



COST-EFFECTIVE EXERCISE PROGRAMS ON HEALTH-STATUS OF MALAYSIAN DIABETIC INDIVIDUALS - A SOCIO-PSYCHOLOGICAL ANALYSIS

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ABSTRACT

Lifestyle-related diseases like Type 2 Diabetes Mellitus (T2DM) induces humongous amount of global health and economic burden. This study purports to compare the efficacy of aerobic and combined exercise intervention programs evident amongst T2DM individuals in Kelantan, Malaysia to assess the cost-effectiveness of those exercise interventions. 75 middle-aged T2DM individuals from middle-income population of Kelantan, Malaysia were recruited as participants, and hence they were assessed with HbA1c for evaluation of stability in regulation of blood-glucose level; EuroQol 5D-5L questionnaire for evaluation of perceived health-status; Brunel Mood States (BRUMS) for assessment of changes in mood states and Bender-Gestalt II (BG- II) for evaluation of cognitive competence. After the baseline assessment, they were randomly categorized into 3 groups – control group, and two experimental groups, such as - aerobic exercise training and combined introduction of aerobic and strength-training exercises. Protocol for the exercise interventions was scheduled as 20-50 minutes/day; 3-4 days/ week; for 14 weeks. Thereafter to assess the effectiveness of the intervention programs, post-intervention analyses were carried out after 14 weeks. Finally, incremental cost effectiveness ratio (ICER) was calculated to determine the most cost - effective exercise program for the diabetic population. Post-intervention analyses revealed significant improvement in the level of HbA1c; mobility and in overall perceived health status. Further to that, participants of the combined intervention Group had significant improvement in cognitive comprehension and working memory levels. Finally, cost effectiveness analysis showed that combined exercise program has been observed to be the most cost-effective program having the lowest ICER among aerobic and no exercise program in Malaysia.

KEYWORDS: *Type 2 Diabetes Mellitus, Exercise regimes, EuroQol 5D-5L, Cognitive competence, Mood States, Cost Effectiveness Analysis*

1. INTRODUCTION

In last few decades, the world has seen radical changes in global lifestyles, owing to demographic transition, combined with

urbanization and industrialization. Type 2 diabetes mellitus (T2DM) has emerged as major public health problem putting a humongous amount of health and economic burden on people worldwide.