

# Health related quality of life, anxiety and depression differs significantly between cardiac diagnostic groups at hospital discharge: results from DenHeart, a large scale national survey

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## Background

Patient-reported outcomes (PRO) such as quality of life, anxiety and depression play a significant role in morbidity and mortality in cardiac patients. This is the first study to include an unselected national population of cardiac patients across diagnostic groups.

## Purpose

To investigate diagnostic differences in patient-reported outcomes at hospital discharge.

## Methods

During one year all patients discharged from a national heart center were invited to fill out a questionnaire at hospital discharge. The questionnaire included questions about quality of life (SF-12 and HeartQoL) and anxiety and depression (Hospital Anxiety and Depression Scale). Questionnaire data was combined with national registers to obtain information on admission and diagnose. Non-parametric tests were used for group comparisons.

## Results

A total of 14.040 patients across 7 diagnostic groups answered the questionnaire (response rate 51 %).

Mean age was 64 years, 67 % were males and 64 % were married.

Responders vs. non-responders were comparable as to age, gender and diagnostic profile. Statistically significant differences were found between diagnostic groups in all scores. **Listed from worst to best outcomes were heart failure, heart valve disease, ischemic heart disease, infectious heart disease, arrhythmia, congenital heart disease and heart transplant.** Anxiety was indicated in 24 % and depression was indicated in 15 % in the total group of patients. In some PROs, there is very little difference between groups and patients with heart transplant scores much better than the other diagnostic groups.

## Limitations

The patients treated at the Heart Centres are often aged and severely ill, which may be reflected in the response rate of 51%. In general, studies presenting PROs are known to have a lower response rate than other studies.

## Conclusions

The results indicate that specific efforts should be targeted patients with heart failure and heart valve disease. Prevention efforts concerning mental health should be an option targeted all cardiac patients.

**Table 1. Diagnostic differences in health-related quality of life, anxiety and depression.**

	Ischemic heart disease	Arrhythmia	Heart failure	Congenital heart disease	Infectious heart disease	Heart valve disease	Heart transplant	p*	
<b>n (total=14.040)</b>	<b>7,179</b>	<b>4,322</b>	<b>987</b>	<b>115</b>	<b>326</b>	<b>975</b>	<b>136</b>		
SF-12 PCS, mean (SE)	41.6 (0.1)	44.2 (0.2)	37.2 (0.4)	41.6 (1.1)	42.3 (0.7)	39.9 (0.4)	44.9 (1.0)	<0.0001	<b>Best</b>
SF-12 MCS, mean (SE)	48.5 (0.1)	48.6 (0.2)	46.4 (0.4)	48.8 (1.1)	48.4 (0.7)	47.1 (0.4)	53.4 (1.0)	<0.0001	
HADS-A, mean (SE)	5.9 (0.1)	5.5 (0.1)	5.9 (0.1)	5.5 (0.4)	5.4 (0.2)	6.0 (0.1)	3.4 (0.4)	<0.0001	
HADS-A ≥ 8, number (%)	24.2	22.5	24.3	22.8	23.9	23.8	9.5	0.0041	<b>Middle</b>
HADS-D, mean (SE)	4.3 (0.1)	3.9 (0.1)	5.1 (0.1)	4.0 (0.4)	4.3 (0.2)	4.7 (0.1)	3.1 (0.3)	<0.0001	
HADS-D ≥ 8, number (%)	15.4	13.7	18.7	12.7	14.3	15.9	7.9	0.0051	
HeartQoL global, mean (SE)	1.7 (0.0)	1.9 (0.0)	1.5 (0.0)	1.8 (0.1)	1.8 (0.1)	1.6 (0.0)	2.1 (0.1)	<0.0001	<b>Worst</b>
HeartQoL physical, mean (SE)	1.6 (0.0)	1.8 (0.0)	1.3 (0.0)	1.7 (0.1)	1.6 (0.1)	1.4 (0.0)	1.9 (0.1)	<0.0001	
HeartQoL emotional, mean (SE)	2.1 (0.0)	2.2 (0.0)	1.9 (0.0)	2.1 (0.1)	2.1 (0.1)	2.0 (0.0)	2.6 (0.1)	<0.0001	

\* Differences in proportions were tested by Pearson  $\chi^2$ -test. Differences in means in different diagnostic groups were tested using F-test. PCS = physical component scale; MCS = mental component scale; SE = standard error.

## Further information:

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Conflicts of interest: none.

