PD13: MDRD versus CKD-EPI Equation to Estimate Glomerular Filtration Rate: A Retrospective Study

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ABSTRACT

Introduction: Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) creatinine-based equation was developed to address the systematic underestimation of the glomerular filtration rate (GFR) by the Modification of Diet in Renal Disease (MDRD) Study equation in patients with a relatively well-preserved kidney function. The objective of this study is to evaluate eGFR by CKD-EPI vs. MDRD equations and to stratify kidney function according to KDIGO guidelines. **Method:** Serum creatinine from 8754 patients were extracted from our laboratory data. eGFR were calculated using the CKD –EPI and MDRD equations. CKD stages based on two different eGFRs were compared. **Results:** Sample consisted of 3446 women (40%) and 5308 men (60%). Median age of patient was 58 years and median baseline creatinine was 83mmol/L. Baseline median eGFR was 84.8 and 86.6 mL/min/1.73 m2 for MDRD and CKD-EPI equations ($p < 0.001$), respectively. Of the 8754 measurements, MDRD classified 2169 (25%) patients as "normal function" (eGFR>90%) while CKD-EPI classified 2720 (31%) patients as "normal function". 15% patients who were classified as "normal function" with CKD-EPI were classified as "mild reduced GFR" (GFR: 60-89 mL/min/1.73 m2) using MDRD. CKD-EPI classified fewer patients (63%) as eGFR < 60% as compared to MDRD (72%). **Conclusion:** The CKDEPI
equation classified fewer individuals as having reduced kidney function than did the MDRD Study equation across a broad age range.

KEY WORDS:
CKD-EPI equation, MDRD equation, estimated GFR, renal function

PD14: Pedometer-measured Physical Activity in Primary School Children in Kuala Lumpur, Malaysia

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ABSTRACT

Introduction: Physically inactive is widely considered as a contributing factor to the obesity epidemic especially among growing children. Accurate assessment of physical activity provides valuable information on daily activity pattern. The aim of this study was to objectively measure physical activity and its association with socio-demographic factors among Malaysian primary school aged children. **Methods:** Subjects were 111 primary school children in Kuala Lumpur selected through random sampling. Activity pattern was determined using pedometers on two weekdays and one weekend day and differences by sex, ethnicity and weight category (BMI) were analyzed. The relationship between pedometer and socio-demographic factors were also studied. **Results:** Subjects included 46 boys and 65 girls (64% were Malays, 20.7% Chinese and 15.3% Indians). Overall, boys attained significantly higher daily step counts than girls (9573 ± 4145 vs. 7313 ± 2697). There was significant sex differences for the daily step counts during weekdays ($p<0.01$), weekends ($p<0.05$) and total mean step counts ($p<0.01$). Malay ethnicity showed higher daily step counts during weekday than weekend ($p<0.05$). Girls had higher odds (OR=5.58; 95%CI 1.12, 27.77) of not meeting the recommended daily step count compared to boys; while those having low physical activity levels had higher odds (OR=15.75; 95%CI 1.78, 139.33) of not meeting recommended daily step counts compared to children having moderate physical activity level. **Conclusion:** In conclusion, boys were significantly more active than girls and physical activity was greater during weekdays compared to weekends. These children were sedentary with minimum physical activity being observed. Sex differences and physical activity levels influence the pedometer step counts in children.

KEY WORDS:
Pedometer, physical activity, school children