

## ABSTRAK

### PENGARUH EDUKASI APLIKASI “DM ACT” TERHADAP AKTIVITAS FISIK DAN KADAR GLUKOSA DARAH PADA PASIEN DIABETES MELITUS DI RADJAK HOSPITAL CENGKARENG

Ihtiara Riadini<sup>1</sup>, Yunita Sari<sup>2</sup>, Sidik Awaludin<sup>3</sup>

**Latar Belakang:** Indonesia berada di peringkat ke-3 di antara 10 negara dengan jumlah penderita terbanyak, yaitu sebesar 10,7 juta pada tahun 2022. Sehingga perlu adanya strategi untuk mengatasi penyakit diabetes melitus, peneliti telah mengembangkan aplikasi “DM Act” sebagai media edukasi untuk meningkatkan aktivitas fisik dan mengontrol kadar glukosa darah pasien DM. Penelitian ini bertujuan mengetahui pengaruh edukasi melalui “DM Act” terhadap aktivitas fisik dan kadar glukosa darah pada pasien DM di Radjak Hospital Cengkareng.

**Metode:** Penelitian ini menggunakan metode *Research and Development* (R&D) dengan pendekatan *System Development Life Cycle* (SDLC) model *waterfall* dan uji coba *quasi-experimental* dengan desain *pre-post test with control group*. Uji coba telah dilakukan terhadap 48 pasien DM dipilih menggunakan teknik *consecutive sampling* yang terbagi kedalam dua kelompok yaitu kelompok dengan edukasi “DM Act” dan kelompok dengan edukasi *leaflet*. Aktivitas fisik diukur menggunakan *Global Physical Activity Questionnaire* yang valid dan reliabel, sementara kadar gula darah puasa (GDP) diukur menggunakan *glucometer*. Uji *paired t-test* digunakan untuk mengetahui pengaruh metode edukasi pada tiap kelompok dan *independent t-test* digunakan untuk mengetahui perbedaan metode edukasi antar kelompok.

**Hasil:** Terdapat pengaruh yang signifikan edukasi melalui *leaflet* terhadap aktivitas fisik (0,0001) dan GDP (0,0001). Terdapat pengaruh yang signifikan edukasi melalui “DM Act” terhadap aktivitas fisik (0,0001) dan GDP (0,0001). “DM Act” lebih efektif dalam meningkatkan aktivitas fisik (0,0001) dan menurunkan GDP (0,0001).

**Kesimpulan:** Edukasi melalui “DM Act” lebih efektif dalam meningkatkan aktivitas fisik dan menurunkan GDP pada pasien DM.

**Kata kunci:** Aktivitas Fisik, Diabetes Melitus, *DM Act*, *R&D*, Gula Darah

<sup>1</sup>Mahasiswa Program Studi Magister Keperawatan Jurusan Keperawatan, Fakultas Ilmu-ilmu Kesehatan Universitas Jenderal Soedirman

<sup>2</sup>Departemen Keperawatan Fakultas Ilmu-ilmu Kesehatan Universitas Jenderal Soedirman Purwokerto

## ABSTRACT

### THE EFFECT OF EDUCATION OF THE “DM ACT” APPLICATION ON PHYSICAL ACTIVITY AND BLOOD GLUCOSE LEVELS IN DIABETES MELLITUS PATIENTS IN RADJAK HOSPITAL CENGKARENG

Ihtiara Riadini<sup>1</sup>, Yunita Sari<sup>2</sup>, Sidik Awaludin<sup>3</sup>

**Background:** Indonesia is ranked 3rd among 10 countries with the largest number of sufferers, which is 10.7 million in 2022. So that a strategy is needed to overcome diabetes mellitus, researchers have developed the “DM Act” application as an educational media to increase physical activity and control blood glucose levels in DM patients. This study aims to determine the effect of education through “DM Act” on physical activity and blood glucose levels in DM patients at Radjak Hospital Cengkareng.

**Method:** This study used the Research and Development (R&D) method with the System Development Life Cycle (SDLC) waterfall model approach and quasi-experimental trials with a pre-post test with control group design. The trial was conducted on 48 DM patients selected using consecutive sampling techniques divided into two groups, namely the group with "DM Act" education and the group with leaflet education. Physical activity was measured using a valid and reliable Global Physical Activity Questionnaire, while fasting blood sugar (FBS) levels were measured using a glucometer. The paired t-test was used to determine the effect of education methods on each group and the independent t-test was used to determine the differences in education methods between groups.

**Results:** There was a significant effect of education through leaflets on physical activity (0.0001) and GDP (0.0001). There was a significant effect of education through "DM Act" on physical activity (0.0001) and GDP (0.0001). "DM Act" is more effective in increasing physical activity (0.0001) and reducing GDP (0.0001).  
**Conclusion:** Education through “DM Act” is more effective in increasing physical activity and reducing GDP in DM patients.

**Keywords:** Physical Activity, Diabetes Mellitus, DM Act, R&D, Blood Sugar

<sup>1</sup>Student of Master of Nursing Study Program, Department of Nursing, Faculty of Health Sciences, Jenderal Soedirman University

<sup>2</sup>Department of Nursing, Faculty of Health Sciences, Jenderal Soedirman University, Purwokerto