Reviewer’s report

Title: Seroepidemiology of infection with Toxoplasma gondii and socio-demographic, clinical and behavioural characteristics in blood donors of Durango, Mexico

Version: 1 Date: 14 March 2007

Reviewer: Veeranoot Nissapatorn

Reviewer’s report:

General
This manuscript is generally interesting in term of epidemiology which raises the awareness of a neglected parasitic disease in areas where Toxoplasma gondii is still prevalent.

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

Materials and Methods:
Study population:
1. In this section, it is necessary to clearly elaborate all information of the participants such as type of the study, study site, study period and number of study subjects.
2. It would be better to tell a bit more info of public blood bank in the study area.
3. In inclusion criteria, it was not clear that HIV status or other blood-borne diseases in these blood donors were included or not. If not included, then these subjects were “healthy blood donors”.
4. Ethical aspects should be included in this section.

Laboratory tests
This part needs more details;
1. Serum samples
   - Procedure
2. Detection of IgG and IgM antibodies to Toxoplasma gondii
   - Where to perform these tests
   - Cut off point value
   - Define positive results

Statistical analysis
- SPSS (name of company, city and country).
- Line 2-3: For comparison…were used. --> revise sentence
- Measurement uses in qualitative and quantitative variables such as mean± SD, median and range.
- Specify a statistical significant of p-value (I see that the authors took sausage consumption of p = 0.2 as statistical significant --> please refer to statistician for avoiding “bias” of the data).
- Any reasons for taking variables with p ? 0.2 in bivariate to be included in multivariate analysis.
- Line 4: association…..T. gondii infection. ? between the characteristics of the subjects and Toxoplasma seroprevalence/seropositivity.

Table 2 and Table 3: if p ? 0.2 is not applicable for statistical analysis (refer to statistical analysis in Materials and Methods) --> revise

Discussion
I would suggest the authors to rearrange the content according to its objectives.

1. Seroprevalence of toxoplasmosis in general population (blood donor) has been poorly studied in Mexico.
- Any additional suggestions such as surveillance study or Toxoplasma screening program in blood donation, organ donors, women (unknown serostatus or seronegative) during child bearing age and immunosuppressed patients.

2. Risk factors vs Toxoplasma seroprevalence
I would suggest the authors to discuss according to Results such as demographic and then other risk factors which makes more systematic and informative.
Cats at home” --> it would be better to have few similar or different studies to challenge this hypothesis.

From 2nd paragraph, line 2-4 --> revise sentence
line 4-6 --> from this study it is very clear that sample size of both genders are too different therefore the authors should give comments such as further study needs to be carried out, etc.

From the last paragraph, line 5-6 --> The authors should give suggestion(s) regarding Toxoplasma via blood transfusion or blood products.

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

Title needs to be modified ? Seroepidemiology of infection with Toxoplasma gondii in (healthy?, see attached in Materials and Methods ) blood donors of Durango city, Mexico.

Background:
Line 10-21 --> If the authors want these references in Discussion therefore I would suggest to remove these sentences (avoid repeating).
Line 19; discontinuation of references (from 14 then 16, 17) --> revise
Line 26; clinical --> refer to Materials and Methods.

Materials and Methods
Socio-demographic, clinical and behavioral data
Were all data recorded in a standardized questionnaire?
Line 6-7: clinical data including blood transfusion or transplant history and behavioral data including……

1. Clinical data should be related with toxoplasmosis (At first, when I read the title, I thought that there are clinical cases of toxoplasmosis involved in this study therefore it is misleading to the reader).

2. It is more appropriate to use the term of contributing or confounding risk factors for behavioral data in which all possible variables can be included from animal contacts ….to…. blood transfusion and transplant history.

Line 7-12: behavioral data including…..eating outside of the home

The authors should have “definition and duration (such as 3 or 6 months prior to this study)” of these variables which make more reliable information for this study.

Results
From text:
Seroprevalence of anti-T. gondii antibodies
- The authors should give more detail of how many positive anti-Toxoplasma IgG and IgM from each of blood bank.

Socio-demographic characteristics associated with seropositivity
Line 2: The mean age of the blood donors was 30.4 years --> 30.4 ± SD?
Line 2-3: All but one blood donors were born in Mexico --> revise sentence
Line 6-7: in the age group of 45-60 years --> where ?.
The difference… significant --> What are these frequencies?.
Note: Please write in detail of both text and frequencies (%)

Clinical and behavioral factors associated with Toxoplasma seropositivity
Please rewrite this paragraph and clearly separate Table 2 from Table 3.
I would suggest that these two headings (Socio-demographic characteristics associated with seropositivity and Clinical and behavioral factors associated with Toxoplasma seropositivity) should be combined as:

“Socio-demographic characteristics and other possible risk factors associated with Toxoplasma seroprevalence (seropositivity)”. Then, details are in chronological in order according to Table content.

“Cats at home” and “cats in the neighborhood” --> these two variables can be combined as “Contact with cats” whereby the authors can define this variable.

Table 1:
At the footnote of this Table, the authors should have short sentence of any significant association between demographic profiles and Toxoplasma seroprevalence (since the column for p-value was not shown in this Table). Then, refer this statement in full length of the text in Results.

Birth place --> the authors should be able to figure out that he or she (blood donor) was born in Mexico or not (because this variable has very contrast in sub-categories).

Occupation --> Try to make few groups such as laborer, nonlaborer and other (the authors may find any significant association with Toxoplasma seroprevalence ?.). State these definitions at the footnote.

Housing condition index: To my surprise, only 345 out of 432 were recorded in this study --> What happened to 87 records…whether they are homeless or their houses were not fitted to these categories???

Table 2:
Variable
Degree of meat cooking
Raw or undercooked 10
Well done 423
433? (Total number is 432)

Conclusion --> revise

References:

According to the format guideline of the journal, the following references are recommended for correction;

Ref. 1,11,14,16,17,18,21,25, and 27: Toxoplasma gondii --> italic
Ref 1: ....6... --> ........6(1)....
Ref 2: ....363.... --> ....363(9425)....
Ref 3: ....118....--> ..118(3)....
Ref 4: Parasitic....hosts. --> bold
Ref 5 : ....126..... --> ....126(1-2)....
Ref 8-19 should be made as same as Ref 7 format
Ref 14, 16, 17,... --> revise (15 was missing in Background)
Ref 20: .....19.....--> .....19(No.?).....
Ref 21: .....120.....--> .....120(1).....
Ref 22: ...34.....--> ...34(2).....
Ref 23: .....70.....--> .....70(6).....
Ref 25 : ....135.....--> ....135(3-4).....
Ref 26 : ....35.....--> ....35(1)....
Ref 27 : ....45.....--> ....45(2)....
Ref 28: remove (it is the same as Ref 8)

Discretionary Revisions (which the author can choose to ignore)
- It is an option if the authors want to add one more of Table content for seroprevalence of toxoplasmosis.

Total number of Toxoplasma seropositive blood donors = 40 (9.3%)

<table>
<thead>
<tr>
<th>IgG IgM IgG+IgM</th>
<th>Positive</th>
<th>Negative</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td></td>
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</table>

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interest