

OP 04**Physical and Functional Measures among Patients with Chronic Kidney Disease in High Prevalent Areas for CKDu: A Pilot Study**

Nisansala W.A.T.^{1#}, Ekanayake C.B.², Karunarathne R.H.³, Wijerathne P.A.T.M.²,
Damayanthi H.D.W.T.⁴, Steven M.A.⁵, Jayasekara J.M.K.B.²,

¹*Department of Physiotherapy, Faculty of Allied Health Sciences, Kotelawala Defence University, Sri Lanka*

²*Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, Kotelawala Defence University, Sri Lanka*

³*CKDu Research, Provincial Directors Office [Health], Anuradhapura*

⁴*Department of Nursing, Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka*

⁵*Department of Behavioural and Community Health Sciences, Pittsburg University, USA*

#Corresponding author: tiliwijesinghe@gmail.com

Background: Chronic kidney disease of uncertain aetiology (CKDu) is a major health issue in some provinces in Sri Lanka. The prevalence of CKDu is vary from 15.1 to 22.9% in some districts in Sri Lanka. Since last three decades, highest number of CKDu patients were reported from North Central, Uva and North Western Provinces of the country.

Objectives: To identify the physical and functional measures of chronic kidney disease (CKD) patients in high prevalent areas for CKDu.

Methods: Patients with CKD (n=123) from CKDu high prevalence areas (Thanthirimale and Wilachchiya in North Central Province) were selected. Basic demographic characteristics, clinical information, physical measures [Height, Weight and Body Mass Index (BMI)] and functional measures [3m Gait Speed (GS), Hand Grip Strength (HGS)-dynamometer test, lower limb strength-30s Rapid Chair Stand (RCS)] were obtained. Apparently healthy individuals (n=23) from the same area (age and sex compatible) were selected as controls. Patients were categorized into three groups as group 1=stage 1 and 2 (n=16), group 2=stage 3 (n=66) and group 3=stage 4 and 5 (n=41) CKD and apparently healthy individuals as a baseline group (n=23). Independent sample t-test and One-way ANOVA test were used to compare the groups.

Results: The mean (SD) values of age, BMI, GS, HGS, RCS between patients and controls were, age; 60.72 (\pm 9.03) patients vs 51.74 (\pm 11.29) controls, $p=0.001$, BMI; 22.71 (\pm 4.32) patients vs 24.72 (\pm 3.87) controls, $p=0.039$, GS; 0.71 (\pm 0.18) patients vs 0.89 (\pm 0.26) controls, $p=0.006$, HGS; 21.61 (\pm 7.72) patients vs 23.88 (\pm 7.47) controls, $p=0.019$, RCS; 7.52 (\pm 3.67) patients vs 10.87 (\pm 3.50) controls, $p<0.001$. One way ANOVA test revealed a significant difference between following groups. GS; 0.69 (\pm 0.17) stage 3 and 0.89 (\pm 0.26) controls, ($p=0.001$), GS; 0.71 (\pm 0.19) stage 4/5 and 0.89 (\pm 0.26) controls, ($p=0.004$), HGS; 26.71 (9.82) stage 1/2 and 20.75 (\pm 6.85) stage 3, ($p=0.032$), RCS; 7.23 (\pm 3.48) stage 3 and 10.87 (\pm 3.50) controls, ($p<0.001$), RCS; 7.37 (\pm 3.87) stage 4/5 and 10.87 (\pm 3.50) controls, ($p=0.002$). No significant differences were noticed between patients with stage 1 and 2 CKD and controls ($p>0.05$) in all 3 functional tests.

Conclusions: Significant decline of functional measures were observed in patients with stage 3, 4 and 5 CKD. However, no difference was observed between controls and patients with stage 1 and 2 CKD.

Keywords: *Chronic Kidney Disease, Functional Tests, Physical Measures*