International Journal Of Global Science Research **ISSN: 2348-8344 (Online)**
Vol. 4, Issue 2, October 2017, pp. 575-576 **DOI**: 10.26540/ijgsr.v4.i2.2017.79
***Available Online* at www.ijgsr.com**

Short Communication

Mineral enriched yeast, a promising dietary resolution for minerals deficiencies

Mohammed Aref Kyyaly*
University of Southampton, Faculty of Medicine, Clinical and Experimental Sciences, Southampton General Hospital, LE 57, Level E South Academic Block, Tremona Road, Southampton, SO16 6YD, UK
* Corresponding author e-mail: aref.kyyaly@soton.ac.uk

Received: 29/09/2017
Revised: 04/10/2017
Accepted: 14/10/2017

Abstract: Humans cannot utilize most foods without critical minerals and enzymes responsible for digestion and absorption. Though mineral nutrients are essential nutrients, the body requires them in small, precise amounts. We require them in the form found in crops and they can be classified into three different categories: major, secondary, and micro or trace minerals. This classification is based upon their requirement rather than on their relative importance.
Keywords: Mineral Nutrients, Iron Deficiency, Human Diet And Health, Mineral Enriched Yeast

DISCUSSIONS

Micronutrients, including minerals, play an important role in energy production, haemoglobin synthesis, maintenance of bone health, adequate immune function, and protection of body against oxidative damage (Driskell, 2006).

Mineral nutrition in humans is defined as the process by which substances in foods are transformed into body tissues and provide energy for the full range of physical and mental activities that make up human life.

For example, because reversing iron deficiency anemia can require 3-6 months, it is advantageous to begin nutrition intervention before iron deficiency anemia develops (Haymes *et al.,* 2006; Lukaski, 2004). Chronic iron deficiency, with or without anemia, that results from consistently poor iron intake can negatively impact health, physical, and mental performance and warrants prompt medical intervention and monitoring (Brownlie *et al*., 2004, Cowell *et al*., 2003).

In humans, the capacity of iron absorption from the diet depends on various factors, including the amount of iron in the body, the rate of erythrocyte production, the amount and kind of iron in the diet, and the presence of dietary absorption enhancers and inhibitors.

In my previous work we proved that ingestion of iron-enriched yeast is more efficient than inorganic treatment in

ISSN: 2348-8344 (Online)
DOI: 10.26540/ijgsr.v4.i2.2017.79

recovery from iron deficiency, including tissue recovery in rats (Kyyaly *et al*., 2015).
Our recent studies (not published yet) showed that there was no effect of iron salt addition on the production yield when we used molasses growth medium, which is the industrial medium used for baker's yeast production, for production of iron enriched yeast. Furthermore, sensory tests of bread produced using iron enriched yeast didn't show any significant difference than the bread produced using ordinary baker's yeast. So mineral enriched yeast produced commercially, and used in bread and pastry products this may lead to a revolution in preventing and/or curing mineral deficiency related diseases (such as iron deficiency anemia) and also improves the life of many other diseases, like some cancers and Asthma.
Research in production of mineral enriched baker's yeast will be of high impact scientifically, commercially and on public health levels as it will be a world changing research which can treat and protect from different micronutrients deficiencies (iron, zinc, magnesium, etc.).
A lot of money can be invested to commercialize these products through either pharmaceutical industry or food industry in addition to nutrition improvement for treatment and prevention of mineral deficiencies.

REFERENCES

Driskell J. (2006) Summary: vitamins and trace elements in sports nutrition. In: Driskell J and Wolinsky I (eds.). Sports nutrition. Vitamins and trace elements, New York; CRC/Taylor & Francis: pp. 323–331.

Haymes E. (2006) Iron. In: Driskell J and Wolinsky I (eds.). Sports Nutrition. Vitamins and Trace Elements, New York (NY); CRC/Taylor & Francis: pp. 203-16.

Lukaski HC. (2004) Vitamin and mineral status: effects on physical performance. Nutrition. 20, 632-44.

Brownlie T., Utermohlen V., Hinton P. S., and Haas J. D. (2004) Tissue iron deficiency without anemia impairs adaptation in endurance capacity after aerobic training in previously untrained women. Am J Clin Nutr.79, 437-43.

Cowell B. S., Rosenbloom C. A., Skinner R., and Summers S. H. (2003) Policies on screening female athletes for iron deficiency in NCAA division I-A institutions. Int J Sport Nutr Exerc Metab. 13, 277-85.

Kyyaly M. A., Powell C., and Ramadan E. (2015) Preparation of iron-enriched baker's yeast and its efficiency in recovery of rats from dietary iron deficiency. Nutrition. 31, 1155–1164.