Women, Black people and disadvantaged less likely to get heart surgery in England, suggests research

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Women, people of Black ethnicity and those from low income households in England are less likely to be offered heart surgery than

men, white people, and those who are affluent, finds research published online in the journal *Heart*.

And when they do have these procedures, they are more likely to die within a year, prompting the researchers to call for prompt action to tackle these health inequalities.

Cardiac surgery is one of the costliest ways of treating cardiovascular disease, with around 28,000 adults a year in the UK undergoing the procedure, note the researchers. While previously published research shows that gender, ethnicity, and social/economic deprivation can affect the short term outcomes of cardiac surgery, it's not clear what impact they might have on longer term outcomes.

To find out, the researchers used Hospital Episode Statistics (HES) and Office for National Statistics (ONS) data to explore differences in access to and outcomes of cardiac surgery (coronary artery bypass grafting (CABG) and heart valve procedures) in England among people admitted with heart disease by sex, ethnicity, and deprivation between 2010 and 2019.

They calculated the rates of death in hospital, and at one, three, and five years after surgery, as well as readmission for cardiovascular causes, heart failure, and stroke/transient ischemic attack ('mini stroke').

Between 2010–19, 292,140 people had cardiac surgery: 49% CABG; 38% valve surgery; and 13% combined surgery. In all, 28% of all these patients were women, 11% were from an ethnic minority, and 17% lived in areas of greatest deprivation.

Rates of both CABG and valve surgery fell between 2010 and 2019, from 30 to 25 per 1,000 people with ischemic heart disease, and from 88 to 70/1,000 people with heart valve disease.

The age, sex, ethnicity, and levels of deprivation of those having surgery were similar across the entire period, although the proportions of those with multiple conditions and frailty and those admitted as an emergency increased between 2010 and 2019.

Women were 59% less likely to have CABG and 31% less likely to have valve surgery than men. And Black people were less likely to have surgery than white people: 32% less likely for CABG and 33% less likely for valve surgery. While people of South Asian ethnicity were 49% more likely to have CABG, they were 28% less likely to have valve surgery than white people.

And there was almost a linear association between increasing levels of deprivation and decreasing likelihood of getting cardiac surgery, with the most socially disadvantaged 35% and 39% less likely to have CABG and valve surgery, respectively, than the least disadvantaged.

As to outcomes, hospital deaths fell for all types of cardiac surgery between 2010 and 2019 by around 20% (from 3.4% to 2.7%). But women were more likely to die than men, and people of South Asian ethnicity were more likely to die than white people. Black people were more likely to die than their white counterparts, but only after CABG.

Around seven in every 100 people died within one year of all types of cardiac surgery, and one in five people were readmitted to hospital, rising to almost one in four for those having valve surgery. Unlike hospital deaths, which fell over time, deaths after one year and hospital readmissions didn't.

Women, Black people, and those living in the most deprived areas were also more likely to die within one year of surgery: 24%, 85%, and 18% more likely, respectively, for CABG; 19% (women) and 10% (people from areas of greatest deprivation) more likely for valve surgery.

The researchers acknowledge that HES coding varies among hospitals and that ethnicity wasn't coded for 10% of the data entries. And people with ischemic heart or valve disease don't necessarily represent the full gamut of those in need of cardiac surgery.

The decline in the use of cardiac surgery for treatment over time reflects trends in both Europe and the U.S., they note. But the differences in access to surgery and outcomes by demographic and socioeconomic characteristics need to be tackled as a matter of priority, they insist.

"There is an urgent need to address inequalities through enhanced data linkage and improved transparency and publication of data from benchmarking exercises on inequality characteristics and ensuring equity of the workforce and pathways people use to access care," they conclude.

In a linked editorial, Dominique Vervoort of the University of Toronto, Canada, comments that access to cardiac surgery in high income countries with universal health coverage is generally assumed to be equal.

However, "Across the continuum of cardiovascular care for patients living with cardiac surgical conditions, there are potential gaps in access to care because of social determinants of health," he writes.

"Identifying inequalities and inequities in access to cardiac surgical care is essential for health systems to understand which patients might be left behind. Health services research with a focus on health care utilization, health equity, and patient centeredness must, therefore, be supported," he adds.

More information: Inequalities in access to and outcomes of cardiac surgery in England: retrospective analysis of Hospital Episode Statistics

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