

Social inequalities in severity of illness

The available evidence shows consistently that people with low socioeconomic status (SES) experience higher mortality and morbidity than their counterparts with higher SES.^{1,2} In addition, different studies have reported the existence of a direct relation between SES and health related quality of life.³ Frequently, the gradient between health related quality of life and social position has been attributed to the higher morbidity of patients with low SES.^{3,4} In the past few years, however, different authors have reported that low SES is related to both a higher morbidity and a higher severity of illness.

The association between severity of illness and social position has been explained in several ways. The simplest explanations attribute this association to a process of selection. For example, the higher severity of illness of low SES patients at the moment of the hospital admission reported in different studies⁵⁻⁸ has been explained by an under use of health resources by this group of patients.⁹ According to this hypothesis, the under use would be higher in banal diseases, so the more severe cases tend to be over represented in the low SES patients.

Nowadays, the possibility that psychosocial factors by themselves could directly affect the severity of disease has been reported. Indeed, the cross sectional study of Blank and Diderichsen¹⁰ showed a higher self reported severity of illness in manual workers as compared with non-manual workers. Similarly, Strachan *et al*¹¹ studied the prevalence and severity of asthma in children. Whereas the cumulative prevalence of wheeze showed little variation according to SES, the prevalence of severe asthmatic crisis increased strikingly in parallel with the declining SES of their fathers. These results were not explained by differences in health care, because there was no systematic tendency in diagnosis formulation or pharmacological prescription, and the authors hypothesised that environmental factors, like tobacco or inadequate housing could explain their findings. Similar results were obtained by Mielck *et al*,¹² who reported a higher prevalence of severe asthma in the low as compared with the high socioeconomic group.

In other instances, however, the connection between SES and severity of illness is less clear. For example, Schechter and Margolis¹³ in their study of a group of patients diagnosed with cystic fibrosis—a disease with a clear genetic basis—found a worse pulmonary function in patients with low SES than in the more advantaged. This difference appeared during the first months of life, did not increase with age and could not be explained by a low accessibility to health care or by a delayed diagnosis. In the same way, Karlson *et al*¹⁴ studied a retrospective cohort of 200 patients with systemic lupus erythematosus. In their study, the social support was an independent predictor of the severity of disease activity. Similarly, Ward *et al*¹⁵ in their cohort study of patients with rheumatoid arthritis showed that the functional disability progressed faster in unmarried compared with married patients.

In a study published in this issue of the journal, Eachus *et al*¹⁶ found again an inverse gradient between SES and severity of hip osteoarthritis. Their results are difficult to explain by survival bias, characteristic of cross sectional studies. Indeed, if we assumed a higher mortality in osteoarthritic patients in the low SES groups, its probable effect would be the selection of a subgroup of relative healthy survivors and, as a consequence, the obliteration of their higher severity. Alternatively, we could hypothesise the presence of misclassification bias, which contributed to

an overestimation of the severity of illness of low SES patients. Notwithstanding, the study of Eachus *et al*,¹⁶ as well as other studies¹⁷ performed in countries with publicly financed health systems, suggest just the opposite: the presumable effect of this measurement bias would be the underestimation of socioeconomic inequalities in health.

If we disregard that the higher severity of low SES patients in these studies was the consequence of an artefact or a process of social selection, then its causes would be a more severe molecular lesion (as suggested by the study of Schechter *et al*¹³) and/or a faster progression of the disease (as suggested by the studies of Karlson *et al*¹⁴ and Ward *et al*¹⁵). These findings, difficult to explain from the traditional biomedical model perspective,^{18,19} would expand the role of social factors as genuine causes of disease. Until now, the studies about the association between SES and severity of illness emphasised the accessibility to care and the perceived illness, while the somatic aspects remained in the sphere of biological models. With the aforementioned studies,¹³⁻¹⁶ the disease would be hardly explained from an exclusive individual or subindividual perspective, without the concurrence of social variables.

These findings tackle new research perspectives in the field of inequalities in health. Firstly, studies focused on the measurement of inequalities in health should take into account not only the distribution and mortality of the different diseases but also their level of severity. In the same way, the studies focused on the study of disease severity should consider the potential confounding effect of SES. On the other hand, these findings, if they are confirmed, could open a new conceptual frame and, consequently, a lot of questions for further research: Which are the determinants (pre or post-birth) of the higher severity of low SES patients? The higher severity of low SES patients, is attributable to a higher exposition and/or a higher susceptibility to those agents? In the last case, is it possible to modulate the susceptibility to these determinants? The higher severity of low SES patients, is general (which would suggest a higher general susceptibility to disease)²⁰ or disease specific? Which are the modifiable determinants of disease severity?

Finally, these findings would have serious implications on the design of health policies. An equitable health policy that tries to reduce the inequalities in health should take into account the “double suffering”¹⁰ of low SES, and consider not only the high prevalence of disease in low SES patients, but also its higher severity.¹⁶ On the other hand, this new frame should be considered in order to implement a social policy for health²¹ that tackles directly the social determinants of health in a way that the fight against social diseases does not rely exclusively on medical care.

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