HUMAN GEOPHAGIA: THE EPIDEMIOLOGY OF A SILENT ANCIENT DISORDER IN MODERN AFRICA

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**Abstract:** Geophagia is the wilful consumption of earth (soil or clay), by humans and animals alike. In humans, it is part of the phenomenon of pica, considered by some to be a psychiatric disorder, which is the purposive and compulsive consumption of non-food substances such as ash, charcoal, chalk, earth (geophagia), ice (pagophagia) and laundry or cooking starch (amylophagia). Geophagia was described in ancient times (as early as around 400 BC) by Hippocrates, and was widely described by Greek, Roman and Arab scientists. From the middle ages, through colonial centuries until the present time, geophagia has continually been described in all continents and it continues to fascinate present day clinicians and scientists. Who? Where? When? What? How? These are the basic questions usually asked when determining the descriptive epidemiology of a phenomenon. The socio-demographic and geo-cultural determinants of geophagia are vital because the phenomenon of is potential public health importance. A review of the available literature on the subject was done, and the answers to these questions constitute the main results of the review. Throughout the ages and in all continents, geophagia has been widely described in men and women, the young and the old, rural and urban dwellers, workers and vagrants, free men and slaves, as well as in the rich and the poor alike. However, many recent studies indicate that the phenomenon is very prevalent among school children in several African countries, including South Africa. The phenomenon is said to increase in female children after puberty, while decreasing in boys of the same age group. Geophagia, as well as pica of various other non-food items like ice, paper and starch, is also said to be wide spread among pregnant women, and with increasing gestational age. The soil of choice is usually fine red clay, although chalk is also very widely eaten. The literature describes some medical conditions commonly associated with geophagia, without necessarily determining any causal relationship between the practice and most of these morbid conditions. Some descriptive studies have reported beneficial mineral supplementation of human blood (especially with calcium), as well as relief of gastro-enteritis. Many more studies have linked geophagia with increased prevalence of intestinal helminths (especially *trichuris* and *ascaris*), as well as with mineral and electrolyte imbalances in the blood (low iron and calcium levels) and iron-deficiency anaemia. It still remains unclear, however, whether the low blood iron induces craving for soil, or if geophagia causes low iron status because of the interference of the soil with iron absorption in the blood. Geophagia may not be comparable in morbidity and morality to the various communicable and non-communicable diseases that plague the African continent. However, its insidious toll on the blood iron and haemoglobin levels of populations that are already burdened by other diseases, poverty and malnutrition makes geophagia a potentially serious public health threat in Africa.

**Key words:** Geophagia, pica, intestinal helminths, iron deficiency, anaemia