by disproportionate acromesimelic shortening of the limbs and mild spondylar dysplasia. This disorder is caused by biallelic loss-of-function mutations in NPR2 encoding natriuretic peptide receptor-B (NPR-B). NPR-B is a single transmembrane receptor, consisting of the following domains; ligand binding domain, transmembrane domain, kinase homology domain, and guanylyl cyclase domain. The ligand of NPR-B, C-type natriuretic peptide (CNP), activates guanylyl cyclase, converting GTP into cGMP. This CNP-NPR-B signaling plays a critical role in endochondral ossification, which is responsible for longitudinal growth in limbs and vertebrae.*

Heterozygous loss-of-function mutations in NPR2 account for 0.4–6% of patients with idiopathic short stature. In contrast, gain-of-function mutations in NPR2 cause an overgrowth syndrome termed epiphyseal chondrodysplasia, Miura type (#615923). The objective of our study is to understand the cellular trafficking of 8 pathogenic variants of NPR2 that are caused by missense mutations in the

NPR2 codes for Atrial Natriuretic peptide receptor B (NPR-B or NPR2), a regulator of skeletal growth.

 Genetic variations caused by missense mutations in natriuretic peptide receptor B (NPR-B or NPR2) lead to pathological conditions that are associated with

Missense mutations cause genetic variations that are and influence the susceptibility to disease. The pathological variants of human natriuretic peptide receptor B (NPR-B or NPR2) is associated with genetic variations resulting in a change of amino acid sequence can have a dramatic effect on stability, hydrogen bond network, conformational dynamics, activity and many other physiologically important properties of proteins. The substitutions of only one residue in a protein sequence, so-called missense mutations, can be related to many pathological conditions, and may influence susceptibility to disease and drug treatment. The plausible effects of missense mutations range from affecting the macromolecular stability to perturbing macromolecular interactions and cellular localization. Here we review the individual cases and genome-wide studies which illustrate the association between missense mutations and diseases. In addition we emphasize that the molecular mechanisms of effects of mutations should be revealed in order to understand the disease origin. Finally we report the current state-of-the-art methodologies which predict the effects of mutations on protein stability, the hydrogen bond network, pH-dependence, conformational dynamics and protein function

Department: **Radiology**

Assessment Of Severity Of Covid-19 Pneumonia With Radiomics Retrieved From Lung Ct Images

Main presenter: **Fatima H. Alhammadi**

Supervisor: **Dr. Taleb M. Almansoori**

Co-presenters: **Khulood Jehad Saeed   Asma Hadef Alshamsi**

Abstract: *Background: Quantitative CT assessments of the lung can improve clinical management of COVID-19 pneumonia. Aim: To assess the accuracy of radiomics with deep learning in reflecting clinical severity markers of patients with SARS-CoV-2. Methods: We examined 605 patients admitted to Al Ain Hospital. They met the following inclusion criteria: age≥18 years; inpatient admission; PCR positive for SARS-CoV-2; lung CT available at PACS. We divided cases into 4 classes based on the total lung involvement: mild ≤25%, moderate 25-50%, severe 50-75% and critical ≥75%. Data from CT scans were used to build regression models predicting the oxygenation level, cardiovascular and respiratory functioning markers. Results: Radiomic features can reliably reflect the functional status of patients with COVID-19. Deep learning models can predict SpO2 level, markers of respiratory and cardiovascular functioning from a set of demographics and radiomics data regardless of the settings of reconstruction kernels. The best accuracy was achieved for radiomics - 7.069±4.17% of MAE/range, followed by clinical features - 6.593±3.654, and their combination - 6.454±3.715. Conclusions: Radiomics improves risk stratification and disease management especially when the oxygen therapy impacts the results of the functional examination, still structural change of the lungs reflects physiological status of the patients with COVID-19.*

Department: **Department Of Family Medicine**

Causes For Food Waste And Solutions To Reduce Food Print In The United Arab Emirates

Main presenter: **Maryam Nasser Mohamedali Alfadli** | Supervisor: **Dr. Moien AB Khan**

Co-presenters: **Fakhra Khalifa Al Rubaei   Ahmed Juma Al Kaabi   Ayesha Ebrahim Mahmoodi Alblooshi**

Abstract: *After obtaining ethical approval from the UAE University social science research ethics committee, an online cross-sectional survey was conducted asking causes for food waste and solutions to reduce foodprint was asked among United Arab Emirates residents*

Department: **Public Health**

Prevalence Of Dyslipidemia And Its Associated Factors Among Adolescents In United Arab Emirates

Main presenter: **Abdulrahman Juma Musabbeh Mohammed Alkaabi**	Supervisor: **Dr. Syed Mahboob Shah**

Co-presenters:

Abstract: *Objectives: We aimed to estimate the prevalence of dyslipidemia in Emirati adolescents, aged 12 to 17 years.*

Methods: We used a cross-sectional study to estimate the prevalence of elevated total cholesterol, LDL cholesterol, triglycerides, or low concentrations of HDL cholesterol in a random sample (n=1186) of study participants from 111 public and private schools in Al Ain, Abu Dhabi. Serum total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C) and triglycerides (TG) were measured. We used standard cutoff values of ≥200 mg/dL for TC,≥130 mg/dL for LDL-C,≥130 mg/dL for TG to indicate elevated levels, and <40 mg/dL for low HDL-C.

Results: Overall 7.7% (95% CI 6.3-9.3) had elevated TC, 10.4% (95% CI 8.7-12.2) LDL-C, 5.8% (95% CI 4.6-7.3) TG and 49.9% (95% 47.1-52.8) had low HDL-C dyslipidemia. After controlling for age, sex, and nationality, overweight and obesity were associated with increased prevalence of TC, LDL, TG, and low HDL dyslipidemia. Fast food consumption and was positively associated with elevated TC and elevated blood pressure was positively associated elevated TC and LDL-C. Low participated in physical education was positively associated with low HDL-C.

Conclusion: A significant proportion of Emirati adolescents has dyslipidemia. These findings suggest comprehensive intervention strategies to address identified risk factors