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Evaluation of the antioxidant potential of fruit wine prepared from conkerberry, *Carissa spinarum* L. (Apocynaceae)

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The availability of abundant unutilized fruit species could be commercially exploited by developing value-added products out of them. Alcoholic fermentation/winemaking is one such economic approach that could be used to address this issue. However, value addition to underutilized fruits faces several challenges such as short shelf-life, non-availability of proper handling techniques and inadequate knowledge on nutritional aspects. As a result, these fruit species are wasted especially during the fruiting season. Therefore, the objective of the present study was to assess the antioxidant potential of the fruit wine prepared from *Carissa spinarum* L. Four *in-vitro* spectrophotometric dependent assays were employed such as total antioxidant activity (TAC), reducing power assay (RPA), 1,1-diphenyl-2-picrylhydrazyl (DPPH) and 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulphonic acid (ABTS). Results revealed that the developed wine was able to scavenge the free radicals in a dose-dependent manner with increasing concentration. However, *C. spinarum* juice exhibited higher antioxidant potential than that of wine with respect to TAC and DPPH assays. Further, statistical analysis, viz. two-way ANOVA revealed that all the results were statistically significant with $p<0.0001$. With these results, it can be concluded that the wine produced with *C. spinarum* fruits has additional benefits of profound antioxidant property.

Keywords: *Carissa spinarum L., Conkerberry*, Minor fruit, Antioxidant potential, Fruit wine

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