

Author's response to reviews

Title: Minor psychiatric disorders among Brazilian ragpickers: a cross-sectional study

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Minor psychiatric disorders among Brazilian ragpickers: a cross-sectional study

Marcelo C da Silva, Ana Claudia G Fassa and David Kriebel

Environmental Health: A Global Access Science Source

Dear Dr. Ozonoff,

We want to thank you and the reviewers for the valuable suggestions that have been made. We have revised the paper, using many of the suggestions directly, while choosing not to adopt others. In what follows, we respond to all comments of the 3 reviewers. The paper has been revised, as noted. We believe that with these revisions, we have adequately addressed all of the reviewers' concerns and suggestions.

Reviewer #1, Dr Martha Traverso-Yopez, Universidade Federal do Rio Grande do Norte, Brazil

1. Is the question posed by the authors new and well defined?

True, there are not many studies on work and health among workforce in the informal sector, and more specifically, among ragpickers. So this cross-sectional research aiming to study the association of minor psychiatric disorders among ragpickers and compare to non-ragpickers from the same poor neighborhoods is relevant. However, it would be encouraging to see a more profound analysis about the socio-structural background of an extreme stratified society and high income inequalities, as the Brazilian. As a fact, it would be good to remember that global and national socio-political-economic trends favoring neo-liberalism had led to increased income inequality, poverty and unequal access to jobs and other health-relevant resources (a brief reference to these structural aspects is limited to a small paragraph at the very end of the article). So this lack of access to productive occupations and remunerated work contributes to expanding the informal labor market.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

Yes, the research methods are described step by step and easy to follow up.

3. Are the data sound and well controlled?

Yes, however, there is one point I would like to highlight. It seems odd in our Brazilian context, to think about middle class people living in the slum areas portrayed as ragpickers neighborhoods ["21.9% in the intermediate categories B or C", which are equivalent to upper middle class (B) and say, middle-middle class (C)]. Moreover, the occupations of domestic workers, day labourers, retail and construction workers

are more likely to be in Level D or maximum C. Therefore, it would be good to see a more critical positioning about the social class identification procedure. ABIPEME sorting has undergone strong criticism and several revisions due to be dealing with indicators or variables considered inadequate for discriminating social class differences in Brazil. There is a good article of Fauze Najib Mattar (1996) available in the Internet (<http://fauze.com.br/artigo07.htm>) "Porque os metodos de classificacao socioeconomicos utilizados no Brasil nao funcionam", discussing this point.

This point is very important to discuss. We used this criterion because there was a recent population study done in Pelotas city about minor psychiatric disorders using ABIPEME to evaluate socio-economic status. We know that this instrument is not the best way to evaluate socio-economic status but, in order to better compare both studies, this was the best choice. We included in the 6th paragraph of page 7 why we chose this instrument and possible implications for the study.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

I think so, although in the Discussion item, pag. 13, part of the first paragraph "A household survey by trained interviewers provided insights into many aspects of these workers lives..." might be better at the Methods item. The same with the third paragraph "In the present study, we employed the Self-Reporting Questionnaire (SRQ-20)..."

Part of the first paragraph of page 13 was removed because it was very well described in Methods. The third paragraph of the same page was transferred to Methods and added to the paragraph about the reason to use SRQ-20 and its advantages to our study.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

Yes, although, following the line of thinking in item 2, I consider that the last paragraph in pag. 14 should be revised. If you are comparing ragpickers with non-ragpickers in the same neighborhoods, it is impossible to think about people from the economic level A.

This paragraph was revised and the comparison with an economic level A was removed from the paragraph.

6. Do the title and abstract accurately convey what has been found?

Yes, it does.

7. Is the writing acceptable?

Yes, but some revision is required, especially at the reference pages, in which some digital errors were detected, including extra numbers and the Journal at Reference 35, totally misspelled.

The bibliography was reviewed and errors were revised.

All the observations posed are allowed for discretionary revision, with the exception of number 3 and 7 which needs a minor essential revision.

We ask all peer reviewers to declare their competing interests in relation to the paper they are reviewing:

I do work in this interface between Social Psychology and Health and my interest on the subject comes from my past experience studying the psychosocial conditions among informal labor force (I do believe that despite the high rates of precarious work and unemployment in Third World countries, the theoretical development about the psychosocial effects on the people involved is rather small). I do have a research experience with ragpickers at the dump site in Guayaquil, Ecuador, my native homeland, long time ago. When I arrived to Brazil to work as Visiting Professor (and a year later, after the qualification process, as Associate Professor) at the Universidade Federal do Rio Grande do Norte, my first research work was at a fisher's village, 40 Kms, north of Natal. Our action-research focused on a group of soap and detergent female producers, using local seaweed as raw material. They had a precarious manufacturing infrastructure, but also different problems related with the production and commercialisation process. The idea was to study how the lack of productive occupations and the precarious working conditions affect the life and health of this population.

Reviewer #2, Dr Manas Ray, Chittaranjan National Cancer Institute

General Evaluation report of the manuscript "Minor psychiatric disorders among Brazilian ragpickers: a cross-sectional study" by da Silva et al.

There are millions of ragpickers in developing countries throughout the world. Although their job is hazardous, physical or mental health of these poor people are often neglected. Against this background, the objective of this study is significant. But the study needs major improvement in all sections.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. Although the paper is on MPD, least importance has been given on this psychological problem in Materials and methods, Results and Discussion. The authors have not described MPD except for "four on physical symptoms and sixteen on psycho-emotional disturbance". But the readers who may not be well acquainted with mental health problems may ask the question: what are these symptoms and disturbances? What is the highest score of each of these 20 questions? What is the highest and lowest possible total achievable? What precautions did the authors take to eliminate possible denial of symptom (faking good) or hypochondria?

The 5th paragraph of methods is specifically about MPD and the instrument that was used to collect data about them. We added more explanation about the instrument and symptoms. The SRQ-20 has been used in many countries for decades and each question has two possible answers: yes or no. More information about this instrument can be found in the SRQ papers cited in the references. Precautions to eliminate denial of symptom or hypochondria were not taken because SRQ-20 is not a diagnostic test, but rather a screening test for MPD.

2. The prevalence of MPD may vary in different physiological, social and environmental conditions. I wonder whether the authors included women who were pregnant, breast feeding or on oral contraceptive during the survey. These conditions may influence the outcome (MPD). Similarly, history of malignancy, tuberculosis and cardiovascular problems, marked variation in body mass index (BMI) and current use of medicine may influence MPD. Have the author considered these points? It is important to incorporate inclusion and exclusion criteria in Materials and methods.

We did not include questions about pregnancy, breast feeding or oral contraceptive. We collected information about BMI but this variable had no association with MPD. Women more frequently answer

positively questions about depression and anxiety symptoms than men. For this reason, standard methods for interpreting SRQ-20 recommend different cut points for men and women distinguishing presence/absence of MPD (6 or more points for men and 8 or more for women, with high sensitivity and specificity). Following the reviewer's suggestion, we have included, for both groups, inclusion and exclusion criteria in Material and Methods.

3. Comparison of demographic and socio-economic characteristics of the ragpickers and referents and statistical data (p value) are absent. This information should be displayed in a Table, otherwise the readers would be at a loss to know a simple fact like how many of male and female ragpickers were included in this study. No data is available on age distribution, years of ragpicking, indoor air quality and others that could have influenced the outcome. For example, since the ragpickers are poorer, they may be using unprocessed solid biomass as cooking fuel in contrast to cleaner fuel like LPG by referents. Biomass smoke contains a host of chemicals that are potentially neurotoxic. In that case, greater prevalence of MPD in ragpickers may be linked to biomass use rather than ragpicking. Use of mosquito repellants at home is another potential contributor. The authors should work on these possibilities and incorporate the findings in the manuscript.

The first four paragraphs of the results display information about socio-economic characteristics of ragpickers and referents. P-values were included on these paragraphs to make clear the role of chance in these differences. We did not include a table with detailed socio-demographic and economic conditions because this information has been already published in 2 previous papers written by us that are cited in this paper. Information specifically about the gender distributions in the 2 groups is presented in the 4th paragraph of Methods. The eligibility criteria included a minimum duration of 6 months working as ragpicker. We did not collect information about indoor air quality.

4. Statistical analysis. Emphasis should be given more on comparison between ragpickers and controls. The Tables are not easy to comprehend. The authors may consider inclusion of logistic regression, OR values with 95% CI in text and Tables. Separate Table or graph should be added on i. the prevalence of MPD, in general, and ii. Some of the important symptoms of MPD in relation to years of ragpicking.

The basic comparison between prevalence of MPD in ragpickers and non-ragpickers is simple enough that it is presented in the text -- 44.7% versus 33.6%. Because of the many potential confounders of this association, the paper emphasizes the results of multivariate models which include a dichotomous variable for ragpicker/non-ragpicker. We feel that this approach is appropriate given the closely matched study design. In a cross-sectional study like this one, the appropriate measure of association is the prevalence ratio, rather than the odds ratio. We have accordingly presented PRs in the table and text, and cite a paper which explains this point (Barros & Hirakata. "Alternatives for logistic regression in cross-sectional studies: an empirical comparison of models that directly estimate the prevalence ratio". BMC Medical Research Methodology, 2003).

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. The article is not easy reading. The English is poor. Page should be marked.

The paper has been carefully re-edited by one of the authors who is a native English speaker, and we believe the writing is clear and correct. Page numbers should be marked on the revised draft.

2. Abstract: 3rd line 'precarious' may be replaced by more appropriate word; Results, p value is needed (33.6%, p<?). Key words, 'mental health' may be dropped.

Abstract: precarious was replaced by "difficult"; Results: p value was added; Key words: Mental health was dropped.

3. Background is scrappy and not pointed. It should be streamlined. 2nd para: To this list Mari et al. ' added nutritional problems [4].' 3 rd para line 2: leading cause of lost work..... 4th para. International Labour Organization (ILO) has reported that.... 5th para 3rd line 'less than twice the level' is not self explanatory. Next line: about 173 US \$ per month. Last para 'A comparison paper 2005' should be omitted.

We agree with the reviewer and we tried to re-structure the background giving more emphasis to the relation between ragpicking and MPD. All other requests asked by the reviewer were performed.

4. Methods. Lacks basic information about the MPD, and the detailed methodology of questionnaire survey, elimination of bias, background information on physiologic state of the female participants, indoor air quality. Last para; only mention the reference.

As noted above, additional information about MPDs and the questionnaire survey have been added. We did not collect information about air quality nor about the physiologic state of female participants. Again, we need to remember that SRQ-20 is a screening test for MPD and not a diagnostic test. In the last paragraph, we agree with the reviewer and we only cite the reference.

5. Results. Needs restructuring and streamlining. Use subheadings. Data on living conditions should be transferred to Materials and methods. Omit 'successfully' in 2nd line. 3rd para change to "US \$ 80.1 and 182.3"; 2nd and last para, don't use reference [10] in results. 3rd para, explain ABIPEME. Under MPD: 3rd para how are these data related to ragpicking?

In materials and methods we describe the instruments how the study was done (methodology), instruments used to collect data, logistic of the study. Data on living conditions are results of the study and, for this reason are shown in Results. We omitted the word "successfully". We removed reference 10 from the 2nd and last paragraphs of the results. ABIPEME has been better explained in Methods. The data described in the 3rd paragraph report the possible confounders or modifiers of the association between ragpicking and MPD.

6. While discussing the findings the authors should emphasize more on data published in scientific journals than in websites.

We feel that we have appropriately used print and internet resources. There are 4 websites in the bibliography:

I. <http://www.lixoecidadania.org.br/lixoecidadania>;

II. Half the world's workers living below us\$2 a day poverty line;

III. <http://www.abep.org/default.aspx?usaritem=arquivos&iditem=23>;

IV. <http://www.abep.org/default.aspx?usaritem=arquivos&iditem=23>.

Site I is a Brazilian resource that provides important and reliable information about Brazilian ragpicking and child labor that we do not believe can be found elsewhere. It is very difficult to collect information about ragpickers in the world and, in Brazil, there is less scientific information about these population. Site II belongs to International Labor Organization (ILO) and was used to provide data on world unemployment. Site III belongs to ABEP (Brazilian Association of Research Companies). The site describes the methodology used for classifying people in different economic levels (A - E). This is the best available source for this information, and the only one that will be easily found outside of Brazil. Finally, site IV, is an

official site from the Brazilian Institute of Geography and Statistic, and gave us data about number of Brazilian unemployed.

Reviewer #3, David Parker, Park Nicollet Clinic, University of Minnesota

General

This is a very interesting article and may be one of the few that has ever been published that examines the health of "rag" pickers. At times the background lapses into issues that might be construed as obvious. For example, the authors write, "Mental illness may not, in itself, be fatal but it causes extensive disability in rich and poor countries alike..." This sentence could be omitted. The list of risk factors for minor psychiatric disorders is very broad to the point of providing little insight to the reader and much of the second paragraph in the background section might be considered for omission. Similarly, the section on the number of working people and those who are unemployed ought to be omitted or brought back to the paper in a manner that is more clearly connected to the outcomes of interest. In sum, the background section often veers away from the point of the manuscript and needs to be more directly focused on work and psychiatric disorders.

We agree with the reviewer and we tried to re-structure the background giving more emphasis on relation between ragpicking and MPD. The paragraph on number of unemployed people was kept because we believe it is a critical part of the context in which ragpicking has become such an important economic sector.

In the methods section, there needs to be more clarification of the economic levels A-E. A small table would be helpful. This is particularly important since economic levels are used as part of the analysis. In addition, there ought to be a clear definition as to what psychiatric conditions are under consideration in analysis. It is also a bit confusing when alcohol use is discussed. This reviewer is not certain if alcohol abuse and other substance abuse are considered a psychiatric condition under DSM III. If this is the case it might call for some re-analysis.

The Brazilian criteria for economic classification have now been better-described in the Methods. We do not feel that a table is necessary because it is not the principal point of investigation of the study. Alcohol abuse and smoking were considered as exposure variables for MPD and not as psychiatric conditions. We decided to remove that paragraph because we agree that it detracts from the emphasis of the paper - ragpickers.

I recognize that the population under study is difficult to reach and evaluate. However, it is often unclear as to what is antecedent; psychiatric conditions or rag picking. My own experience is that the conditions of rag picking are one of the most extreme of work environments. While anecdotal, it appears those individuals who are marginalized (i.e., pre-existing pathology) may find rag picking a last-resort occupation. This is aptly noted by the authors in the discussion.

We agree that temporality is a great problem in cross-sectional studies and this study is no exception. To make clear that this problem is inherent in our study, we introduced in the 3rd paragraph of the discussion this limitation of the study. We also explain why we doubt that MPDs are likely to often precede the work of ragpicker.

In addition, is it minor psychiatric and psycho-social problems that are importance to this population? Are there more serious conditions that are more germane? In particular with regard to the mental health of rag pickers what are the serious conditions that are faced by this group of workers and are they evaluated in the survey that has been used? More discussion of the limitations of the survey would be helpful.

The reviewer is correct that minor psychiatric disorders are only one of the many problems that this population faces. Their socio-demographic and economic conditions are difficult in many aspects, and

these undoubtedly lead to a variety of other health conditions. In the Discussion, we state that "MPDs are not the only, or perhaps even the most important morbidity that ragpickers face. Rather, we wanted to show that careful application of standard epidemiologic methods enabled us to systematically evaluate a range of problems faced by workers in the informal sector." We cite another paper by us in which musculoskeletal problems in this cohort have been investigated, based on the same survey.