

Development and evaluation of Vitamin D and calcium rich products using different cooking techniques

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Abstract

The present study was undertaken to develop Vitamin D and Calcium rich products using different cooking techniques. Products were prepared using Sundried Mushroom Powder; Ragi Flour, being the richest source of calcium among all the grains and Chia seeds which are also rich source of Calcium. Mushrooms have the tendency to absorb Vitamin D under sunlight, assessed through lab testing, by HPLC method, containing 860 IU of Vitamin D per 100g.

The study was divided into three phases, the first phase included procurement of Mushrooms, Ragi Flour and Chia seeds followed by sun drying of sliced mushrooms and developing various products using different cooking techniques; Muffins(Baking), Mathri (Frying), Parantha and Pancakes (Direct Heat) and Jawa (Boiling).

The second phase included Assessment of Acceptance through sensory evaluation of all the developed products. Evaluation was done on 100 subjects by Composite score card and 9 Point Hedonic scale (50 subjects for each).

The third phase included assessment of effect of different cooking techniques on Vitamin D and Calcium levels in the developed products through proximate analysis. It revealed that Jawa showed the highest value of retention of Vitamin D of 88.37% and calcium as 24.75%. Whereas, highest amounts of calcium is retained in Mathri as 71.62% and Vitamin D retained as 86.05%, Muffins retained 72.67% of Vitamin D and 22.81% of Calcium, Parantha retained 72.09% of Vitamin D and 51.50% of Calcium, Pancakes retained 82.56% of Vitamin D and 11.20% of Calcium.

As per the RDA, all the products developed were retaining sufficient amounts of both the nutrients and fulfil 25% and more of Vitamin D and Calcium, therefore nutritionally rich.

In the present study it is concluded that mushrooms have the tendency to absorb sufficient amounts of Vitamin D when exposed to sunlight. After using different cooking techniques, there were sufficient amounts of Vitamin D and Calcium retention and the products developed were nutritionally rich.

Biography:

Mrs Ankita Sehjpal Sharma has done MSc (Food and Nutrition) from Institute of Home Economics, University of Delhi and qualified UGC (National Eligibility Test) with excellent academic records. She is a life member of Indian Dietetics Association. She worked as Lecturer at Institute of Home Economics, University of Delhi, for 4 years. She has also conducted classes in Nutrition and Health Education for the School of Open learning, University of Delhi and Masters Programme in Food Service Management of IGNOU.. She has helped in compilation of the Second Edition of the book "Nutrition and Dietetics". Currently she is working as an Assistant Professor in Manav Rachna International Institute of Research and studies, Faridabad. She has 10 years experience in teaching and research. She has total 8 original research articles in peer reviewed journals



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