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**Association between backache related quality of life and serum creatinine in
Chronic Kidney Disease of unknown aetiology (CKDu) patients in the North
Central Province, Sri Lanka**

Fahim Aslam^{1*}, N. M. Hakmanage², Vindika Suriyakumara¹, Lahiru Sandaruwan¹,
Nishantha Kumarasinghe³

¹Institute of Ayurveda and Alternative Medicine

²University of Kelaniya

³General Sir John Kotelawala Defence University

*fahimaslam30@gmail.com

Chronic kidney disease of unknown aetiology (CKDu) is a slow progressive disease that cannot be detected until the later stages. This is commonly described among the agricultural communities in Sri Lanka. CKDu has been a burden over the past two decades and mainly affects the North Central province. This disease is spreading towards the Southern, North Western and Central provinces. CKDu is staged using the estimated-glomerular filtration rate (e-GFR) which is the standard test performed under the WHO guidelines using serum creatinine (SCr) measurement. Backache has been identified as a common symptom among patients suffering from any form of CKDu. It is postulated that backache can be used as an indirect measure to gain an insight about the patients' health status. The pain measurement also allows an overall assessment of the individuals' quality of life affecting activities of daily living and which can be used to measure total outcome of the disease. Using an interviewer-based questionnaire, backache was assessed among patients with CKDu. Roland-Morris low back pain and disability questionnaire (RMQ) was used, which had 24 questions and given scores ranging from 0-24. In addition to RMQ, five questions related to the body and pain derived from the KDQOL questionnaire (a standard tool used to determine quality of life (QOL) in kidney disease affected patients) was also used. The scores were combined and evaluated into four main types of backaches: no backache, intermittent, nociceptive and neuropathic backache. The questionnaire was categorized into four variables. Correlation statistics were applied to determine the relationship between backache and SCr values in CKDu. IBM SPSS version 23 was used for the statistical analysis. Based on results, a predictive model was designed to understand the correlation between the severity of backache and serum creatinine in CKDu patients. A sample of 75 patients with CKDu were included in the analysis. R-square of 80.9% was observed only in RMQ model. The ANOVA test reported how well the regression equation fits the data. There was a positive relationship between SCr and severity of backache ($p < 0.001$). Using the available findings, a predictive model was designed to understand the severity of backache with serum creatinine in CKDu patients. This may be used in early interventions to improve QOL. However, future studies and larger sample size are required to establish these findings.

Keywords: CKDu, CKD, North Central Province, RMQ, QOL