The increasing life expectancy in Israel has led to an increase in the number of older adults. As is well known, the prevalence of kidney disorders increases with age. Among ageing’s effects on the human body is the Total Body Water (TBW), which, along with a decrease in muscle mass and fat, decreases to 50% in older adults. Therefore, changes in water management, salts, and minerals are expected to affect older adults more than young ones. Approximately two-thirds of older adults are expected to experience a significant decline in renal function, expressed in poor GFR values. Only one-third of the older adult population will present stable or even improved renal function.1

The decline in renal function has two main causes:

1. Structural changes, including glomerulosclerosis and interstitial fibrosis, lead to protein excretion in the urine and water, salt, and mineral homeostasis disturbances. Changes in the vascular system and comorbidities, such as diabetes, hypertension, and arteriosclerosis, also contribute to the development and worsening of renal structural changes.
2. Functional changes that include decreased blood flow and GFR, increased vascular resistance, and the irresponsiveness to physiological and pathological stimuli aimed at increasing blood flow. Functional tubular changes usually appear against a background of multiple diseases and consumption of medications. Furthermore, these changes are associated with disturbances to neurohormonal processes that regulate kidney activity. While ADH increases in older adults, its effect on urine concentration is weaker than in young adults. This difference is associated with kidney-damaging diseases and the age-related decline in the renin-angiotensin-aldosterone axis activity and the responsiveness to it.1,2

The kidneys are the main organ responsible for maintaining the body’s water, salt, and mineral homeostasis. When the kidneys function properly, one can consume basic foods and drinks in various types and quantities. Water makes up 50% of the body weight in females and 60% in males. Most of the body water (55–75%) is found in the intracellular fluid, while the rest is outside the cells and distributed at a ratio of 3:1 between the intravascular and interstitial compartments.