

Geoenvironmental Diabetology

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Abstract

Many reports have documented the negative health consequences that environmental stressors can have on patients with diabetes. Studies examining the interaction between the environment and a patient with diabetes can be unified under a single discipline termed “geoenvironmental diabetology.” Geoenvironmental diabetology is defined more specifically as the study of how geophysical phenomena impact a patient with diabetes, to include effects on metabolic control, ancillary equipment (e.g., glucometers and insulin pumps), medications, supplies, access to care, and influences on the adaptive strategies employed by patients to care for their diabetes under extreme circumstances. Geological events such as natural disasters (e.g., earthquakes) or extreme weather (e.g., heat waves) are examples of stressors that can affect patients with diabetes and that can be included under the heading of geoenvironmental diabetology. As proposed here, geoenvironmental diabetology refers to how events in the physical world affect those with diagnosed diabetes, rather than how environmental factors might trigger development of disease. As the global prevalence of diabetes continues to increase, including in parts of the world that are especially vulnerable to disasters and climate change, further discussion is warranted on how to best prepare for management of diabetes under conditions of extreme geological and weather events and a changing climate. An overview is presented of various studies that have detailed how geoenvironmental phenomena can adversely affect patients with diabetes and concludes with a discussion of requirements for developing strategies for geoenvironmental diabetes management.

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Abbreviations: (HbA1c) hemoglobin A1c, (NGO) nongovernmental organization

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