INVITED COMMENTARY

Lower Extremity Amputation: Analysis by Postcode

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The Scottish Index of Multiple Deprivation (SIMD) is a postcode based system in which addresses are ranked in one of five nationally calculated quintiles, with SIMD1 being the most deprived area by this estimate. Davie-Smith et al.[1] investigated the relationship between patient SIMD grouping and mobility, social participation, and quality of life following lower extremity amputation. It is perhaps not surprising that the authors found it impossible to draw any conclusions: only 67 questionnaires were completed at six months, decreasing to 50 at 12 months. Variability in individual circumstances (including previous contralateral or ipsilateral amputation) makes a useful analysis across five groups with such numbers a challenge. Although data were not collected prior to amputation very poor quality of life in this cohort is nonetheless a key finding. Ten of 67 and 11 of 50 patients reported scores less than zero ("worse than death") at six months and 12 months, respectively.

SIMD1 amputees were significantly younger than those in the SIMD5 group, although age at amputation did not increase progressively with SIMD grouping, indeed the mean age in SIMD4 was lower than in SIMD1. It may be tempting to deduce that more socio-economically deprived patients undergo amputation at a younger age and that this is more likely to be transfemoral. However, it is SIMD5 patients (who seem to do better) who are the outlier group in this analysis. This highlights the scale of the public health challenge, particularly when considering that most premature deaths from cardiovascular disease are not as a consequence of peripheral arterial disease. In previous analysis of coronary heart disease (CHD) mortality in England, those from the most deprived areas had double the rate of age adjusted CHD mortality compared with those from the least deprived areas,[2] and the rate of decline in CHD mortality in recent decades has been found to be significantly lower in more deprived areas.[3]

As all patients were treated in the NHS system, the capacity to pay for care should not have been a factor, as it might be in other countries. It is more likely that underlying disease burden rather than the quality of medical care accounts for the age difference between least and most deprived groups, as well as the differing proportions of transfemoral amputation. Why does socio-economic grouping in itself contribute to premature and accelerated cardiovascular disease, acting as an independent risk factor? Schultz et al.[4] recently addressed this, and detailed the relevant variables to be income level, educational attainment, employment status, and neighbourhood socio-economic factors.

It is striking that the prevalence of current smoking drops progressively across groups from most to least deprived, from 58% in SIMD1 to 5% (1 patient) in SIMD5. In a meta-analysis of all cause mortality among 1.7 million men and women, current smoking was the greatest of all hazards analysed, accounting for 4.8 years of life lost. However, low socio-economic status was found to be independently associated with increased mortality in the same analysis which reported a 2.1 year reduction in life expectancy between ages 40 and 85.[5]

This study by Davie-Smith et al. demonstrates how socio-economic status may impact outcome following lower extremity amputation. It also reminds us that our responsibility does not end when the patient leaves hospital, the poor quality of life reported by amputees highlights the importance of rehabilitation and re-integration into the community.

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