

Subgroup differences and determinants of patient-reported mental and physical health at hospital discharge among patients with ischemic heart disease - results from the DenHeart study

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Background

A growing population of people are living with ischemic heart disease (IHD). Screening-tools to identify patients at risk and reduce disease-burden are ever in demand. Large unselected sample studies exploring determinants for patient-reported outcomes (PROs) are needed.

Purpose

To: 1) describe PROs across three sub-groups of patients IHD: chronic IHD/stable angina (IHD/AP), non-ST-elevation myocardial infarction/unstable angina (NSTEMI/UAP) and ST-elevation myocardial infarction (STEMI), and 2) examine determinants for PROs.

Methods

A cross-sectional survey with register-data linkage including 14,115 adults with IHD discharged from one of five Danish Heart Centres April 2013 to April 2014. Eligible (n=13,505) were invited to complete a questionnaire, 7,167 (53%) responded. Questionnaires included Medical Outcome Study Short-Form 12 items (SF-12), Hospital Anxiety and Depression Scale (HADS),

HeartQoL and Edmonton symptom Assessment Scale (ESAS). Baseline characteristics were obtained from registers. Comparative analyses investigated sub-group differences in PROs and adjusted regression analyses explored determinants of PROs.

Results

Large proportions of responders reported symptoms of anxiety and depression (32.8% and Perspective 19.7% respectively exceeding a HADS-anxiety/-depression cut-off score of 8) (Table 1). Differences across sub-groups were found for the majority of PROs, with groups reporting worst to best being: IHD/AP, NSTEMI/UAP and STEMI (Table 1). Scores between the worst and best reporting group did, for the most part, reach suggested minimal important difference.

Table 1. Patient-reported outcomes on self-rated health, symptoms of anxiety and depression, quality of life and symptom distress

	Total responders	IHD/AP	NSTEMI/UAP	STEMI	p*
n	7167	4686	1626	855	
SF-12, mean (SD)					
PCS	41.6 (10.9)	40.3 (10.7)	42.7 (10.8)	46.5 (10.1)	<0.001
MCS	48.5 (10.8)	48.0 (10.8)	48.7 (10.6)	50.7 (10.6)	<0.001
HADS					
HADS-A ≥ 8, n %	2259 (32.8)	1499 (33.3)	527 (33.8)	233 (28.1)	<0.05
HADS-D ≥ 8, n %	1365 (19.7)	942 (20.8)	308 (19.6)	115 (13.8)	<0.001
HeartQoL, mean (SD)					
HeartQoL global	1.7 (0.8)	1.6 (0.7)	1.8 (0.8)	2.1 (0.8)	<0.001
ESAS, mean (SD)					
Symptom Distress Score	20.6 (16.8)	21.6 (17.0)	19.8 (16.9)	16.4 (15.0)	<0.001

SD = standard deviation; PCS = physical component score; MCS = mental component score; HADS-A = Hospital Anxiety and Depression Scale - Anxiety; HADS-D = Hospital Anxiety and Depression Scale - Depression.
* Differences in means between groups were tested using the F-test adjusted for sex, age, marital status and co-morbidity. Differences in proportions between all diagnostic groups were tested by the Pearson χ^2 -test.

Table 2. Determinants of self-rated health, anxiety and depression at hospital discharge

	PCS	MCS	HADS-A ≥ 8	HADS-D ≥ 8
#	β (95% CI)*	β (95% CI)*	OR (95% CI)†	OR (95% CI)†
Women vs. men	-1.9 (-2.5;-1.2)‡	-2.8 (-3.5;-2.2)‡	1.6 (1.4;1.8)‡	1.2 (1.0;1.3)‡
Married vs. unmarried	1.4 (0.8;2.0)‡	1.6 (1.0;2.2)‡	0.9 (0.8;1.0)‡	0.8 (0.7;0.9)‡
Symptom distress:				
Low symptom distress: < 25	0 (ref)	0 (ref)	1 (ref)	1 (ref)
Moderate symptom distress: 25-33	-7.5 (-8.3;-6.8)‡	-5.5 (-6.3;-4.7)‡	3.4 (2.9;4.0)‡	3.8 (3.2;4.7)‡
Severe symptom distress: > 33	-10.1 (-10.7;-9.4)‡	-11.7 (-12.3;-11.0)‡	10.8 (9.4;12.5)‡	12.1 (10.4;14.2)‡
Educational level:				
Basic school	0 (ref)	0 (ref)	1 (ref)	1 (ref)
Upper secondary/vocational school	1.4 (0.7;2.0)‡	0.9 (0.3;1.6)‡	0.8 (0.7;0.9)‡	0.9 (0.8;1.0)
Higher education	3.3 (2.6;4.1)‡	2.3 (1.5;3.1)‡	0.7 (0.6;0.8)‡	0.7 (0.6;0.8)‡
Health behaviour:				
BMI < vs. ≥ 30	3.9 (3.2;4.5)‡	0.7 (0.1;1.3)‡	0.8 (0.8;1.0)‡	0.7 (0.6;0.8)‡
Physical fitness level: average /excellent vs. less good/poor	10.5 (9.9;11.0)‡	5.2 (4.6;5.8)‡	0.5 (0.4;0.5)‡	0.3 (0.2;0.3)‡

PCS = physical component score; MCS = mental component score; HADS-A = Hospital Anxiety and Depression Scale - Anxiety; HADS-D = Hospital Anxiety and Depression Scale - Depression; β = regression coefficient in general linear model; 95% CI = 95% confidence interval; OR = odds ratio; ref = reference group; † For binary independent variables, reference group is listed last. ‡ Linear regression model adjusted for sex, age, marital status and co-morbidity. † Logistic regression model adjusted for sex, age, marital status and co-morbidity. ‡ p < 0.05.

Strong determinants of worse PROs included female sex, symptom distress, lower educational level and less good/poor physical fitness level (Table 2).

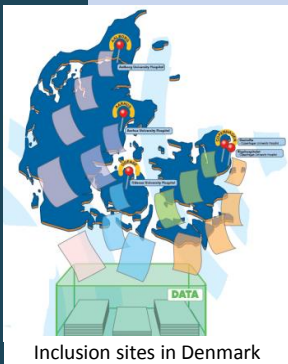
Conclusions

This study found significant differences in PROs across IHD sub-groups and identified determinants for poor outcomes, including female sex and symptom distress. Results can be used to identify patients at risk and allocate appropriate resources for preventive strategies.



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Conflicts of interest: None to declare



Inclusion sites in Denmark