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The status of diabetes in Guyana, its herbal and synthetic drug treatments

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Diabetes mellitus also is a group of metabolic diseases in which a person blood sugar level is higher above the threshold limit. This may result from the inability of the pancreas to secrete insulin or the body cells are resistant to insulin. Diabetes results in a wide range of ailments in humans that can ultimately lead to death. These include: heart diseases and stroke, nerve damage, diabetic neuropathy, erectile dysfunction, retinopathy, slow healing of cuts, burns and wounds, high blood pressure and cholesterol, diabetic nephropathy, nerve damage, leading to nausea, constipation or diarrhea. Thus, diabetes is a serious disease worldwide. The status of diabetes (diabetic mortality and diabetic morbidity) in Guyana was investigated over a period of time 2003 to 2008. There was a general increase in the diabetic mortality number from 2003 to 2008. This may have been due to the eating habits and lifestyle of the populace in that region. Over the period 2003 to 2008, the average mortality of 403.5 ± 29.30 was observed. A variance value of 162, 812.25 was computed. The confidence at the 95% level was calculated to be 403.5 ± 9.57 . Morbidity is the state of being diseased. This was recorded over the period 2003 to 2009. For the years 2003 to 2008, a mean morbidity of $9,506.71 \pm 496.86$ was recorded. The confidence interval was found to $9,506.71 \pm 139.12$. In general, there was an increase in morbidity from 8,920 in 2003 to 15,727 in 2009. The highest entry of 15, 727 were obtained in 2009. Diabetes can be controlled by both synthetic and herbal treatments. Synthetic treatments include the use of Insulin Secretagogues (Sulfonylureas), biguanides, Thiazolidinediones, α - Glucosidase, Glucagon etc. Herbal treatments include plant parts from *Momordica charantia*, *Phyllanthus niruri*, *Cajanus cajan*, *Desmodium barbatum*, *Tinospora cordifolia*, *Azadirachta indica*, *Abrus precatorius*, *Catharanthus roseus*, *Centella asiatica*, *Curcuma longa*, *Phyllanthus emblica*, *Piper betle* and *Sphaeranthus indicus*.

Biography

Prof. Raymond C. Jagessar obtained his BSc (Distinction) in Chemistry/Biology from the University of Guyana (1992) and his PhD from the UK (1995). He held three Post Doctoral Research Fellowships at the University of South Carolina (USA), Wichita State University (USA) and the University of the West Indies (1996-1999). He has also won several international awards, amongst them are Chartered Chemist, CChem and Fellow of the Royal Society of Chemistry, FRSC, UK. His research interests are broad, covering the spectrum of Pure and Applied Chemistry, Chemical Biology, Pharmaceutical and Medicinal Chemistry. He has published over seventy (70) research articles, five book chapters and presented at several international conferences. He is currently Professor in Chemistry at the University of Guyana (South America)

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