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Effectivity of Chronic Kidney Disease Epidemiology collaboration (CKD-Epi) and modification of diet on renal disease (MDRD) as determination of chronic kidney disease's stage: An evidence-based case report**Vidhia Umami and Zharifah Fauziyyah Nafisah**

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Staging of Chronic Kidney Disease (CKD) is based on the Glomerulus Filtration Rate (GFR). Every stage has its own treatment. Once the GFR lowers, there could be occurrence of many complications and they must be treated as soon as possible. The gold standard of GFR count is complicated, needs long time, and expensive. Therefore, there are some equations to result estimated GFR using some variabls: age, gender, ras, and serum creatinine, named Modification of Diet on Renal Disease (MDRD) and Chronic Kidney Disease Epidemiology Collaboration (CKD-Epi_{SCr}). Since 2012, there has been a variabel added to the CKD-Epi equations, which is cystatin C. It is still questionable, which equation between MDRD, CKD-Epi using serum creatinine (CKD-Epi_{SCr}), cystatin C (CKD-Epi_{CysC}), and both of them (CKD-Epi_{SCr-CysC}) will have the biggest effectivity, especially for Asian ras to determine the stage of CKD. The literature search was done in PubMed, Cohcrane, and Science Direct using five keywords and either its abbreviations or accronyms. Using inclusion and exclusions criteria, three final articles were generated. Then, critical appraisal was done based on validity, importance, and applicability criteria. The article from Feng J *et. al.*, Zhu Y *et. al.*, and Zhang M *et. al.* with Randomized Controlled Trial (RCT) design showed that the three articles were valid, using the gold standard an Technetium-Diethylenetriamine Pentaacetic Acid (Tc-DTPA) imaging. The CKD-EpiCysC and CKD-EpiSCr-CysC equations have the best sensitivity, which are good for screening CKD while the MDRD and CKD-EpiSCr have the best specificity, which are good for diagnosis confirmation of CKD. The best accuracy belongs to CKD-EpiCysC equation, making it great for the real stage of CKD. The best precision belongs to MDRD equation, so it will be great for the evaluation and monitoring of the patient's disease.

Biography

Vidhia Umami has completed her Specialist program in Internal Medicine, University of Indonesia in December 2012. She was also graduated from Faculty of Medicine University of Indonesia, for her Medical Doctor in August 2005. She is now in Consultant program in Nephrology and Hypertension at Internal Medicine Faculty of Medicine, University of Indonesia, Cipto Mangunkusumo General National Hospital. She worked at several hospitals in Indonesia and now actively work in Bahkti Asih Hospital, Tangerang and also in Cipto Mangunkusumo General Hospital. She is a member of Indonesian Medical Association, Indonesian Society of Internal Medicine, Indonesian Society of Nephrology, Indonesian Society of Hypertension, and Indonesian Transplantation Society. She has published numerous articles and posters in several conferences throughout the world.

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