



SDI Review Form 1.6

Journal Name:	International Journal of TROPICAL DISEASE & Health
Manuscript Number:	2014_IJTDH_14092
Title of the Manuscript:	An analysis of seasonal variation and climatic influences on the male to female ratio of live births in Malta
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	The authors provided a nice literature review and introduction; however, the statistical study design, methods, statistical analysis, results and presentation need some clarification. 1. Line 15: In the abstract, the authors mentioned that the data was aggregated into monthly data during the period from 1958-2013; however, on page 109, in the analysis of the relationship between M/F and the temperature, the data was aggregated into yearly data. The negative correlation between annual M/F and average mean yearly temperature may be due to artefact of the aggregation and the results based on this analysis can be misleading by ignoring the variation of climate characteristics within a year. 2. The study period is not consistent. For studying the seasonality pattern, the study period is from 1958-2013 and for studying the correlation between climate variables and the M/F, the study period is from 2000-2012. Is there any particular reason why the study period for the two analyses differ and if the results depend on the selection of the studying period. 3. Line 99-100. Please be careful stating the	1. In line 15, it is mentioned that the monthly data was obtained not aggregated. The analysis was carried out on various aggregates, that is, monthly, 2 month groups (that is January + February etc.) quarterly, half yearly and yearly. Monthly correlations were in fact tested on the data but gave no significant results. 2. The study period for the correlation between climate variables and M/F varies as data on climate factors was only obtained for those years. See lines 87 – 89. 3. Paragraph removed. 4. All tests on data prior use of ANOVA were in fact carried out but were not mentioned in paper. Now it is included in lines 98 – 99. This phrase “between different period lengths at single year.” was previously described in the methods section, lines 75 – 77. 5. Inserted Table 1 and 2 with parameter estimates description for the ARIMA models. 6. Thanks for the suggestion. Principal component analysis was in fact carried out between climate factors and sex ratio but no significant results were



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	name of the statistical approach used. Chi testing should be Chi-squared test and it is not clear to me what chi trend means. Additionally, Chi-square test was used to compare the M/F between Jan vs. Jun and Jun vs. September. It is unreasonable to use two time points to test if seasonality present. Moving average utilization the whole data is a valid approach for testing seasonality. 4. Line 102-103. The authors opted to use ANOVA. I am not sure what the authors meant "between different period lengths at single year". Please clarify. The authors need to state if all the assumptions related to ANOVA are satisfied in the results section. 5. Line 104-107. The authors need to give more details about the results from ARIMA. 6. The results and conclusion of this article are based on very preliminary analysis and only considered the unconditional or univariate analysis. Appropriate multivariate analysis controlling for other risk factors should be considered. For example, including both climate characteristics and time component in the model.	obtained. Hence, this was excluded from the study.
<u>Minor</u> REVISION comments	1. Line 218. In the caption, the p-value =0.098, but on line 109 in the text, the p-value=0.049? 2. Line 110, the regression equation should be more explicit. What Y and X represent for?	1. Corrected 2. Corrected
<u>Optional/General</u> comments		