Reviewer’s report

Title: Cholinesterase Research Outreach Project (CROP): Point of care cholinesterase measurement in an Australian agricultural community

Version: 0 Date: 13 Oct 2017

Reviewer: V. Dhananjayan

Reviewer's report:

Comments for the Author:

This manuscript reports the findings of Cholinesterase Research Outreach Project (CROP): Point of care cholinesterase measurement in an Australian agricultural community. This study demonstrates that integration of AChE monitoring into routine health checks for those are risk and to also examine any association between AChE activity and agrichemical use.

The study is relatively small scale but contains important data that highlight the ongoing concern over the exposure of farmers to agrichemicals particularly OP pesticides in Australia. However, there are a considerable number of areas where the manuscript requires clarity or improvement. The major points are listed below.

Abstract;

Line 31. PChE is not analysed in this study, why mention of this in abstract and other places.

Line 32. Sentence starting with Subclinical effects… not relevant in abstract.

Line 38. Sample size mentioned in Abstract are not matching with numbers tables. Ex non-forming 15 in abstract but in table it was 14.

Methodology section includes information of many parameters like behavioural data, psychological status, physical assessment etc., which are not reflected in discussion, abstract or any other place.

First time mention of PChE should be elaborated as Plama Cholinesterase (PChE).

Background; information given in background section is very vast, it can be focused only towards objectives of the manuscript.

There is no rationale given for why liver, kidney and gut contents were examined rather than just one organ. Explain in the text why was this done as a central component of the study?
Methods;

Line 152 Ache levels were monitored at four time points from baseline to 9th weeks. It is contradictory to the sentence given in line no.210.

Study participants; selection of control subjects should be elaborated. There residential locations, nature of job etc., Give reason why sample size of control is less.

Line 171. Sample size should be corrected.

Line 210. What is need of mentioning "within a 12 week period?"

Line 217. Change the word "Kolmogorov Smirnoff test' in to Kolmogorov Smirnov test

Results;

Line 229. Refer the sample size mentioned in the abstract and correct it according.

Line 246. Details of usage of PPE is not at all mentioned in Tables or graphs.

Why should non farming participants use PPE, need explanation on selection of control and the information of PPE usage data.

Line 267-269, 270. While mentioning p value of ANOVA, F values should be mentioned. Similarly all the place wherever p values are mentioned.

Discussion;

In general the data obtained from the study results should be discussed continuously. The given much importance for review of information on usage of AChE data and other cholinesterase literature. Authors need to give much attention in discussion the existing data and its importance when compared with earlier study and his own observation from the study.

Text in many paragraphs are overlapping, it has to be reduced and rewritten.

Many paragraphs largely describes about how much AChE data is useful. There is link between what is current data point and related observation.

Line 379-382, Repetition of sentence check line no.83-84.

Line 387-390. Is just a review, not a discussion.

Line 445. The work "also" nor appropriate here.
Reference;

References:

In general it is used excessive amount of references (36 Nos). The bibliographic search looks not sufficiently updated: 6 of 36 (16,6 %) cites are before 1999. 20 of 36 (55,5%) are of the period 2000-2010. The remaining 10 cites of between 2011-2017 and other 2 cites.

Authors should try to maintain at least 50% reference in recent one. Although pertinent, the old citations need a refinement. The manuscript lacks of more attention about what happened in literature in the last ten years about this topic worldwide.

Table 1. Caption of the table not suiting for the information given in,. ex.PPE usage no data in table.

Total participants in Farmers 41 the percentage should be (100%), similar in Non-formers it has be modified.

The sample size 41 is not matching for the details on health status, bodily pain, risk level, alcohol intake, alcohol use etc., also verify in non-farmers (short term risky alcohol use data).

No details on PPE usage data.

Table 2 data is not clear. Author has to explain the importance this data, % of total individual chemical sue is irrelevant. I would suggest to remove this table. Information on this aspects are resulted in text and discussion too.

Check unit mentioned in graphs Figure 1 b. and Figure 2 b. Whether is distribution try to give suitable caption.

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited
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