Author's response to reviews

Title: Factors associated with use of community mental health services by schizophrenia patients using multilevel analysis

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Author's response to reviews: see over
Dear editor of BMC Public Health,

Dear editor, concerning the article titled: “Factors associated with use of community mental health services by schizophrenia patients using multilevel analysis”, I’m including in this cover letter comments to reviewers point by point. I the attached modified version of the article, I have highlight with red colour all changes made in the manuscript to make easier to revised them.

**Answers to Reviewer 1: report 1971608630549915**

Version: 1 Date: 10 May 2011
Reviewer: Saeed Farooq

• Authors mention that they selected random sample of 164 patients but no details of the random method used is given. Please give details of the random method used and how the sample was selected.

We have now included the following text about the random method:

“The sample size was calculated to be sufficient for the intraclass correlation coefficient to be between plus or minus 0.10, which is considered a reasonable interval. Thus, the minimum number of patients to interview was 96 (9%), considering the ideal number to be 257 (24%). BM undertook the patient selection by simple random sampling from the list of patients under each professional. Later, each professional was given the list of his or her patients who had been selected to do the test-retest.”

• In discussion there are number of claims for which no evidence is provided. It is mentioned, for example, ‘in Spain this employment status is common in patients with severe mental illness’ (1st paragraph). While this may be generally true but when authors mention specifically of Spain, it would be helpful to provide a reference.

We have clarified this paragraph, as follow: “Despite this global severity index, only 18% were working. In Spain, as in other European countries, this employment status is common in persons with schizophrenia, with rates ranging between 10% and 20% [30,31].”

As we have included two new references, we have renumbered the rest of the references.

• The discussion about the patients attending particular psychiatrists having more attendance in outpatients is rather speculative and lengthy. It is not clear that whether all psychiatrists had similar population in catchment areas and whether total number of patients under their care was similar. This part of discussion needs to be shortened and these points need clarification.

We have shortened this part of discussion and concerning whether all the psychiatrists had a similar population in the catchment areas and whether the total number of patients under their care was similar, the text explains the following: “As the type of patients was similar for all the psychiatrists, this result could be a consequence of differences in the characteristics of each professional related, for example, to his or her length of clinical experience, professional orientation, the case load size or burnout.
Some studies have suggested that psychiatrists have higher levels of burnout than other physicians employed in general medical settings [36, 37,38]”.

• The discussion is lengthy and needs to be shortened.

We have now shortened the discussion, omitting the following sentences:

“This, therefore, could be another reason for the different number of contacts with their patients. However, this study was not designed to investigate factors associated with the professional concerning use of services by schizophrenic patients and a larger sample of professionals would be required for this purpose”.

“In patients with previous hospitalizations [18] identified that the majority of patients had contact with psychiatrists and case managers.”

• The paper will benefit from careful proof reading to address number of types.

We have revised all type mistakes and corrected the English language.

Answers to Reviewer 2 report 1295087105572730

Version: 1 Date: 11 July 2011

Reviewer: Satu Viertiö

The dependent variable, the number of outpatient contacts, is well described. Also independent variables are well described, except the level of education. I hoped more information about how many years of education mean primary and secondary school in Spain, as these things vary in different countries.

We have now given a fuller explanation about the level of education: “..., level of education [no schooling, primary (to 14 years of age), secondary (from 14-18 years), higher (bachelor’s degree and higher)].

The first paragraph on page 7 consists of two sentences. The second sentence should be connected to the first, now it is without a verb.

We have connected the two sentences as follows:

“Concerning place of residence two variables were included: residence catchment area according to the area of the community mental health centre (Gualdamedina, Centro, or outside the study area) and municipality of residence, classified according to the rurality index developed for the Spanish population [23, 24], which ranges from a minimum rurality factor of -3.59 to a maximum of 3.78 (Malaga city: -1.79, Rincon de la Victoria: -1.78, other villages: -1.59 to -0.61, ranked from less to more rurality)..”

I hoped more information about the index Global Level of Severity, a reference of some kind, perhaps. How widely this index is in use, in clinical settings and in research?

We have now included the following sentence: “This index is used by psychiatrists in the clinical setting of the public mental health services in order to include patients in the
Special Program of patients with more Severe Mental Ill and thus assign more resources (Moreno Küstner et al., 2009).

There is quite much missing data, but researchers have used imputation method to compensate the missing data, which is good. As the author mentions in Limitations, data is from clinical records and therefore not as reliable as data from interviews.

The patient sample is not very ill, almost 90% has only some symptoms but moderate disability, half of the sample is doing quite well. I wonder what kind of results would be if the sample had more severe impairment in functioning, which is still quite common in persons with schizophrenia. That is why I think these results are not generalized to all patient groups. This should also be mentioned in Limitations.

We have now included the following sentence: “Thus, we can assume that the sample was representative of the patients with schizophrenia and related disorders in Malaga, always considering a similar Global Level of Severity”.

This manuscript is in my opinion relevantly written.

Table 2: Because all information (number of participants and the percentages) are in Table 2, it is unnecessary to write the same figures also in the text (page 10).

We have now omitted these figures in the text.

It would perhaps be good to write in Table 2 that “Outpatient contacts Mean (SD)” means contacts with community health services over a year, as is already mentioned in the text on page 6, but this should be clearly stated also in Table 2, because tables should be understood without reading the text.

We have now included this explanation in the titles of Table 2 and Table 3

**TABLE 2**: Demographic and clinical characteristics of outpatients with schizophrenia and related disorders attended in the mental health area of Carlos Haya Hospital. Distribution of patients (N = 1,097) and outpatient contacts with community health services over one year

**TABLE 3**: Use of services by outpatients with schizophrenia or related disorders attended in the mental health area of Carlos Haya Hospital. Distribution of patients (N = 1,097) and outpatient contacts with community health services over one year

In Table 3 it should also be mentioned that the figures are contacts during one year. And it is unnecessary to mention the same figures in the text.

**Done**

In Table 4 there should be mentioned by which variables model is adjusted (age, gender…?). Figures of Table 4 are unnecessarily mentioned in the text, pages 11 and 12. Either in Table 4 or in the text (page 12, line 10) there’s a wrong figure (t=3.25 or t=3.21?). Statistical significances are marked in a different manner that I’m used to. I think that P<0.05 is * and P>0.1 is not significant any more, actually.
As explained in the footnote to Table 4, we adjusted the second model for all variables: “Adjusted coefficients of the full model (including all variables)”
We have omitted figures on pages 11 and 12.

The right figure is 3.25 as appears in Table 4.

We have omitted the italics and * of variables P<0.1 as significant one and we have modified the following paragraph in the results section:
“Eight variables (sex, age, marital status, readmission episodes, days in hospital, type of living arrangement, residence catchment area and residence municipality) were no longer significant in the adjusted model.”

All tables are still unfinished and need corrections.

Done

I can’t really follow the idea on page 15, lines 13-17. This should be opened more. What is another reason for the different number of contacts with the patients of psychiatrists?

We have modified the sentence, as follows: “As the distribution of patients was similar for all the psychiatrists, this result could be a consequence of differences in the characteristics of each professional related, for example, to his or her length of clinical experience, professional orientation, the case load size or burnout. Some studies have suggested that psychiatrists have higher levels of burnout than other physicians employed in general medical settings [36, 37, 38].”

Otherwise the discussion about “induced demand by the professional” is an interesting point and as the author says, the phenomenon should be studied with larger sample of professionals.

The limitations of the study are clearly stated. One more limitation could be mentioned, quite large amount of missing data, although it was imputed. And low severity of the symptoms in the sample.

Concerning missing data, we have included the following sentence in the limitations: “However, concerning this matter, we have used an imputation method to compensate for the missing data.”

Concerning low severity of the symptoms, we have included the following sentence: “Thus, we can assume that the sample was representative of the patients with schizophrenia and related disorders in Malaga, always considering a similar Global Level of Severity.”

I think this manuscript has many good points and after the revision of the tables and the text related to them as well as making the discussion more compact, it could be accepted. If I have understood correct there is going to be a follow-up and that gives additional information in future. Improvement of community services is important after psychiatric reforms as dehospitalization. It is important to know about the factors which affect the use of health care services in persons with psychotic disorder.

We have revised all points suggested by the reviewer.