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Telemedicine for Lowering 30-Day Readmission Rates Following Acute Myocardial Infarction: An Observational Study

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Background:

Patients hospitalized for an acute myocardial infarction (AMI) are frequently at risk for early re-hospitalization. Readmission rates in the community reportedly reach ~20%, and many re-hospitalizations seem to be unrelated to the incident AMI. Comorbid conditions play a central and increasing role in re-hospitalizations, and they need to be monitored and treated to prevent future re-hospitalizations. Indeed, 30-day re-hospitalization rates have become a quality-of-care marker.

Objectives:

To assess the 30-day readmission rate of post-AMI SHL-Telemedicine members with/without known cardiovascular risk factors.

Methods:

All files of SHL-Telemedicine subscribers who sustained an AMI and who became members of SHL within 2 weeks from infarction during 2009-2012 were reviewed for demographics, coronary risk factors, reasons for readmission and discharge diagnoses.

Results:

A total of 795 suitable patients (mean age 62±14 years, 81% males) were included. They made 2,973 calls to the monitor center for consultation and therapeutic directions. A mobile intensive care unit was dispatched for 144 patients: 68 were transported to hospital and 52 (**6.5%**) were re-admitted. There was a tendency (p=0.08) towards a lower readmission rate for first-time AMI patients (5.9%) compared to those with a previous AMI (9.9%), but, most importantly, unlike published figures for the general population, there were no significant differences between re-admitted and non-re-admitted SHL-Telemedicine subscribers according to gender, diabetes (9.1% vs 5.7%), hypertension (6.2% vs 7.0%), chronic heart failure (CHF; 10.2% vs 6.2%) or previous revascularizations (5.9% vs 7.9%). Most (n=37) readmissions were due to chest pain: 4 patients re-infarcted and 8 had recurrent angina (all 12 were re-vascularized). Eighteen patients were readmitted for non-cardiovascular reasons.

Conclusions:

Implementation of telemedicine technology for out-of-hospital treatment of both cardiac and non-cardiac conditions contributed to substantially decreasing 30-day re-hospitalization post-AMI rates.