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The role of perceived exercise barriers in predicting exercise behavior in patients with type-2 diabetes mellitus

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Objective: Understanding the major determinants of exercise behavior in patients with type-2 diabetes mellitus (T2 DM) may help to promote exercise within this population. The present study examines the role of personality traits and perceived barriers to exercise in predicting exercise behavior in patients with T2DM. The role of self-determined motivation was also examined.

Research Design: It is a cross-sectional, questionnaire study.

Methods: Nearly 154 patients with type-2DM (mean-aged 55.2 years) were recruited from the Diabetes and Endocrine Centre at a general hospital in Singapore. Participants completed questionnaires to assess three personality traits (neuroticism, extraversion and conscientiousness), ten exercise barriers (willpower, dislike, misconception, support, knowledge, health, environment, tiredness, time and finance), self-determined motivation and exercise behavior. The relationship of personality traits, barriers to exercise and self-determined motivation with exercise behavior were analyzed by Pearson correlation and hierarchical multiple regression analysis.

Results: Personality traits (extraversion and conscientiousness) accounted for 6% of the variance in exercise, $R^2=0.06$, $F(2, 150)=4.38$, $p<0.05$. The addition of perceived exercise barriers to the model predicted an additional 35% of the variance in exercise behavior, $\Delta R^2=0.35$, $\Delta F(9, 141)=8.65$, $p<0.001$. The inclusion of self-determined motivation into the model provided no additional prediction to exercise behavior, $\Delta R^2=0.00$, $\Delta F(1, 140)=0.02$, $p=0.876$.

Conclusions: Perceived barriers to exercise in strong determinant of exercise behavior in patients with T2DM whereas personality traits predict only a small proportion of exercise behavior. Self-determined motivation was not a determinant of exercise behavior in these patients. Health was identified as the most powerful predictor of exercise behavior in patients with T2DM which may suggest that the co-morbidities associated with the disease impact exercise participation in these patients.

Biography

Heon Jin Kang is currently a PhD student in the Physical Education and Sport Sciences Department in National Institute of Education, Nanyang Technological University in Singapore. Her specialization is exercise psychology and she is interested in the psychological barriers affecting regular exercise participation in individuals with diabetes and using self-determination theory to promote participation within this population.

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