

Letters to the Editor

Does Educational Level Predict Mortality After Myocardial Infarction Independently of Left Ventricular Function and Medical Treatment?

¿El nivel de estudios predice la mortalidad tras un infarto de miocardio de manera independiente de la función ventricular izquierda y del tratamiento médico?

To the Editor,

I read the article by Consuegra-Sánchez et al¹ with great interest. In their study, the authors report an inverse and independent relationship between educational level and long-term mortality in post-myocardial infarction patients. I would like to make a few points about the methodology and results of the article.¹ In their study, the authors report the mean left ventricular ejection fraction (LVEF) of all patients and indicate LVEF as a predictor of long-term mortality. However, there are no data about the mean LVEF for each group. It is known that LVEF < 40% is an independent predictor of mortality after myocardial infarction.² Therefore, the authors should state the mean LVEF and incidence of patients with LVEF < 40% for each group and compare the mean LVEF among the groups. A higher incidence of patients with LVEF < 40% in illiterate and primary education patient groups may be another significant reason for higher mortality rates. Additionally, the study by Consuegra-Sánchez et al¹ includes patients with impaired left ventricle systolic function (mean LVEF = 49% for all patients). Aldosterone antagonists significantly reduce all-cause mortality in post-myocardial infarction patients with LVEF < 40%, in addition to standard medical therapy.³ In the study by Consuegra-Sánchez et al,¹ there are no data on the incidence of patients treated with aldosterone antagonists. A higher incidence of treatment with aldosterone antagonists in secondary education and higher education patient groups may be the reason for lower mortality rates.

In conclusion, low educational levels may be associated with adverse outcomes in post-myocardial infarction patients. However, LVEF and aldosterone antagonists may still have an effect on the results of the study by Consuegra-Sánchez et al.¹ To indicate low levels of education as a predictor of mortality, it should be proven that there were no differences in the mean LVEF of all patient groups and that all patient groups were treated similarly with all medications that are known to reduce mortality in post-myocardial infarction patients.

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Does Education Level Predict Mortality After Myocardial Infarction Independently of Left Ventricular Function and Medical Treatment? Response

¿El nivel de estudios predice la mortalidad tras un infarto de miocardio de manera independiente de la función ventricular izquierda y del tratamiento médico? Respuesta

To the Editor,

We certainly agree with Dr. Eyuboglu that left ventricular ejection fraction (LVEF) is a major determinant of outcome in patients with acute myocardial infarction. The author of the letter questions whether the independent association observed in our study¹ between low educational level and outcome might be

confounded by a different LVEF across the educational levels. Indeed, we observed an ascending gradient between educational levels and LVEF: illiterate 47% ± 10%, primary education 48% ± 11%, secondary education 50% ± 10% and university 50% ± 10% (*P* for trend = .004). However, as indicated in Table 5 of the original manuscript,¹ LVEF was entered in the multivariable model thus virtually rejecting the hypothesis suggested by Dr. Eyuboglu. Furthermore, when interaction analyses were performed in patients with and without depressed LVEF, the association between educational level and outcome remained virtually unchanged.[10.1016/j.rec.2015.07.014](http://dx.doi.org/10.1016/j.rec.2015.07.014)

The in-hospital prescription of aldosterone antagonists was globally low in our study cohort (*n* = 141, 2.4%). They were mainly prescribed to illiterate patients (16, 3.9%). To satisfy this reader's concern we have performed a new multivariable analysis considering aldosterone antagonists as a new covariate in