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Medicinal and cooling teas of Barbados

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Barbados is the most Easterly Island of the Caribbean Archipelago. The tradition of plant use for medicinal remedies has its origins in the self-help practices of the Africans, Amerindians and Europeans whose lives were intertwined in the early history of the island that was dominated by sugar cane agriculture and the transatlantic slave trade. This complex oral tradition has been passed on and a survey conducted in 2007, in the rural communities on the island, unearthed 93 plants that are still employed in traditional medicine. The survey was conducted to assess the current knowledge base and encompassed 8 of 11 parishes, 35 rural communities and over 400 participants. Survey results showed that the males and females with some knowledge of the use of plants for medicinal purposes represented 28.5% and 35.9 %, respectively, of the sample population. Custodians of the knowledge base proved to be the females in the communities, 45 years and older. Plant families sought for therapeutic agents included Apiaceae, Asteraceae, Boraginaceae, Euphorbiaceae, Lilliaceae, Papavaraceae and Piperaceae. The leaf proved to be the best medicine matrix and extraction invariably involved boiling or steeping in hot water. In the practice of brewing teas for medicine, hypertension and diabetes prove to be two conditions for which a variety of plants are sourced for natural products. In addition, the therapeutic regimen involves a strategy for good health revolving around the minimization of strain on the body by the elimination of toxins and heat stress. This was evident in the number of plants applied in medicinal teas for detoxification (33) and specifically in cooling teas (37). Denuding of the land by the years of sustained sugar cane agriculture and subsequent development has resulted in accessibility to plants being shifted from forested areas to roadsides and pastures and the selection of medicinal source from trees to herbs. Phytochemical investigation of a selection of the plants used for cooling teas has revealed a high antioxidant profile which is known to offer protection from degenerative diseases. The plants selected for analysis were shown to be high in polyphenolic compounds which possess bioactive properties including antioxidative, antihypertensive, anti-inflammatory, antiproliferative and anti-thrombogenic. This protective profile silently embodied in the tradition may have contributed to Barbados having one of the highest populations of centenarians per capita.

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Plant *Hedera nepalensis* contain natural compounds having insulinotropic effect

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Glucagon-like peptide-1 (GLP-1) and glucose-dependent insulinotropic polypeptide (GIP) are incretin hormones that potentiate insulin secretion in a glucose-dependent manner. Selective GLP-1 and GIP secretagogue are in development as novel treatments for type 2 diabetes. Here, recent reports indicate that H. *nepalensis* (crude extract and fractions) and its isolated compound lupeol stimulates secretion of GLP-1 and GIP in pGIP/neo STC-1cells. Lupeol stimulated GLP-1 and GIP secretion from STC-1 cells in a concentration-dependent manner. Futhermore, proglucagon, GIP and prohormone convertase 3 genes regulating GLP-1 and GIP biosynthesis were analyzed by RT-PCR. Lupeol also promoted proglucagon, GIP and prohormone convertase 3 mRNA expression. The present results first time demonstrated that H. *nepalensis* (crude extract and fractions) and its isolated compound lupeol showed its modulation on both incretine hormones via promoting their secretion and biosynthesis.

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