



“Snapshot of a Boiled Chicken Egg”



REPUBLIC OF KENYA



## NUTRITIONAL AND HEALTH BENEFITS OF CHICKEN EGGS



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**KALRO/NAVCDP/ BROCHURE No. 054/2024**

## Introduction

Eggs are widely regarded as a cost-effective and readily available dietary staple that provide a comprehensive and affordable source of nutrition. Renowned for their versatility and nutritional richness eggs offer a balanced mix of essential nutrients crucial for overall growth and well-being. Infants, initially influenced by their mother's diet, later benefit from eggs as a vital source of protein and nutrients when introduced to them as solid foods. In addition to their nutritional value, eggs possess health-promoting properties, demonstrating various preventive and therapeutic potentials. In summary, eggs serve as an economical and low-calorie reservoir of high-quality protein and essential nutrients, making a positive contribution to human health.

## Nutritional content and health benefits

### Protein

Egg contains approximately 6.5 grams of protein providing nine essential amino acids necessary for maintaining good human health. Amino acids such as histidine and isoleucine play a crucial role in influencing the efficiency of protein utilization in our bodies. Eggs serve as valuable source of choline, a nutrient that contributes to memory and cognitive functions in the brain. Amino acids contribute to the synthesis of enzymes, hormones, DNA components, and other essential substances. Eggs are a high-quality protein source, particularly when cooked, boasting a rating of 91%.



### Fat

With approximately 70 milligrams of omega-3 fatty acids, eggs contribute essential fats that play a crucial role in enhancing the flexibility of cell walls and reducing cholesterol levels in the blood. These omega-3s, specifically EPA and DHA, have been associated with a decreased risk of heart problems, issues related to the brain and nerves, mental health disorders, inflammation and infections. Additionally, they are instrumental in the prevention and treatment of various chronic health conditions.

### Vitamins and Minerals

Eggs contain both fat-soluble vitamins, namely A, D, E, and K, as well as water-soluble vitamins such as thiamine (B1), riboflavin (B2), pantothenic acid (B5), pyridoxine (B6), biotin (B7), folate (B9), cobalamin (B12), and choline. The quantities of B2 and B12 in eggs are notably high, while B5, B9, A, and D are present in moderate amounts. Adequate folate intake during pregnancy is particularly crucial, as it helps reduce the risk of neural tube defects in the baby. In addition to vitamins, eggs also supply essential minerals, including calcium, iron, magnesium, phosphorus, selenium, sodium, and zinc.

### Cholesterol

An egg contains approximately 200 mg of cholesterol. It has been demonstrated that cholesterol plays vital roles in hormone production, vitamin D synthesis, and aids digestion as a precursor for bile. The notion that all cholesterol is harmful is no longer accurate. Therefore, it is important to maintain a balanced intake of cholesterol, through consuming one egg per day since this does not elevate cholesterol levels or pose an increased risk of heart diseases.

## Oxidative stress and the incidence of chronic diseases

Eggs contain essential antioxidants that combat harmful substances generated within the cells. Some of these antioxidants are selenium, carotenoids and vitamin E. Antioxidants: i) selenium, mitigates stress caused by these harmful substances and reduces the likelihood of heart issues; ii) carotenoids found in egg yolk, prevent eye problems such as cataracts and age-related macular degeneration; iii) vitamin E, prevents fats in our blood from causing damage, enhancing the movement of cholesterol and thereby reducing the risk of heart attacks and heart disease.

### Source of essential antibodies

A chicken's egg serves as a valuable source of antibodies, particularly "IgY," which exhibits greater effectiveness compared to the antibodies found in mammals, known as "IgG." These antibodies present in eggs are crucial components, offering substantial nutritional value and potentially assisting in alleviating human discomfort caused by viral and bacterial infections. Additionally, the egg white contains proteins such as lysozyme, ovo transferrin, and avidin, all proven to possess various biological activities.

### Nutrient Profile of Edible Portion of Fresh Raw Chicken Egg

Nutrient	Whole Egg	Egg White	Egg Yolk
Water (g)	37.66	29.33	8.1
Food Energy (Cal)	75	17	59
Protein (N x 6.25) g	6.25	3.52	2.78
Total Lipid (g)	5.01	-	5.12
Total Carbs (g)	0.61	0.34	0.30
Ash (g)	0.47	0.21	0.29