Reviewer's report

Title: Psychosocial risk factors for hospital readmission in COPD patients on early discharge schemes: a cohort study

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The authors studied a population of 79 COPD patients discharged to the emergency room in a program of early discharge schemes. Hospital readmissions for COPD exacerbation during the following year were counted. The main conclusion of the study is that symptoms of depression and socioeconomic status are predictors of hospital readmission during the subsequent year.

The study hypothesis is interesting. As previously tested in different studies, the results are controversial. There are several aspects that require clarification.

Background

1. The authors say:
   “…but in two large prospective studies, no association was found between depression and risk of readmission [7, 16]”

At this point the authors should add that the results are contradictory between different studies (see article by Xu et al, Bibliography 33).

Methods

2. Detailed at the time spirometry was performed.

3. Is social support included among the eligibility criteria for EDS?

Were patients without a caregiver included? This can lead to selection bias because only patients with good social support can benefit from these programs. This should be discussed in the study's limitations.

4. The authors say:
   “Data on diagnosis, comorbidities, lung function, and arterial blood gases were extracted at baseline from EDS electronic case records. Comorbidities were scored using the Charlson Comorbidity Index (CCI) [20]”.

I do not understand why in a prospective study Charlson index is collected based on electronic case records.

4. Socioeconomic deprivation was measured with Castairs scores. Did the authors address other variables classically associated with socioeconomic status such as level of education or the work previously carried out?

5. Home ownership was not included in methods.

6. Depression was included in the multivariate analysis without reaching
statistical significance in the univariate analysis. In fact variables with statistical significance in the univariate analysis were age, FEV1, and previous COPD admissions. However previous admissions (p 0.01) were not included in multivariate analysis. As the authors did not detail the choice of model it appears that they chose variables included in the multivariate model to force the statistical significance of depression.

8. Why was home ownership not included in the multivariate model? In fact socioeconomic variables were not significant in the study; only a variable not included in methods was significant.

7. Were there differences between patients who did not want to participate and those included, at least in terms of age, sex, previous admissions and FEV1?

8. Again the most powerful predictors of readmission seem to be age, previous admissions and FEV1. Both depression and home ownership seem to add little to these variables.

Discussion

The authors say

This is the first prospective study to report that depressive symptoms and an individual marker of socio-economic deprivation are associated with hospital readmission for AECOPD among patients discharged to EDS.

I think the authors at this point should be more cautious. There are previous studies that consider the same details about the relation between the two points and hospital readmissions.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that i have no competing interest