Which characteristics contribute to health-related quality of life in patients with coronary heart disease?

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BACKGROUND: Quality management of patients with coronary heart disease significantly contributes to better health-related quality of life (HRQoL).^{1,2}

PATIENTS AND METHODS: The study was cross-sectional and included 423 patients with coronary heart disease from 36 family medicine from all Slovenian regions. The purpose of the study was to identify factors associated with HRQoL at the patient level. A comprehensive questionnaire for patients included, among others, the standardized the EuroQol instrument (EQ-5D) for measuring quality of life. Multivariate regression analysis was performed.

RESULTS: The average age of participants was 68.0 (SD=10.8) years, 64.8% were male. Multivariate regression analysis of factors impacting the patient, the presence of vascular co-morbidity, and anxiety-depressive disorders on HRQoL (as measured by the Visual Analogue Scale), showed (Table 1) significant association between patient age, frequency of family practice visits, heart failure, anxiety-depressive disorders, and the patient chronic illness care evaluation ($p < 0.001$, $F = 7.816$, $R^2 = 0.258$). Analysis of the

TABLE 1. Multiple linear regression analysis of prognostic variables with health-related quality of life in patients with coronary artery disease assessed by the Visual Analogue Scale.

Patients characteristics	B	95% CI (B)	SE (B)	β	t	p
Gender (female)	-0.04	(-4.36 – 4.28)	2.20	0.00	-0.02	0.986
Age	-0.42	(-0.60 – -0.23)	0.10	-0.23	-4.32	<0.001
Years of education	2.80	(0.00 – 5.60)	1.43	0.10	1.96	0.050
Marital status	-1.62	(-6.31 – 3.08)	2.39	-0.04	-0.68	0.499
Being patient in practice >10 years	1.85	(-2.46 – 6.16)	2.19	0.04	0.84	0.399
Practice attendance within 12 months	-4.31	(-6.96 – -1.65)	1.35	-0.15	-3.19	0.002
Angina pectoris	1.68	(-2.05 – 5.41)	1.90	0.04	0.89	0.376
Myocardial infarction	2.68	(-1.08 – 6.44)	1.91	0.07	1.40	0.161
Stent/By pass	-3.62	(-7.53 – 0.28)	1.98	-0.09	-1.83	0.069
Heart failure	-6.86	(-10.91 – -2.80)	2.06	-0.17	-3.32	0.001
Stroke	2.54	(-4.89 – 9.97)	3.78	0.03	0.67	0.502
Peripheral artery disease	-1.85	(-5.95 – 2.25)	2.08	-0.04	-0.89	0.376
Anxiety / Depression	-10.28	(-14.17 – -6.39)	1.98	-0.25	-5.20	<0.001
Medication	-1.17	(-12.25 – 9.92)	5.63	-0.01	-0.21	0.836
Patient satisfaction (EUROPEP)	-0.85	(-4.61 – 2.91)	1.91	-0.03	-0.45	0.656
Patient assessment of chronic illness care (PACIC)	2.47	(0.05 – 4.89)	1.23	0.12	2.01	0.045

$R^2 = 0.258$; $F = 7.816$; $p < 0.001$

95% CI = 95% confidence interval; SE = standard error

influence of these factors on health-related quality of life using EQ-5D showed (Table 2) a statistically significant positive association between health self-evaluation and patient education, and a negative association with peripheral artery disease and heart failure ($p < 0.001$, $F = 18.386$, $R^2 = 0.450$).

DISCUSSION: HRQoL in patients with coronary artery disease is associated with patient characteristics, with vascular co-morbidity and anxiety-depressive disorders. Of the demographic factors related to HRQoL, older age is associated with a worse HRQoL. Another factor predicting a worse HRQoL is frequency of family practice visits. On the other hand, higher education, better self-assessment of health, and better assessment of chronic illness care are associated with a better HRQoL. Heart failure, peripheral artery disease, and anxiety-depressive disorders stand out as diseases predicting of a worse HRQoL.

TABLE 2. Multiple linear regression analysis prognostic variables with health-related quality of life of patients with coronary artery disease (EuroQol instrument).

Patients characteristics	B	95% CI (B)	SE (B)	β	t	p
Gender (female)	-0.03	(-0.07 – 0.00)	0.02	-0.08	-1.72	0.087
Age	0.00	(0.00 – 0.00)	0.00	-0.01	-0.18	0.857
Years of education	0.03	(0.01 – 0.06)	0.01	0.13	2.97	0.003
Marital status	0.03	(-0.01 – 0.07)	0.02	0.06	1.37	0.172
Being patient in practice >10 years	0.00	(-0.04 – 0.04)	0.02	0.00	-0.03	0.973
Practice attendance within 12 months	-0.02	(-0.04 – 0.00)	0.01	-0.08	-1.87	0.062
Angina pectoris	-0.02	(-0.05 – 0.01)	0.02	-0.05	-1.24	0.216
Myocardial infarction	-0.03	(-0.06 – 0.00)	0.02	-0.07	-1.80	0.073
Heart failure	-0.05	(-0.08 – -0.02)	0.02	-0.13	-2.92	0.004
Stroke	0.01	(-0.05 – 0.07)	0.03	0.02	0.39	0.698
PAD	-0.06	(-0.10 – -0.03)	0.02	-0.15	-3.64	<0.001
Self-perceived health	0.10	(0.08 – 0.12)	0.01	0.45	10.24	<0.001
Medication	0.03	(-0.06 – 0.12)	0.05	0.03	0.72	0.475
Patient satisfaction (EUROPEP)	0.00	(-0.03 – 0.04)	0.02	0.01	0.27	0.785
Patient assessment of chronic illness care (PACIC)	-0.01	(-0.03 – 0.01)	0.01	-0.03	-0.61	0.543

$R^2 = 0.450$; $F = 18.386$; $p < 0.001$
95% CI = 95% confidence interval; SE = standard error

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