



Identification of Causative Factors for Chronic Kidney Disease Unknown etiology (CKDu): A case Study in Moneragala District, Sri Lanka

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Over the last decades, this new form of CKDu has emerged in the dry zone of Sri Lanka. Almost 80% of patients eventually die from kidney failure within the first two years after diagnosis. It has become one of the major health issue in many provinces in Sri Lanka. Although many researches are continuing since last 30 years, the problem of CKDu is still in search. This study was conducted in Moneragala District which is widely spreading area of this disease in the country. 165 groundwater samples from borehole and shallow wells in hard rock aquifers in study area have been collected and investigated for hydrochemistry. Samples were analysed for major anion and cations and some selected heavy metals. This study revealed that over 65% of the groundwater samples from Monaragala areas are alkaline. The anion in groundwater was varied as $\text{HCO}_3^- > \text{Cl}^- > \text{F}^- > \text{SO}_4^{2-}$ while cations varied in the order $\text{Na}^+ > \text{Ca}^{2+} > \text{Mg}^{2+} > \text{K}^+$ while majority of the samples (75%) belong to $\text{Ca}^{2+} - \text{Mg}^{2+} - \text{HCO}_3^-$ type. Among studied parameters electrical conductivity, Cl, sulphate, hardness, fluoride has generally higher values compared to WHO recommended values. 76% wells in the region showed fluoride levels higher than the accepted range of 0.5 mg/L for Sri Lanka. Higher contents of such elements may be due to dissolution of aquifer materials and high evaporation.



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