

Is Obesity Associated with CKD-(unknown) in Sri Lanka? A Protocol for a Cross Sectional Survey

Authors : Thaminda Liyanage, Anuga Liyanage, Chamila Kurukulasuriya and Sidath Bandara

Abstract : Background: The burden of chronic kidney disease (CKD) is growing rapidly around the world, particularly in Asia. Over the last two decades Sri Lanka has experienced an epidemic of CKD with ever growing number of patients pursuing medical care due to CKD and its complications, specially in the "Mahaweli" river basin in north central region of the island nation. This was apparently a new form of CKD which was not attributable to conventional risk factors such as diabetes mellitus, hypertension or infection and widely termed as "CKD-unknown" or "CKDu". In the past decade a number of small scale studies were conducted to determine the aetiology, prevalence and complications of CKDu in North Central region. These hospital-based studies did not provide an accurate estimate of the problem as merely 10% or less of the people with CKD are aware of their diagnosis even in developed countries with better access to medical care. Interestingly, similar observations were made on the changing epidemiology of obesity in the region but no formal study was conducted to date to determine the magnitude of obesity burden. Moreover, if increasing obesity in the region is associated with CKD epidemic is yet to be explored. Methods: We will conduct an area wide cross sectional survey among all adult residents of the "Mahaweli" development project area 5, in the North Central Province of Sri Lanka. We will collect relevant medical history, anthropometric measurements, blood and urine for hematological and biochemical analysis. We expect a participation rate of 75%-85% of all eligible participants. Participation in the study is voluntary, there will be no incentives provided for participation. Every analysis will be conducted in a central laboratory and data will be stored securely. We will calculate the prevalence of obesity and chronic kidney disease, overall and by stage using total number of participants as the denominator and report per 1000 population. The association of obesity and CKD will be assessed with regression models and will be adjusted for potential confounding factors and stratified by potential effect modifiers where appropriate. Results: This study will provide accurate information on the prevalence of obesity and CKD in the region. Furthermore, this will explore the association between obesity and CKD, although causation may not be confirmed. Conclusion: Obesity and CKD are increasingly recognized as major public health problems in Sri Lanka. Clearly, documenting the magnitude of the problem is the essential first step. Our study will provide this vital information enabling the government to plan a coordinated response to tackle both obesity and CKD in the region.

Keywords : BMI, Chronic Kidney Disease, obesity, Sri Lanka

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