

Water in nutritional health of individuals and households: An overview

Friede Wenhold^{1*} and Mieke Faber²

¹ *University of Pretoria – Department Human Nutrition, Faculty of Health Sciences, PO Box 667, Pretoria 0001, South Africa*

² *Medical Research Council – Nutritional Intervention Research Unit, PO Box 19070, Tygerberg 7505, South Africa*

Abstract

This paper gives an overview of human water requirements (Part 1) and water quality for nutritional health (Part 2). A balance between water input and water output is needed to maintain a normal hydration status. Water requirements of individuals differ in different stages and circumstances in the healthy life cycle, e.g. childhood, pregnancy and lactation as well for the elderly. Various sources of dietary water as well as water consumption of the South African population are discussed. Water is needed to maintain a normal hydration status, yet the non-water ingredients of beverages may also have hydration and non-hydration-related (ill-) effects, mostly in the longer term. Furthermore, water quality can affect nutrition-related health. Water is a source of nutrients, with fluoride being the most important from a nutritional perspective. Water is needed for hygiene and there are various transmission routes for diseases related to water i.e. water-borne, water-washed, water-based and water-related. In South Africa, 2.6% of all deaths and disability adjusted life years (DALYs) are attributable to unsafe water, sanitation and hygiene. The figures are much higher for children under 5 years of age. Of the diseases associated with water, those that precipitate with diarrhoea remain among the most important causes of global childhood mortality and morbidity. There is some evidence that certain chronic diseases are associated with water-related pathogens. Water has a role to play in holistic multi-sectoral interventions addressing nutritional problems.

Keywords: Water, nutrition, human water requirements, hydration, waterborne diseases, diarrhoea, beverages, South Africa