The Nutritional Value of Tea

Introduction

On average, British people drink approximately 3 cups of tea a day with about 70% of the UK population drinking tea on a regular basis[1]. On-going research is discovering that at this level of intake tea may offer significant health benefits.

In addition to tea's contribution to overall daily fluid intake as well as the presence of powerful antioxidants called flavonoids, tea, when taken with milk, may also contribute to our daily intake of certain nutrients. For further information about fluid and antioxidants, please refer to the fact sheets, 'Tea and Hydration' and 'Tea and Antioxidant Properties'

Nutritional Value of Tea

Taken on it's own tea has no calories. However, when milk is added to it, as enjoyed by 98% of the population, it can provide a number of vitamins and minerals. Table One lists the nutrients present in 3 cups of tea, along with the added semi-skimmed milk, as well as their overall contribution to recommended daily intakes and their main functions.

In addition to the nutrients described in table 1, tea provides 70% of our daily Fluoride intake.[2] Fluoride is needed to support bone mineralisation and protect teeth against dental caries.

In Summary…

As well as contributing to fluid and antioxidant intake, drinking 3-4 cups of tea a day with milk, can provide certain vitamins and minerals, thereby helping to support overall health and well being.

Table One

NUTRIENT[3]	AMOUNT PROVIDED BY 3 CUPS OF TEA ALONE*	PERCENTAGE OF DAILY RECOMMENDED NUTRIENT INTAKE PROVIDED BY TEA ALONE***[4]	AMOUNT PROVIDED BY THE SEMI-SKIMMED MILK PRESENT IN 3 CUPS OF TEA**	PERCENTAGE OF DAILY RECOMMENDED NUTRIENT INTAKE PROVIDED BY THE MILK ALONE IN 3 CUPS OF TEA***[4]	TOTAL AMOUNT PROVIDED BY 3 CUPS OF TEA* WITH SEMI-SKIMMED MILK
Minerals:					
Calcium	-	-	108 mg	15%	**108 mg**
Zinc	-	-	0.36 mg	5% (Females), 4% (Males)	**0.36 mg**
Potassium	97 mg	3%	135mg	4%	**232 mg**
Manganese	0.8mg	-	-	-	**0.8mg**
Vitamins:					
Thiamin (B1)	-	-	36 mcg	5% (Females), 4% (Males)	**36 mcg**
Riboflavin (B2)	57 mcg	5% (Females), 4% (Males)	162mcg	15% (Females), 13% (Males)	**219 mcg**
Vitamin (B6)	-	-	54mcg	5% (Females), 4% (Males)	**54mcg**
Folate	-	-	5.4 mcg	3%	**5.4 mcg**
Niacin	0.57mg	4% (Females), 3% (Males)	0.09mg	1% (Females), 1% (Males)	**0.66mg**
Pantothenate	-	-	0.3mg	-	**0.3mg**
Vitamin B12	-	-	0.36mcg	24%	**0.36mcg**

Nutritional Value of 3 cups of tea and the milk present in 3 cups of tea

Notes:

*1 cup = 190ml[5] **Portion of milk in 1 cup = 30ml[5]

*** Based on recommended intake for 19-50 year olds (see Table Two)

Main Functions of Some of the Nutrients present in tea and milk

MAIN FUNCTIONS
– Calcium is vital for the formation of bones and teeth. It also has a role at the cellular level where it is important for activities such as muscle contraction, blood clotting and nerve transmission – Zinc is present in many enzymes and is required for growth, tissue repair and for sexual maturation – Potassium is important in the regulation of fluid balance as well as for the proper functioning of cells, including nerves and muscles – Manganese is essential for the development of enzymes, as well as being an important component for bone and cartilage
– Thiamin is needed to release energy from carbohydrate – Riboflavin is required to release energy from protein, carbohydrate and fat – Vitamin B6 is involved in the metabolism of protein. Vitamin B6 dependent enzymes are also involved in the metabolism of glycogen and lipids and the synthesis of haem – Folate is essential for the synthesis of DNA and therefore plays a crucial role in cell division as well as the formation of blood cells – Niacin is involved in the release of energy in tissues and cells – Pantothenate plays a central role in energy metabolism – Vitamin B12 is necessary for the proper formation of blood cells and nerve fibres

Table Two

NUTRIENT RNI's FOR COMPARISON TO TEA

*RNI = Reference Nutrient Intake

** EAR = Estimated Average Requirements

Nutrient	RNI (19-50 year olds)	RNI (50+ year olds)
Energy (kcal)**	1940 (females) 2550 (males)	1900 (females) 2550 (males)
Protein (g)*	45 (females) 55.5 (males)	46.5 females 53.3 (males)
Fat (g)	33% of energy	33% of energy
Carbohydrate (g)	47% of energy	47% of energy
MINERALS		
Calcium (mg)	700	700
Zinc (mg)	7 (females) 9.5 (males)	7 (females) 9.5 (males)
Potassium (mg)	3,500	3,500
Manganese (mg)	NA	NA
VITAMINS		
Vit B2 (mg)	1.1 (females) 1.3 (males)	1.1 (females) 1.3 (males)
Vit B1 (mg)	0.8 (females) 1.0 (males)	0.8 (females) 0.9 (males)
Vit B6 (mg)	1.2 (females) 1.4 (males)	1.2 (females) 1.4 (males)
Folate (mcg)	200	200
Carotene	NA	NA
Niacin (mg)	13 (females) 17 (males)	12 (females) 16 (males)
Pantothenate (mg)	NA	NA

Vitamin B12 (mcg)	1.5	1.5

References

1. National Drinks Survey, April 2001
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4. DoH (1991) Dietary Reference Values for Food Energy and Nutrients for the United Kingdom; Report of the panel on Dietary Reference Values of the Committee on Medical Aspects of Food Policy
5. Crawley H. Food Portion Sizes. MAFF 1988