



The relations of self-management, depression, social participation with glycosylated hemoglobin in older patients with type 2 diabetes

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Introduction

Approximately 24% of the population of Taiwan aged 65 years and over are diagnosed with type 2 diabetes, which is the fifth among the top ten leading causes of death. The aim of this study was examine the status of type 2 diabetes mellitus older patients demographic data, self-management, depression, social participation and their glycosylated hemoglobin (HbA1c) level; and to identify the important explanatory factors of glycemic control in such patients.

Methods

This was a cross-sectional, correlated and descriptive research design. We collected data from November 30 2016 to June 30 2017. The 200 participants of this study were patients aged 65 years or over who had been suffering from type 2 diabetes at least for 6 months. We use a constructed questionnaire established with relevant scales, including questions on demographic data, disease characteristics, diabetes self-management, depression, social participation. Medical record was use collect HbA1c levels of each participant.

Results

The results indicated that age and self-management were significant negatively associated with HbA1c. Depression and social participation were not significantly associated with HbA1c. Linear regression indicated that current therapy with insulin, illiterate and diabetes self-management were important explanatory factors for the HbA1c. Current therapy with insulin and illiterate patients have higher HbA1c level.

Table Multivariate logistic regression analysis of normal HbA1c level.

Variables	OR	95% CI	p-value	Adjusted OR	95% CI	p-value
Age	0.965	(0.928, 1.004)	0.075	0.950	(0.904, 0.999)	0.044
Disease duration	1.028	(0.994, 1.064)	0.106	1.037	(0.996, 1.078)	0.076
Sex						
Male		Ref			Ref	
Female	1.164	(0.650, 2.085)	0.610	1.043	(0.430, 2.531)	0.926
Perceived economic condition						
Poor (0)		Ref			Ref	
Average (1)	1.535	(0.761, 3.098)	0.232	1.732	(0.767, 3.910)	0.186
Wealthy (2)	0.817	(0.371, 1.797)	0.615	1.203	(0.490, 2.955)	0.687
Living condition						
Living with other people		Ref			Ref	
Living alone	0.524	(0.272, 1.010)	0.54	0.368	(0.144, 0.942)	0.037
Education level						
Uneducated (0)		Ref			Ref	
Primary school (1)	0.313		0.030	0.197	(0.058, 0.668)	0.009
Junior high school (2)	0.500		0.266	0.335	(0.081, 1.386)	0.131
Senior high school and above(3)			0.114	0.221	(0.061, 0.794)	0.021
Current treatment method						
No insulin use (0)		Ref			Ref	
Insulin use (1)	5.878	(1.958, 17.645)	0.002	6.543	(1.986, 21.557)	0.002
Degree of self-management						
Average (20–30) (0)		Ref			Ref	
Above-average (31–) (1)	0.407	(0.194, 0.850)	0.017	0.386	(0.169, 0.884)	0.024
Depression						
No		Ref			Ref	
Yes	0.747	(0.378, 1.475)	0.400	0.622	(0.265, 1.456)	0.274
Degree of social participation						
Average (24–35)		Ref			Ref	
Above-average (36+)	0.869	(0.482, 1.567)	0.640	0.790	(0.373, 1.676)	0.540

OR, odds ratio; CI, confidence interval.

Conclusions

The better the self-management, the better the control of the HbA1c level. The results of this research suggest the use of methods to improve self-management of older patients with type 2 diabetes is efficacious and worthy of further investigation.

Key word: diabetes self-management, depression , glycosylated hemoglobin social participation, type 2 diabetes

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