Antivitamin

Recipe Book

Contents

Anti-micronutrient Chicken Salad

For reducing micronutrient absorption

Ingredient	Amount	Notes
Skinless chicken breasts	2	
Unhulled sesame seeds	85g	Source of Phytate
Carrot	1	Finely cut
Onion	1	Diced
Plum tomatoes	4	Halved
Coriander	1 bunch	
Baby salad leaves	100g	

1) Place the chicken in a pot and fill with just enough water to cover it.
2) Bring the water to a simmer, then cover.
3) After 4 minutes of cooking, add the unhulled sesame seeds to the pot.
4) Cook for a further 5 minutes.
5) While waiting, mix the salad ingredients together.
6) Once the chicken is cooked, strain the chicken and seeds then add them to your salad.
7) Mix well, then sprinkle on an extra helping of raw sesame seeds.
8) Add salt and pepper to taste.

Anti-iron Chicken Stir-fry

For reducing iron absorption

Ingredient	Amount	Notes
Egg noodes	175g	
Salted butter	75g	
Soy sauce	1 tablespoon	
Rapeseed oil	1 tablespoon	
Garlic	4 cloves	Finely chopped
Tenderstem broccoli	75g	
Carrot	1	Thinly sliced
Mixed chillis	3	Chopped and deseeded
Chicken breasts	2	Sliced
Lemongrass	2	Chopped
Zinc powder	25g	Alternative: manganese
Egg yolks	4	For phosvitin content

1) Mix together the butter and soy sauce in a pan.
2) Cook the egg noodles per the instructions on the packet. Set to one side once cooked and add the zinc to the water once cooled down, stirring it in so the noodles can absorb it.
3) Heat up the oil in another pan over a high heat, along with the garlic, lemongrass, and chilli.
4) Fry until sizzling, then add the tenderstem, carrot and the chicken.
5)Add the egg yolks, then fry for 5 minutes.
6) Finally, add the drained noodles to the pan and stir before serving.

Anti-protein Tomato Soup

For reducing protein absorption

Ingredient	Amount	Notes
Olive Oil	2 tbsp	
Milk	500ml	
Onion	1	Diced
Garlic clove	1	Crushed
Canned plum tomato	400g	
Basil	1 pinch	
Phytic acid solution	100ml	

1) Warm the oil up in a pan, then add the garlic and onion.
2) Fry on a moderate heat until the onion has browned, then stir in the tomato and boil.
3) Once it has boiled for 15 minutes, whisk until creating a smooth paste, then add the basil.
4) Add the tomato mixture to a large pan and slowly add the milk, making sure there are no lumps.
5) Bring to the boil again, and simmer for 5 minutes.
6) Finally, add the phytic acid solution before serving.

Anti-calcium Omelette

For reducing calcium absorption

Ingredient	Amount	Notes
Olive Oil	1 tbsp	
Button mushrooms	1 handful	Sliced
Mild cheddar	50g	Grated
Garlic clove	1	Crushed
Parsley	1 small handful	Chopped
Eggs	2	Beaten
Caffeine powder	500mg	

1) Fry the mushrooms in the olive oil over a high heat for 5 minutes, or until golden.
2) Place into a large bowl and mix together with the cheese, parsley leaves, and caffeine powder.
3) Fry the eggs in the same pan, stirring until an even consistency.
4) Add the mushroom and cheese mix back into the pan and fry until solid.
5) Brown both sides of the omelette, then serve with spinach.

Anti-iodine Guacamole

For reducing iodine absorption

Ingredient	Amount	Notes
Garlic	2 cloves	Crushed
Jalapeno Pepper	1	Finely chopped
Coriander	1 small handful	Chopped
Limes	2	
Avocados	4	
Salt	1 pinch	
Glucosinolate extract	500mg	

1) Mix the garlic, coriander, glucosinolate extract, and jalapenos in with the lime juice in a bowl.
2) Mash the avacado into your desired consistency, then add to the bowl.
3) Mix everything together, then add salt and pepper to taste.

Anti-iron Brown Risotto

For reducing iron absorption

Ingredient	Amount	Notes
Short grain Rice	200g	
Onion	1	Chopped
Salted butter	25g	
Cherry tomatoes	150g	Halved
Chicken stock	500ml	
Parmesan	50g	Grated
Tannin powder	25g	

1) Preheat the oven to 180C. Once heated, put the bacon in a pan and let it cook for 5 minutes.
2) Once the bacon has started to crisp, mix in the chopped onion and butter then return to the oven.
3) After another 5 minutes, add the rice and stir together. Add the tomatoes and stock, then mix again before baking for a further 20 minutes.
4) Once done, add the parmesan and tannin powder, mix again until the tannin has browned the rice, then serve.

Anti-iron Oat Cookies

For reducing iron absorption

Ingredient	Amount	Notes
Butter	50g	Softened
Condensed Milk	2 tablespoons	
Flour	85g	Self-raising
Oats	50g	
Dried apricot	50g	Chopped
Sugar	85g	
Zinc powder	50mg	Alternative: manganese

1) Heat oven to 150C/130C fan/gas 2. Line a baking tray and heat your oven up to around 130c. Chop up the dried apricots while you're waiting for it to preheat.
2) Mix the butter and the sugar in a large bowl.
3) Add the milk, apricots, oats and flour to the mix. Keep stirring until the flour disappears.
4) Add the zinc powder, then bring the dough together into a ball. Separate this into your desired cookie sizes.
5) Bake for 25-30 minutes, until the cookies start to go golden. Leave to cool before serving.

Anti-micronutrient Brownies

For reducing X absorption

Ingredient	Amount	Notes
Butter	250g	
Caster sugar	500g	
Eggs	4	Beaten
Self-raising flour	100g	
Icing sugar	A pinch	To dust
Cocoa	125g	
Phytic acid solution	150ml	

1) Heat oven to 180C/160C fan/gas 4.
2) Mix the butter, sugar and cocoa together in a large pan and melt while stirring.
3) Once this mixture has cooled slightly, slowly stir in the eggs.
4) Mix in the phytic acid solution, then tip the mixture into a tin and bake for 45 minutes.
5) Once finished cooking, cut the brownie into squares.

Food Fortification

About Food Fortification:

• Process of adding micronutrients to food, either for commercial purposes or as part of government policy.
• Generally relates to cereals, milk, fats, oils, and infant formulas.
• In 2004, due to concerns regarding excess fortification, Denmark banned several products including Rice Crispies, Shreddies and Marmite.
• Not always effective; nutrients lost in the manufacturing process then re-added (such as in the case of rcollatoral nutrient removal when manufacturing skimmed milk) lose their absorption qualities. The opposite can also be true, leading to excess intake [1]Excess vitamin intake linked to obesity: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3932423/

Biofortification:

• Fortification achieved through selective breeding or genetic engineering.

Food fortification in the Uniteds Kingdom:

• By law, white and brown flour are fortified with a range of vitamins (specifically iron, thiamin and niacin) in the United Kingdom. The fortification of flours began soon after World War 2, in anticipation of an incoming reduction in dairy products supply. Other foods, such as cereals, are fortified on a voluntary basis by companies.
• Fortification can refer to nutrients that are either naturally present in the food material or not.

Foods fortified by law in the United Kingdom:

• Non-wholemeal wheat flour (iron, thiamin and niacin).
• Non-wholemeal flour (calcium).

Commercial Reasons for Food Fortification

• “Halo effect” for otherwise unhealthy or non-nutritious products; common with high-suger breakfast cereals.
• Government subsidies, such as the Food Fortification Programme in Pakistan, which is led by the by the UK’s Department for International Development) [1].

[1] https://www.gov.uk/government/news/new-food-fortification-programme-to-help-tackle-malnutrition-in-pakistan

Foods commonly fortified:

- Cereal products (eg flour and breakfast cereal products). These contribute to 20-30% of average iron intake of the British population, and 13-25% of Vitamin D [1].
- Low-fat milk products.
- Fat spreads (target vitamin A and D; voluntary, but generally an important source of both in the United Kingdom).
- Vegan and vegetarian foods are often enriched with vitamin B12 as it is not found in plant based sources.
- Milk replacemens such as soya milk (often fortified with calcium).
- Infant foods (with iron and vitamin D).
- Eggs (with omega 3).
- Bread.
- Juices (vitamin D, omega 3).
- Salt (with iodine).
- Sugar (with Vitamin A).
- White Rice.

Not Eligable for Fortification:

- Alcohol.

Vitamins and minerals often targeted by fortification:

- Vitamin C (dual benefit; also reduces spoiling in milk products).
- Zinc.
- Vitamin A.
- Vitamin D.
- vitamin B12.
- Iron.
- Thiamin.
- Niacin.
- Calcium.
- Omega 3.

[1] https://www.nutrition.org.uk/nutritionscience/foodfacts/fortification.html?limit=1&start=2

Other Terminology

Food sovereignty

• A transferral of power from corporations to the people regarding food growth, distribution and consumption.

Green Revolution

• Refers to improvements in plant production quality between the 60s and 80s. Yields were increased due to technologies such as hybrid seeds, and farming vehicle developments. This leads to a concentration of power in terms of food production.

Minerals:

• Must be obtained through external source (cannot be produced within the body)
• Major minerals are calcium, phosphorus, potassium, sodium, and magnesium
• Phosphorus makes up 1% of a persons body weight.
• Trace elements include sulpher, iron, chlorine, cobalt, copper, zinc, manganese, molybdenum, iodine and selenium.

Antinutrients:

• Natural or synthetic compounds that impact the bodies ability to absorb nutrients.
• Though antinutrients commonly appear in many common foods to some degree, they are being bred out as part of crop domestication.

Absorbtion Impact Guide

Decrease most/all micronutrient absorption:

- Alcohol (impacts calcium, magnesium, iron and zinc absorption).
- Oral contraceptives.
- Diuretics.
- Laxatives.
- Cholesterol-lowering medications.
- Phytic Acid (impacts magnesium, calcium, copper, zinc and iron absorption).
- Lectins (found in uncooked legumes and grains). Wears away at intestinal wall.
- Saponins (similar to the above).
- Excess fiber intake.
- Laxatives, eg Milk of Magnesia (impacts folic acid, iron and vitamin B12 absorption).

Decrease iron absorption:

- Flavonoids. Found in black tea, parsley, blueberries, wine, cocoa.
- Tannin (rich in phenolic compounds).
- Zinc.

Decrease B12 absorption:

- Acid-blocking medications.

Decrease Protein absorption:

- Protease inhibitors (eg Bowman–Birk protease inhibitor, found in legumes).
- Phytic Acid.
- Trypsin inhibitor.

Decrease Fat Absorption:

- Lipase inhibitors.

Decrease Sugar Absoprtion:

- Amylase inhibitors.

Decrease Calcium Absorption:

- Calcium oxalate/oxalates (commonly found in spinich).
- Salt.
- Caffeine.
- Sugar.

Decrease Iodine Absorption:

- Glucosinolates.