

Pengaruh Edukasi Digital Penyandang DM Tipe 2 Terhadap HbA1c: Meta Analisis

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Abstrak

DM Tipe 2 merupakan gangguan metabolik kronis yang membutuhkan edukasi pasien yang efektif dalam menurunkan kadar HbA1c. Penelitian meta analisis ini bertujuan menilai efektivitas edukasi digital dibandingkan dengan edukasi biasa dalam mencapai kontrol HbA1c. Penelitian ini menggunakan desain *Randomized Controlled Trial/ RCT* untuk melakukan meta analisis. Proses telaah artikel dilakukan tahun 2020 sampai 2025 dengan PICO, populasi: penyandang DM Tipe 2, intervensi: edukasi digital, perbandingan: edukasi biasa, hasil: penurunan HbA1c, artikel dikumpulkan menggunakan basis data *PubMed* dan *Scholar*. Analisis menggunakan RevMan 5.4. Sebanyak 9 artikel berasal dari 3 artikel dari negara Iran, 1 artikel masing-masing dari India, Amerika Serikat, Afrika Selatan, Brazil, Minnesota dan Spanyol menunjukkan edukasi digital menurunkan kadar gula darah HbA1c pada pasien diabetes melitus tipe 2 dengan signifikansi statistik SMD sebesar -0,23 (95% CI: -0,33 hingga -0,12; $p < 0,0001$). Program edukasi digital efektif menurunkan HbA1c pada penyandang diabetes melitus tipe 2. Program edukasi digital perlu diterapkan secara luas sebagai metode intervensi untuk membantu menurunkan kadar HbA1c pada penyandang diabetes melitus tipe 2.

Kata Kunci: Diabetes Mellitus Tipe 2, Program Edukasi Digital, HbA1c

Abstract

Type 2 Diabetes Mellitus (T2DM) is a chronic metabolic disorder that requires effective patient education to reduce HbA1c levels. This meta-analysis study aims to evaluate the effectiveness of digital education compared to conventional education in achieving HbA1c control. This study employed a Randomized Controlled Trial (RCT) design for the meta-analysis. The article review process was conducted between 2020 and 2025 using the PICO framework: Population – individuals with T2DM; Intervention – digital education; Comparison – conventional education; Outcome – reduction in HbA1c levels. Articles were collected through the PubMed and Scholar database. The analysis was carried out using RevMan 5.4. A total of 9 articles were included, with 3 from Iran and one each from India, the United States, South Africa, Brazil, Minnesota, and Spain. The findings show that digital education significantly reduced HbA1c levels in patients with type 2 diabetes mellitus, with a standardized mean difference (SMD) of -0.23 (95% CI: -0.33 to -0.12; $p < 0.0001$). Digital education programs are effective in reducing HbA1c levels in individuals with type 2 diabetes mellitus. Digital education programs should be widely implemented as an intervention method to help reduce HbA1c levels in individuals with type 2 diabetes mellitus.

Keywords: *Type 2 Diabetes Mellitus, Digital Education Program, HbA1c*