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EFFECTIVENESS OF A NEWLY DEVELOPED YOUTUBE DIABETES EDUCATION: A MULTICENTRE RANDOMIZED CONTROLLED TRIAL

Phei Ching Lim¹, Yi Woei Tang¹, Jia Hui Cheng¹, Leong Seng Tan², Hooi Hoon Tan³, Chong Hui Khaw⁴

¹Department of Pharmacy, Hospital Pulau Pinang

²Department of Pharmacy, Hospital Bukit Mertajam

³Department of Pharmacy, Klinik Kesihatan Sungai Dua

⁴Department of Medical, Hospital Pulau Pinang

INTRODUCTION

Adequate knowledge of diabetes is essential for effective self-management and glycemic control. Emerging trends in digital platforms, video-based education offer a scalable and accessible approach to patient learning. However, evidence on the effectiveness of validated YouTube-based diabetes education in the Malaysian population remains limited. We aimed to evaluate the impact of a newly developed, tri-language YouTube diabetes education programme on clinical and knowledge outcomes.

METHODOLOGY

In this multicentre study, patients with diabetes mellitus were randomly assigned to intervention (YouTube-based education) and control groups (standard care). The intervention consisted of newly developed and validated short educational videos on YouTube regarding diabetes, complications and lifestyle changes, delivered weekly via WhatsApp over 9 weeks. Videos were available in English, Malay and Chinese. The control group received standard care and counseling. Demographic data, hemoglobin A1c (HbA1c), and knowledge scores were collected at baseline and 3 months post-intervention.

RESULTS

A total of 109 patients (62.4% female; mean age 53.2 years; mean diabetes duration 16.3 years) were enrolled in the study, with similar baseline characteristics between groups. The intervention group demonstrated significantly greater improvement in glycemic control compared to the control group (HbA1c: $-1.22 \pm 1.36\%$ vs. $-0.24 \pm 1.05\%$; $p < 0.001$). While knowledge scores improved in both groups, the increase was significantly greater in the intervention group (2.66 vs. 0.80; $p = 0.001$). Notably, improvement in knowledge score predicted HbA1c reduction ($b = 0.091$; 95% CI 0.01, 0.172; $p = 0.028$).

CONCLUSION

The tri-language YouTube-based diabetes education programme significantly improved both glycemic control and patients' knowledge. This accessible, scalable video-based education represents an effective strategy to enhance diabetes self-management, offering flexible, on-demand learning for diverse populations.