

CHANGES IN WATER CONSUMPTION PATTERNS POST-INSTALLATION OF REVERSE OSMOSIS WATER TREATMENT PLANTS IN DIMBULAGALA, SRI LANKA

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Installing Reverse Osmosis (RO) water treatment plants is seen as a solution to provide safe drinking water to areas in Sri Lanka affected by chronic kidney disease of unknown etiology (CKDu). The current study intends to identify changes in water consumption patterns post-installation of RO plants in the Dimbulagala divisional secretariat division, considered one of the CKDu prevalent areas in Sri Lanka. In the present study, a questionnaire survey was carried out on 154 households to get the perspectives on the quality of drinking water: palatability and appearance. In addition, accessibility to the water source was determined by considering the travel time. The findings revealed that 52% of the population agreed that they had palatable drinking water before installing RO units. In addition, 86% of the sample population agreed that the drinking water had a clear appearance. With the commissioning of RO units, the water usage from other sources has been reduced over the period between 2010 - 2022 (tap water 6%, rainwater 4%, well water 18%, surface water 12% and bottled water 2%). About 28% of the population has rejected RO-treated water due to non-disclosed reasons. While 28% of the total population have access to RO water from their premises, 26% travel more than 15 minutes to access RO water. However, 66% of the total population was satisfied with the water availability and the quality post-installation of RO units. Lack of awareness of health concerns related to contaminated groundwater consumption, financial constraints, distance to access the RO plant and differences in palatability were the main reasons which prevented the consumption of RO-treated water. Therefore, the need for adequate knowledge transfer to the community on RO technology is warranted.

Keywords: CKDu, Portable water, Reverse Osmosis (RO), Water quality, Water treatment