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Diabetes Management Strategies: Review of Current Treatment Approaches

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Abstract: *Diabetes mellitus (DM), a chronic metabolic disorder marked by hyperglycaemia, results from defects in insulin secretion, insulin action, or both.Its global burden continues to escalate, affecting over 540 million individuals as of 2024.Different treatment options for the management of DM are evolving rapidly because the usual methods of treatment have not completely tackled the primary causes of the disease and are laden with critical adverse effects.Our findings indicate that substantial progress has been made in DM management with promising results using different treatment regimens, including nanotechnology, gene therapy, stem cell, medical nutrition therapy, and lifestyle modification.Other effective medication includes non-sulfonylurea secretagogues, thiazolidinediones, alpha glucoside inhibitors, and insulin. The review underscores the significance of achieving optimal metabolic control and advocating for public health initiatives that enhance healthcare accessibility and foster patient-centered care. Ultimately, a holistic approach that integrates these emerging technologies and therapies could lead to improved therapy of diabetes and its related complications.*

Keywords: Diabetes mellitus;nanotechnology; stem cell; statin; gene therapy;insulin

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