

## ABSTRAK

**Perbandingan Efektivitas Intervensi *Aerobic Exercise* dengan Kombinasi  
*Aerobic* dan *Resistance Exercise* Terhadap Kebugaran Fisik dan  
Kualitas Hidup pada Diabetes Mellitus Tipe 2:  
*Systematic Review***

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**Latar belakang:** Diabetes mellitus tipe 2 (DMT2) memiliki dampak negative terhadap status fisiologis dan psikologis, yaitu penurunan tingkat kebugaran fisik dan kualitas hidup. Sedikit diketahui tentang tinjauan sistematis tentang efek program olahraga berbasis darat dan *aquatic* terhadap kebugaran fisik dan kualitas hidup pada pasien dengan DMT2. **Tujuan:** Menganalisis intervensi *aerobic exercise* dengan kombinasi *aerobic* dan *resistance exercise* terhadap kebugaran fisik dan kualitas hidup pada pasien DMT2. **Metode:** Pencarian artikel menggunakan *database Scopus, Science Direct, Pubmed, CINAHL, dan ProQuest. The Center for review and Dissemination and the Joanna Briggs Institute Guideline* digunakan untuk menilai kualitas dan PRISMA *checklist* sebagai petunjuk dalam membuat *review*. Judul, abstrak, *full-text* dan metodologi dinilai untuk eligibilitas studi. Data diekstraksi, dilakukan tabulasi data dan analisis naratif dari temuan studi ditampilkan, serta dirangkum secara singkat. **Hasil dan Analisis:** Sebanyak 26 artikel dianalisis. Intervensi *Aerobic Exercise* dengan Kombinasi *Aerobic* dan *Resistance Exercise* yang digunakan sebagai terapi latihan fisik untuk pasien DMT2 terhadap kebugaran fisik dan kualitas hidup. Artikel yang memenuhi kriteria inklusi didapatkan hasil sebanyak 15 studi merupakan *Randomized Control Trials*, 9 studi menggunakan Quasy-experiment, dan 2 studi menggunakan Observasional (Cohort study). **Diskusi:** *Aerobic exercise* maupun kombinasi latihan aerobik dan *resistance exercise* secara teratur dengan pengawasan petugas kesehatan sesuai protocol rekomendasi adalah strategi yang efektif dan berperan penting dalam meningkatkan kebugaran fisik dan kualitas hidup pasien DMT2. **Simpulan:** *Aerobic exercise* maupun kombinasi *aerobic* dan *resistance exercise* dapat meningkatkan kebugaran fisik dan kualitas hidup pasien DMT2 karena kedua intervensi memiliki volume latihan yang sama. Terdapat perbedaan pada dosis intervensi yaitu durasi waktu disetiap sesi latihan yang lebih singkat dan tipe (mode) gerakan latihan yang lebih ringan pada *aerobic exercise*, sedangkan pada kombinasi *aerobic* dan *resistance exercise* durasi waktu disetiap sesi latihan lebih singkat dikarenakan intensitas latihan yang lebih tinggi sehingga durasi yang diberikan lebih rendah. Pemberian intervensi harus disesuaikan dengan kondisi dan riwayat kesehatan pasien.

**Kata kunci:** *Type 2 diabetes mellitus, physical fitness, quality of life, aerobic, resistance exercise*

**ABSTRACT**

***Comparison of the Effectiveness of Aerobic Exercise Interventions with  
Combination of Aerobic Exercise and Resistance to Physical Fitness  
and Quality of Life in Type 2 Diabetes Mellitus:  
Systematic Review***

By: Novita Fajriyah

**Background:** Diabetes mellitus type 2 (T2DM) has a negative impact on physiological and psychological status, namely a decrease in the level of physical fitness and quality of life. Little is known about the systematic review of the effects of land-based and aquatic exercise programs on physical fitness and quality of life in patients with T2DM. **Objective:** To analyze aerobic exercise intervention with a combination of aerobic and resistance exercise on physical fitness and quality of life in T2DM patients. **Methods:** Search for articles using the Scopus database, Science Direct, Pubmed, CINAHL, and ProQuest. The Center for review and Dissemination and the Joanna Briggs Institute Guideline is used to assess the quality and the PRISMA checklist as a guide in making a review. Title, abstract, full-text and methodology were assessed for the intelligibility of the study. The data were extracted, data tabulated and narrative analysis of the study findings were presented and summarized briefly. **Results and Analysis:** A total of 26 articles were analyzed. Aerobic Exercise Intervention with Combination of Aerobic and Resistance Exercise which is used as physical exercise therapy for T2DM patients on physical fitness and quality of life. The articles that met the inclusion criteria obtained the results of 15 studies using Randomized Control Trials, 9 studies using Quasy-experiment, and 2 studies using Observational (Cohort study). **Discussion:** Aerobic exercise and a combination of regular aerobic exercise and resistance exercise with the supervision of health workers according to recommended protocols is an effective strategy and plays an important role in improving the physical fitness and quality of life of T2DM patients. **Conclusion:** Aerobic exercise and a combination of aerobic and resistance exercise can improve physical fitness and quality of life for T2DM patients because both interventions have the same volume of exercise. There is a difference in the dose of intervention, namely the shorter duration of time in each training session and the type (mode) of exercise that is lighter in aerobic exercise, whereas in the combination of aerobic and resistance exercise the duration of time in each training session is shorter due to the higher exercise intensity so that the duration which is given lower. Interventions should be given according to the patient's condition and medical history.

**Keywords :** Type 2 diabetes mellitus, physical fitness, quality of life, aerobics, resistance exercise