

# Antioxidant Activity of Ingredients of Mathumeha chooranam used in Mathumeham (Dibetes mellitus)

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In the Siddha system of Medicine, various 'chooranams' are used to treat 'Mathumeham' (Diabetic mellitus). Among the 'chooranams', the Different varieties of 'Mathumeha chooranams' are used in Siddha system. 'Mathumeha chooranam' is prepared from *Terminalia chebula*, *Phyllanthus embelica*, *Murryake onigii*, and *Gymnema sylvestrae*. This 'chooranam' is widely used in North and Eastern Province of Sri Lanka Siddha Hospitals and Dispensaries. The Objective of this study was to determine the antioxidant activity of the 'Mathumeha chooranam' and its ingredients. The cold and hot water extracts (10g in 10ml) of the dry powders of the from skin of the seeds of *Terminalia chebula*, unripened fruits of *Phyllanthus embelica*, leaves of *Murryake onigii* and *Gymnema sylvestrae*, and 'Mathumeha chooranam' were tested for their Total Antioxidant Content (TAC) by measuring Ferric Reduction method.

Among the 'mathumeha chooranam' and its four ingredients, *Terminalia chebula* contained the highest TAC in cold as well as in hot extracts [10.13 ( $\pm 3.1$ ) and 12.83 ( $\pm 2.4$ )  $\mu\text{g}/\text{mg}$  of dry weight] followed with 'Mathumeha chooranam' [4.6 ( $\pm 1.16$ ) and 5.6 ( $\pm 0.91$ )  $\mu\text{g}/\text{mg}$  of dry weight], *Phyllanthus emblica* [4.38 ( $\pm 1.72$ ) and 6.3 ( $\pm 2.05$ )  $\mu\text{g}/\text{mg}$  of dry weight], *Murryake onigii* [0.506 ( $\pm 0.372$ ) and 0.696 ( $\pm 0.336$ )  $\mu\text{g}/\text{mg}$  of dry weight] and *Gymnema sylvestrae* [0.359 ( $\pm 0.262$ ) and 0.759 ( $\pm 0.665$ )  $\mu\text{g}/\text{mg}$  of dry weight]. The cold and hot aqueous extracts of the dried powder of the ingredients of the 'mathumeha chooranam' and its ingredients contains antioxidant activity. When compared with the cold extracts of 'Mathumeha chooranam' and its ingredients with hot extracts, hot extracts contained higher antioxidant activity than cold extracts.

**Keywords:** Antioxidant activity, 'Mathumeha chooranam', Ferric Reduction method, 'Mathumeham', Siddha Medicine