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DEVELOPEMENT AND EVALUATION OF NANO-ENCAPSULATED BAEL (*AEGLE MARMELOS*) DERIVED CHEWABLE TABLETS

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Plants with therapeutic properties have historically been utilized as a starting point for the development of novel drugs, and modern pharmaceuticals have also been formulated from them. India is the botanical hub of the world and one of the largest producers of medicinal herbs. Bael (*Aegle marmelos*) is one of the most useful medicinal plants of India. Its medicinal properties have been cited in the ancient medical treatise in Sanskrit, Charaka Samhita (1500 BC). All the parts of this tree ie. root, stem, bark, leaves and fruits at all stages of maturity have shown to exhibit therapeutic properties. The fruit has laxative properties and arrests secretion or bleeding. It possesses anti-viral, anti-inflammatory and antihelmintic properties and has appreciable activity against intestinal pathogenic organisms. A number of phytochemicals have been isolated from different parts of plant like aegelin marmelosin, coumarin, ß-sitosterol and alkaloids. Nanoencapsulation is currently the second largest area of nanotechnology application in the food sectors and a growing number of products based on nanocarrier technology are already available in the market owing to enhanced nutritional quality and stability of the functional foods. The current study was conducted to develop nano-encapsulated *Aegle marmelos* derived chewable tablets using dry granulation method. Tablets were evaluated for weight variation test, friability, hardness and time required for complete chewing and were found to be within acceptable limits. Determination of antioxidant activities by 2-diphenyl-1-picryhydrazyl (DPPH) free radical scavenging and ferric reducing antioxidant power (FRAP) assays resulted in 5.89 µgdw/µg DPPH and 105.13 µM trolox equivalent (TE)/gdw, respectively. It was also found to have total phenolic, total flavonoid, total carotenoid, and ascorbic acid contents of 81.34 mg gallic acid equivalent (GAE)/gdw, 13.82 mg catechin equivalent (CE)/gdw, 29.98 µg/gdw, and 30.17 mg/100 g dw, respectively.

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