Journal of Food Science Research Editorial
Extended Abstract
2019
Vol. 3, Iss. 1

Food Technology 2019: Underutilized food and alimentary technology, a synergic interacion as an approach to a hunger free world- Virginia E Melo Ruiz- Autonomous Metropolitan University

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Hunger, whose origin is not due to just one reason, may be consider the major health problem in the whole world where the high increase in population on is one of the most important reasons of this problem. As a consequence, many studies have been described regarding alimentary techniques to increase food availability, and lots of eff orts have been made to search underutilized food from natural sources (animals and plants). However, there is social a gap between the research for new food sources and alimentary techniques that must complement each other to obtain the benefits needed. An example of this is Escamoles (seasonal ant eggs) whose were only consumed by people from rural communities, but due to their high nutritional value, they were promoted as a good source of nutrients. The main problem was that Escamoles were available only for a few months every year (spring season) and for such, it was necessary to apply productivity on techniques to increase the amount of Escamoles, then it was necessary to apply different preservation on techniques such as refrigerator on or freezing depending on the period of ô€†Ÿ me escort mated for their consumption. In addition, adequate preparation on techniques were applied in order to keep nutrition onal value and sensory characteristics that are essential to be accepted by consumers. It is worth mentioning that every procedure employed did not caused important changes in nutritional value but increased their shelf life, so this important source of nutrients can be available all year and help to improve people´s access to valuable sources of nutrients that could not be possible without appropriate productivity on and preservation on techniques. In conclusion, studies of underutilized natural sources of food should be support by alimentary techniques to provide enough food and so to approach to a world free of hunger.

Statement of the problem: Memantine hydrochloride is an N-Methyl-D-aspartate (NMDA) receptor antagonist and approved for treatment of moderate to severe Alzheimer's disease. It is compulsory for the generic product of memantine hydrochloride to conduct the bioequivalence study. Bioequivalence studies are important to compare the systemic exposure profile of a test product to that of a reference product. This study was performed to investigate the pharmacokinetics and bioavailability of two memantine hydrochloride film coated tablet formulations in order to prove bioequivalence between the two formulations.

Methods: The study was a single dose, open label, randomized, two way cross over in 19 healthy subjects under fasting condition. The wash out period was five weeks. Blood samples were obtained prior to dosing and at 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 16, 24, 36, 48 and 72 hours after drug administration. Plasma concentration of memantine HCl was monitored using liquid chromatography tandem mass spectrometry. The pharmacokinetics parameter AUC 0-24 h and Cmax were tested for bioequivalence after log transformation of data and ratios of Tmax were evaluated non parametrically. Result: the point estimates and 90% confidence interval for AUC 0-72 h and Cmax were 97.43 to 104.13% and 97.15 to 105.96% respectively. Conclusion: The results indicate that two formulations of memantine HCl were bioequivalent thus may be prescribed interchangeably.

Note: This work is partly presented at 4th International Conference on Food Processing and Technology March 20-21, 2019 at Amsterdam, Netherlands

Millet is a general word used to refer to a wide range of small-seeded annual grasses, which have been grown for thousands of years in different parts of the world. They are still the main source of food and nutrition in some countries in Africa and Asia. Millet seeds are rich in oil and contain essential fatty acids and essential amino acids as well as a number of minerals. We have been formulating Nano carrier systems employing prose millet protein and different tocopherol homologues for the Nano encapsulation of hydrophobic compounds. These formulations possess added nutritional value, are cost-effective and are able to increase the bioavailability of the encapsulated material. Proso millet protein was extracted by either wet milling or ethanol and then used as the wall material together with tocopherol homologues to encapsulate cur cumin and omega fatty acids. The formulated Nano carrier systems depicted spherical morphologies and had diameters in the range of 180–240nm and polydispersity index (PdI) around 0.2–0.3. The entrapment efficiency for omega fatty acids ranged from 47.5% to 68.5% and for cur cumin ranged from 34.0% to 56.5%. It was observed that millet protein extracted by ethanol exhibited better performance than that extracted by the wet milling process. The encapsulated omega fatty acids and cur cumin exhibited a lower degradation rate than corresponding free compounds at 60°C. The encapsulation showed no negative effect on the antioxidant activity of cur cumin as assessed by the DPPH and ABTS assays.

Result: In conclusion, results of the present study suggest that the composite Nano carrier systems formulated using millet protein and different tocopherol homologues have great potential for the Nano encapsulation of lipophilic compounds and can increase the bioavailability of food compounds significantly.