Author's response to reviews

Title: Prevalence of chronic diseases and morbidity in primary health care in central Greece: An epidemiological study

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Version: 2 Date: 26 July 2010

Author's response to reviews: see over
Dear editor,

Thank you for providing us the opportunity to submit a revised version of our manuscript. We appreciate the comments of both reviewer’s and we estimate that add value to our manuscript. Please notice that according to the reviewer’s suggestion the analysis of data has changed, following the instructions of the statistician of our Institute (Ass. Prof. Elias Zintzaras, whom we would like to add as an author for his substantial contribution), leading to a major reformation of the greatest part of our manuscript, especially in the result section. Extensive changes in the scientific English from a native English speaker have additionally been performed. Our point by point responses to the reviewer’s comments are the following:

Reviewer 1:

Major Compulsory Revisions (MCR):

MCR1: The scientific English has to be improved. There are many nonconforming phrases and spelling mistakes. A native English speaker could help here.

Response: The manuscript was reviewed by a native English speaker according to the reviewer’ comment and several sentences of the manuscript have been rephrased.

MCR2: Confidence intervals should be calculated for the estimations (Table 3 and 4). These should be adapted to your cluster design (see MCR3).

Response: The analysis of data was adapted to the cluster design of our study as suggested by the reviewer. For Table 3 estimated prevalence for each disease was changed and confidence intervals were added. Table 4 was reformulated and expresses the estimated prevalence of each disease for each group with the estimated confidence interval.

MCR3: You have a design with 4 clusters and many patients per cluster. Therefore, you can expect a so called "design effect" or "cluster effect" that increases sampling
error estimations and confidence intervals. There are several statistical packages (e.g. "SAS" or "R") that can account for this design to obtain reliable estimations. A local statistician could help here.

**Response:** We agree with the reviewer’s comment and the estimations were adapted to the cluster design following the instruction of an expert statistician. All the necessary changes have been made in the statistical analysis (Page 6), results section (Pages 7 and 8) and in Tables 3 and 4.

Minor Essential Revisions (MER):
MER1: The demographics of the study population should be compared to the Greek population (about 12 million individuals) relating to age and gender.

**Response:** We agree with the reviewer’s comment. Data from Eurostat were added in the discussion section and were briefly discussed (Page 11).

MER2: You should calculate and show SDs for your results, where appropriate (see MCR3).

**Response:** The requested SDs were added where appropriate (Tables 3 and 4).

MER3: Potential selection biases (e.g. caused by voluntary participation) should be discussed.

**Response:** Potential biases and limitations have been discussed in the last paragraph of the discussion section (Pages 11 and 12).

Discretionary Revisions (DR):
DR1: It would be interesting to obtain a short overview regarding the Greek health care system and the role of the GP.

**Response:** We agree with the reviewer’s comment. A paragraph on Greek health care system and the role of the GP was added in the background section (Page 3).
DR2: Codings of ICPC-K76 was used to identify "Coronary Heart Disease". This could be amended by ICPC-K74 and -K75.

Response: We agree with the reviewer’s comment and ICPC-K76 was changed with K74 and K75 in Table 1

DR3: I visited "Larisa" about 20 years ago. I suppose, the city was spelled with 1 "s" only.

Response: Larissa is spelled with 1 “s” in the Greek language but in English it is written with double “ss”, in order to be correctly pronounced (with an s instead of a z in the single s spelling). We hope the reviewer had enjoyed his/her time here.

Reviewer 2

Comment: More context is needed regarding the setting/population to help judge the generalizability of the findings. Although the manuscript mentions that data were collected from 4 out of 16 clinics in one city/region, it would probably not be clear to the average reader how reflective this region is of the country. Are the clinics part of a national health care system? If not, what type of reimbursement system is used? Also, it would be helpful to know how many patients refused to participate (and did they differ from responders on demographic characteristics?) Similarly, it would also be helpful to know to what extent systematic screening occurs in these clinics (or in Greece in general), especially for the 10 illnesses that were the subject of the report.

Response: We agree with the reviewer’s comment. Some data from the Hellenic statistical authority on Thessaly were added in the study design section (Page 5). We would also like to mention that we have no data of the patients who refused to participate in the study. A specific comment was added in the discussion section (page 12).

Comment: Not clear why some important chronic illnesses were not included (e.g., Congestive heart failure).
Response: The diseases recorded were those described in the International Classification of Primary Care (ICPC) coding system. The ten most common and burdensome chronic diseases, based on the main causes of death and disease burden in the United States and the most common diagnoses in primary care were separately recorded (Ostbye T, et al. Is there time for management of patients with chronic diseases in primary care? *Ann Fam Med* 2005, 3(3):209-214). A specific comment was added in the Methods section (Page 5, last paragraph), along with the appropriate reference.

Comment: In addition, the methodology section is vague and does not match the abstract. The abstract indicates that subjects completed a standardized questionnaire (or were interviewed?), while the methodology section implies that data was abstracted from patients’ hard copy medical records.

Response: Both abstract and the methodology section were rewritten in order to avoid discrepancies. Participants initially were asked about their diseases and subsequently their medical records and drugs received were checked. These have been clarified in the Methods section (Page 5).

Comment: Population estimates may need to be weighted to more accurately reflect true prevalence.

Response: Following the instructions of our Institute's statistician, the analysis was reformulated with more accurate estimations (Tables 3 and 4).

Comment: A number of limitations are not mentioned. The discussion seems to assume that the reported rates of disease prevalence reflect true biological prevalence, as opposed to physician-recognized, or physician-recorded prevalence. Certain chronic illnesses (e.g., depression) to be under-diagnosed, and/or less likely to be recorded in the medical record.

Response: We agree with the reviewer’s comment, although we believe that the design of our study along with the large number of participants may have resulted in
the recording of all chronic diseases. A comment was added in the last paragraph of
the discussion section (Pages 11 and 12).

We are at your disposal for any further clarifications and we are looking forward to
your favourable decision.

Yours sincerely,

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