Author's response to reviews

Title: Social integration of patients in long-term maintenance treatment in northern Italy

Authors:

Gianluca Quaglio (gianluca.quaglio@azosp.vr.it)
Fabio Lugoboni (fabio.lugoboni@azosp.vr.it)
Cristian Pattaro (cristian@biometria.univr.it)
Gics Investigators (medicina.dipendenze@azosp.vr.it)
Linda Montanari (Linda.Montanari@emcdda.org)
Alessandro Lechi (alessandro.lechi@univr.it)
Paolo Mezzelani (paolo.mezzelani@univr.it)
Don CD Jarlais (dcdesjarla@aol.com)

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RE: MS 1861373048829875

Dear BioMed Central Editorial Team,

Thank you for your prompt answer. I am providing you with a point-by-point response to the reviewer, and the manuscript revised according to reviewer observations. New phrases and sentences removed from the original text are in **bold** type. We would like to comment on referee observations (*in italics*) as follows:

1) The authors have three aims but they write them separately (2+1). It would be clearer if they wrote the three together.

In the Abstract, the Background subsection has been modified as follows:

**Heroin addiction often severely disrupts normal social functioning.** The aims of this multi-centre study of heroin users in long-term replacement treatment were: i) to provide information on aspects of social condition such as employment, educational background, living status, partner status and any history of drug addiction for partners, comparing these data with that of the general population; ii) to assess the prevalence of hepatitis, syphilis and HIV, because serological status could be a reflection of the social conditions of patients undergoing replacement treatment for drug addiction; iii) to analyse possible relationships between social conditions and serological status.

In addition the phrase: **iii) to analyse possible relationships between social conditions and serological status,** has been added in the second paragraph of page 3.

2) Point 6 of my previous comments has not been completely resolved, as a person could for instance be employed part of the six months, while later or before there could be a period of unemployment. How was this handled?

Subjects were not followed up for their job status during the six-month period. They were asked about their employment status at the time of the interview. For their employment status, the question was structured as follows:

1- stable job with a regular contract
2- stable job without a regular contract
3- working, but not continuously
4- home workers
5- student
6- unemployed
7- invalid
8- retired

Only one option was allowed. On the basis of international definitions, we considered respondents 1, 2 or 3 as in employment. In this way, the reported employment status is clearly an approximation of the real working condition of the subject during the six months. On the other hand, if a subject answered 1, 2 or 3, they referred to a sufficiently long period of time, several months. Patients in categories 4, 5, 7 or 8 were classified as “other”. Those responding 6 were, of course, considered unemployed.
3) The description of table 4 in the text is flawed. For instance, older subjects were not only at increased risk of hepatitis and TPHA but also HIV. Employment status is also incorrectly described.

In page 9, the Social characteristics and serological status subsection has been revised as follows:

As shown in Table 4, older subjects had an increased risk of hepatitis, HIV and TPHA (OR ranged from 2.60 to 5.78)..................The status of unemployment was associated with an increased prevalence of all the diseases (OR ranged from 1.73 to 3.65).

Furthermore it is not clear whether the authors included all variables in a logistic regression (LR) for each infectious disease or whether they are all different LR (adjusted by age continuous variable? - and sex).

The legend of the Table 4 has been expanded to include what was described in the Statistical Analysis section. As described, models have been adjusted by recruitment unit, sex and age. One model was used for employment and education; another model for variables related to the partner. The reason is that it is not clear if and how employment/education could confound or be confounded by the partner variables for serology. An ad hoc analysis could be helpful but, in our opinion, this would have driven this paper out of focus. The new legend in Table 4 is as follows:

*: p-value < 0.05; **: Logistic regression adjusted by recruitment unit, sex and age; wherever the results were consistent, the adjustment for recruitment unit was omitted and age inserted as continuous to enforce the power of the models; education and employment were mutually adjusted; also partner variables were mutually adjusted; †: The degree level was excluded because of too few cases; ‡ 95% Confidence Interval

4) Discussion, pages 9 and 10: As the authors do not have the information about length of time in treatment, it is not possible to say that patients with higher education went earlier to seek treatment. The same holds for employment.

The results show only that the higher educated had shorter periods of heroin use: we do not claim that those with higher educational levels seek treatment earlier, although this may be the case.

For employment, on page 10, the following phrase has been modified, to soften it:

Finally, given the duration of drug use, patients who work seem to seek treatment before the unemployed: it seems possible to posit that employment is not only an important factor in social integration but also in rehabilitation.

5) Page 10, last line: It is not totally correct to say “... as the age increases...” because it gives a sense of continuity and the population was not from a cohort study. The authors are simply referring to the older subjects.

The phrase, now in page 11 second line, has been modified as follows:

…..the general population, but the older subjects tend to stay.....

6) The sentence provided as the correction of former point 9 also has a problem of over interpretation. To interpret the mean number of children it is important to know for how long subjects have been married and how long they had been in treatment.

The following phrase has been removed from page11(last line of Living and partner status subsection):

DUs seem to be less inclined to have a conventional family after marriage, as seen in the very low birth rate, despite maintaining stable relationships.

I hope these corrections will answer the referees objections and satisfy the Editorial Board.

Looking forward to hearing from you.

Yours sincerely,

Gianluca Quaglio, MD