
Life after myocardial infarction

INVITERT KOMMENTAR

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The risk of severe complications after myocardial infarction has decreased, but the quality of life will not be the same as before.

The incidence of myocardial infarction in Norway has dramatically decreased since the 1950s, when Norway was the only country in Europe with a declining life expectancy for men. Since then, life expectancy has steadily increased, and Norway remains one of the few countries in the world with a rising life expectancy [\(1\)](#). The main reason for this is the declining incidence and mortality of myocardial infarction [\(2\)](#). Nevertheless, 10,245 patients in Norway experienced myocardial infarction in 2023.

Rapid treatment of myocardial infarction has resulted in not only a reduction in mortality but also a significant decrease in the proportion of patients who subsequently develop heart failure [\(2\)](#). This may partly explain why patients report less anxiety after myocardial infarction nowadays [\(3\)](#).

In a study published in this edition of the Journal of the Norwegian Medical Association, Govatsmark et al. assessed the quality of life in patients 3–4 months after myocardial infarction (4). The EuroQOL questionnaire (EQ-5D) that they used measures mobility, self-care, usual activities, pain/discomfort and anxiety/depression. The difference in total scores between myocardial infarction patients and a sample of the general population is small (0.88 vs. 0.86, a difference of 2 %) and less than the 5 % considered clinically relevant. In terms of individual questions, myocardial infarction patients have more problems with mobility, usual activities, anxiety and depression compared to the general population. However, they reported significantly less pain and discomfort than the general population. Individual questions point in different directions and counteract each other, making it difficult to interpret the total score.

EQ-5D has been criticised for focussing solely on whether patients have a specific condition, rather than assessing their overall health reserves. It is useful to know if a patient can take care of themselves when discharged from hospital and if they are able to walk up stairs, but over time, most people also want to be able to walk without stopping and to have energy left at the end of the day. In that regard, the EQ-VAS scale, which was also used in the study, provides a clearer answer. This tool assesses a patient's health on the day, on a scale from 0 (worst imaginable health) to 100 (best imaginable health). When measured with EQ-VAS, myocardial infarction patients had a 14 % lower score on their perceived good health compared to the general population.

The study in the current issue found a smaller difference in self-reported health than the Tromsø Study, where myocardial infarction patients scored half as well as other patients. This may be because the reference population in the Tromsø Study consisted of healthy age- and gender-matched controls (5). The low response rate (25 %) among the general population in Govatsmark et al.'s study may also have played a role.

«The best way to prevent problems following myocardial infarction is preventing its occurrence»

Govatsmark et al.'s findings of lower scores in myocardial infarction patients who are not detected by ECG (NSTEMI), as well as in women, should be taken seriously. This requires not only offering rehabilitation to all myocardial infarction patients but also improving secondary prevention, particularly for those with low self-reported health (EQ-VAS) (6, 7).

Post-myocardial infarction survival in Norway is world-class, with better outcomes than for the wealthiest 1 % in the United States (8). Fewer people develop heart failure because the treatment not only saves lives but is often initiated quickly enough to prevent this and major damage. However, for the 15 % who do not experience chest pain as the presenting symptom, acute treatment is often delayed, leading to permanent heart damage.

The best way to prevent problems following myocardial infarction is still, therefore, preventing its occurrence in the first place. The incidence of myocardial infarction is still decreasing. Falling smoking rates, lower blood pressure and cholesterol levels, and a reduced incidence of diabetes in the population are all helping to reduce the risk. However, there is still significant progress to be made, particularly by taking the

achievement of health goals seriously (9, 10). Half of all patients taking blood pressure medicine do not have blood pressure < 140/90 mmHg, and even fewer reach the treatment goal for cholesterol reduction after myocardial infarction (7, 9).

REFERENCES

1. GBD 2021 Europe Life Expectancy Collaborators. Changing life expectancy in European countries 1990-2021: a subanalysis of causes and risk factors from the Global Burden of Disease Study 2021. *Lancet Public Health* 2025; 10: e172–88. [PubMed][CrossRef]
2. Mannsverk J, Wilsgaard T, Mathiesen EB et al. Trends in Modifiable Risk Factors Are Associated With Declining Incidence of Hospitalized and Nonhospitalized Acute Coronary Heart Disease in a Population. *Circulation* 2016; 133: 74–81. [PubMed][CrossRef]
3. Hanssen TA, Nordrehaug JE, Eide GE et al. Anxiety and depression after acute myocardial infarction: an 18-month follow-up study with repeated measures and comparison with a reference population. *Eur J Cardiovasc Prev Rehabil* 2009; 16: 651–9. [PubMed]
4. Govatsmark RES, Halle KK, Garratt AM et al. Helserelatert livskvalitet etter hjerteinfarkt. *Tidsskr Nor Legeforen* 2025; 145. doi: 10.4045/tidsskr.24.0179. [CrossRef]
5. Lorem GF, Schirmer H, Emaus N. Health Impact Index. Development and validation of a method for classifying comorbid disease measured against self-reported health. *PLoS One* 2016; 11. doi: 10.1371/journal.pone.0148830. [PubMed][CrossRef]
6. Olsen SJ, Schirmer H, Bønaa KH et al. Cardiac rehabilitation after percutaneous coronary intervention: Results from a nationwide survey. *Eur J Cardiovasc Nurs* 2018; 17: 273–9. [PubMed]
7. Sverre E, Peersen K, Husebye E et al. Unfavourable risk factor control after coronary events in routine clinical practice. *BMC Cardiovasc Disord* 2017; 17: 40. [PubMed]
8. Emanuel EJ, Gudbranson E, Van Parys J et al. Comparing Health Outcomes of Privileged US Citizens With Those of Average Residents of Other Developed Countries. *JAMA Intern Med* 2021; 181: 339–44. [PubMed]
9. Eggen AE, Mathiesen EB, Wilsgaard T et al. Trends in cardiovascular risk factors across levels of education in a general population: is the educational gap increasing? The Tromsø study 1994-2008. *J Epidemiol Community Health* 2014; 68: 712–9. [PubMed]
10. Ruiz PLD, Stene LC, Bakken IJ et al. Decreasing incidence of pharmacologically and non-pharmacologically treated type 2 diabetes in Norway: a nationwide study. *Diabetologia* 2018; 61: 2310–8. [PubMed]

