DAY 2 – November 22, 2019 (Friday)

OP-10

ECONOMIC BURDEN OF TYPE 2 DIABETES IN MYANMAR

https://doi.org/10.15605/jafes.034.02.S10

Wah Khaing Oo,[1] Ko Ko,[2] Arthorn Riewpaiboon,[1] Sitaporn Youngkong[1]

[1]*Division of Social, and Administrative Pharmacy, Department of Pharmacy, Faculty of Pharmacy, Mahidol University, Bangkok, Thailand*

[2]*Department of Diabetes and Endocrinology, University of Medicine 2, Yangon, Myanmar*

INTRODUCTION

The burden of diabetes, especially type 2 diabetes, is a growing public health concern in Myanmar. However, no study explored the economic consequences of the disease. Therefore, this study aimed to estimate the economic burden of type 2 diabetes from a societal perspective.

METHODOLOGY

This study was a retrospective, prevalence-based cost of illness analysis. Data were collected from 94 randomly selected patients with type 2 diabetes who received treatment at the Diabetes and Endocrinology department of North Okkalapa teaching hospital in Yangon, Myanmar during 2017-2018. A micro-costing approach was applied in the cost calculation. One-way sensitivity analysis was performed to check the uncertainty of the results.

RESULTS

The estimated total cost of type 2 diabetes was 104,386 USD (1 USD = 1520 kyat) for the 2019 fiscal year. Of which, 66% was direct medical cost, 18% was direct non-medical cost, and 16% was indirect cost. The cost per patient per year was 1110 USD, 88% of per capita gross domestic product of Myanmar. It indicates that type 2 diabetes has a substantial impact on the country's growing economy, and this will be greater with increasing prevalence in the coming year. Furthermore, the cost of informal care contributed to 48% of the direct non-medical cost. So, the results indicate that the disease affected not only the individual but also the caregivers, including family, relatives, and friends.

CONCLUSION

The results of this study highlighted that an appropriate strategy with cooperative effort is urgently necessary to decrease prevalence of disease and its associated complications.

KEY WORDS

cost of illness, health care cost, burden of illness, diabetes, Myanmar

OP-11

THE ROLE OF PULSE PRESSURE IN NAVIGATING THE PARADIGM OF CHRONIC KIDNEY DISEASE PROGRESSION IN TYPE 2 DIABETES

https://doi.org/10.15605/jafes.034.02.S11

Serena Low,[1,2] Su Chi Lim,[1,3] Keven Ang,[1] Wern Ee Tang,[4] Pek Yee Kwan,[4] Tavintharan Subramaniam,[2] Chee Fang Sum[2]

[1]*Khoo Teck Puat Hospital, Singapore*

[2]*Admiralty Medical Centre, Singapore*

[3]*Saw Swee Hock School of Public Health, National University of Singapore*

[4]*National Healthcare Group Polyclinics, Singapore*

INTRODUCTION

Arterial stiffness is a risk factor for chronic kidney disease (CKD) progression. Alterations in pulse wave velocity (PWV), a measure of arterial stiffness, lead to increased systolic blood pressure (SBP) and decreased diastolic blood pressure (DBP) known as pulse pressure (PP). It is unclear if PP predicts CKD progression in Type 2 Diabetes (T2D).

METHODOLOGY

This was a prospective study of 1,494 patients with estimated glomerular filtration rate ≥15 ml/min/1.73 m^2 from SMART2D cohort. Carotid-femoral PWV was measured by applanation tonometry. PP was calculated as difference between SBP and DBP. CKD progression was defined as deterioration across KDIGO estimated glomerular filtration rate (eGFR) categories with ≥25% drop from baseline.

RESULTS

After follow-up of up to 6 years, CKD progression occurred in 33.5% of subjects. Cox regression showed a dose-dependent relationship between PP and CKD progression with hazards ratio (HR) 1.36 (95%CI 1.01-1.84; p=0.004), 2.41 (1.85-3.15; p<0.001) and 3.14 (2.43-4.06; p<0.001) for quartiles 2, 3 and 4 respectively in unadjusted analysis. Having adjusted for demographics and clinical covariates, the association persisted for quartiles 3 and 4 with HRs 1.66 (1.25-2.20; p<0.001) and 1.76 (1.32-2.36; p<0.001) respectively. There was no significant difference between PP and PWV alone in receiver-operating curve for CKD progression (65.5% vs. 67.5%; p=0.246). Binary mediation analysis revealed that urinary albumin-to-creatinine ratio accounted for 48.3% of the association between PP and CKD progression.

CONCLUSION
Individuals with high PP were susceptible to deterioration of renal function. Albuminuria partially contributed to the pathophysiological mechanism. PP could potentially be incorporated in clinical practice as an inexpensive and convenient marker of renal decline in T2D.

KEY WORDS
pulse pressure, chronic kidney disease, type 2 diabetes

OP-12

VALIDATION OF THE MODIFIED KNEE-HEIGHT AND MID-ARM CIRCUMFERENCE METHOD IN ESTIMATING BODY WEIGHT AMONG ADULT FILIPINOS

https://doi.org/10.15605/jafes.034.02.S12

Niña Rose R. Alibutod,[1] Gabriel Jasul Jr.,[1] Cecilia Jimeno,[1] Elizabeth Paz-Pacheco,[1] Anna Angelica Macalalad-Josue,[1] Elizabeth Limos[2]
[1]*Section of Endocrinology, Diabetes and Metabolism, Department of Medicine, University of the Philippines-Philippine General Hospital*
[2]*Dietary Service Department, University of the Philippines-Philippine General Hospital*

INTRODUCTION
Nutritional assessment, dietary prescription, and optimal dosing of medications are calculated based on body weight (BW), which is difficult to obtain in bed bound patients. Due to the unavailability of bed weighing scales, physician's estimation of BW or self-reported BW is being used which is inaccurate. Hence, this study aimed to validate the modified Knee Height (KH) and mid-arm circumference (MAC) method in estimating BW among adult Filipinos.

METHODOLOGY
This cross-sectional analytical study included 383 admitted patients. Anthropometric measurements were obtained. Accuracy of the modified KH-MAC method was determined using Bland-Altman analysis.

RESULTS
BW measurements were significantly higher using KH-MAC method compared to actual BW, by a mean of 8.94 (95% CI, 8.36–9.52) and 6.76 (95% CI, 6.22–7.31) kg as measured by 2 research associates. The least bias in BW estimates appeared to be with elderly, followed by middle and then young adults. A similar pattern is seen with body mass index (BMI) category, with bias increasing while going from the obese to underweight categories. % bias across malnutrition classifications are similar. A new equation was derived which has better weight estimates and biases were generally small (all within +/- 1.5%) across all categories.

CONCLUSION
The modified KH-MAC method overestimated actual BW. Factors having least bias in BW estimates are elderly and obese. A new equation was derived which has better accuracy and lesser biases were noted across all categories, however, this requires validation studies.

KEY WORDS
adult weight estimation, modified knee-height-mid arm circumference, Filipinos

OP-13

LEAN MASS, AGE AND SCLEROSTIN LEVELS INFLUENCE BONE HEALTH IN POSTMENOPAUSAL WOMEN WITH TYPE 2 DIABETES

https://doi.org/10.15605/jafes.034.02.S13

Mazra Othman,[1] Wan Mohd Izani Wan Mohamed,[2] Mafauzy Mohamed,[2] Vina PS Tan[1]
[1]*School of Health Sciences, Universiti Sains Malaysia, Kelantan, Malaysia*
[2]*School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia*

INTRODUCTION
Osteoporosis affects 1-in-3 women aged 50 years and above. However, studies reported that people with type 2 diabetes (T2D) have more incidences of fractures than non-T2Ds. Yet, few T2D women were osteoporotic. This study aims to describe the osteoporosis status and investigate sclerostin (a signaling protein exclusively from osteocytes that prevent bone formation), lean mass and other related factors to osteoporosis in postmenopausal Malaysian women with T2D.

METHODOLOGY
We recruited 71 postmenopausal women (age 59.7±4.2 year) and measured their bone mineral density (BMD, kg/cm^2), body fat (kg) and lean mass (LM, kg) using dual energy X-ray absorptiometry (DXA) and derived BMD T-scores. We obtained fasting blood measures of HbA1c (%), glucose (mmol/L) and sclerostin (pmol/L). Participants' calcium intake was also assessed using a validated food frequency questionnaire. We conducted correlation followed by multivariable regression analysis using SPSS version 24.