Socio-economic inequalities in hospital admissions for major cardiovascular events in people with diabetes in England

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Background and aims: While extensively studied in the general population, little is known about how people with diabetes from different socioeconomic groups have benefited from reductions in CVD over the last decade. This nationwide study aims to determine changes in absolute and relative socio-economic inequalities in hospital admissions for major cardiovascular events and procedures among people with diabetes in England between 2004-2005 and 2014-2015.

Materials and methods: We identified all patients with diagnosed diabetes aged above 16 years admitted to hospital in England between 2004-2005 and 2014-2015 for acute myocardial infarction (AMI), stroke, percutaneous coronary intervention (PCI) and coronary artery bypass graft (CABG). Socio-economic status was measured using Index of Multiple Deprivation. Diabetes-specific admission rates were calculated for each year by deprivation quintile. We assessed temporal changes relative inequalities in admissions for each outcome using negative binomial regression models, and we used linear regression models to assess changes in absolute inequalities between deprivation groups.

Results: Admission rates rose steadily with increasing levels of deprivation throughout the study period. People with diabetes from the most deprived quintile had 2.17-fold increased risk of AMI (95% CI 1.98-2.37), 2.04-fold risk of stroke (95% CI 1.88-2.22), 1.79-fold risk of CABG (95% CI 1.65-1.94), and 2.03-fold risk of PCI (95% CI 1.89-2.18) (P≤0.001 for all) compared with the least deprived group. Socio-economic gradients did not significantly change over the study period for any of the study outcomes. Absolute differences in admission rates between the least and most deprived quintiles did not significantly change for AMI (P=0.342) and reduced for stroke, PCI and CABG admissions (by 14, 134 and 46 per 100,000 people with diabetes, respectively, P≤0.005 for all). From 2004-2005 to 2014-2015, there was a reduction in in-patient mortality rates for all outcomes except for PCI. Trends in in-patient mortality did not statistically significantly differ between the most affluent and other deprivation groups for the study outcomes.

Conclusion: Socio-economic inequalities persisted in hospital admissions for major CVD events in England among people with diabetes throughout the study period. Besides improved risk stratification strategies considering socio-economically defined needs, wide-reaching population-based policy interventions are required to reduce inequalities in diabetes outcomes.

Disclosure: E. Vamos: None.