



SDI Review Form 1.6

Journal Name:	<u>British Journal of Medicine and Medical Research</u>
Manuscript Number:	Ms_BJMMR_20719
Title of the Manuscript:	Pulmonary Function Impairment in Female Workers Exposed to Environments with Varied Ambient Air Pollution in the central business area of Lusaka-Zambia
Type of the Article	Original Research 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.

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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	<p>Lines 142-143: the authors say that “significantly lower” values have been found in street sweepers, and this datum of statistical significance should come from Figure 1; therefore the level of significance should be mentioned and reported in that figure. Instead, Table 2 here mentioned indicates the frequency of people with different conditions and not the median value of the indices of respiratory function, as expected.</p> <p>Again from Figure 1 histograms, it seems that FEV_1/FVC ratios were higher in street sweepers, differently from what written at line 143.</p> <p>Figure 1: Figure legend should declare if data are median values. Display of data dispersion would be interesting, so the authors might consider using a box plot with median values and interquartile ranges.</p> <p>Lines 149-150 and Table 2: It should be indicated what is intended for “normal” and “impaired” values; a reference limit should be declared for this assignment of categories. In Table 3 that limit seems to be 70%; please indicate also here.</p> <p>Table 2: the statistical test for FEV_1: with the reported data, the chi-square test gives a value of 3.554, that, with 1 degree of freedom, provides a $p=0.0594$ (Not Significant), that should not be rounded to $p=0.05$, as</p>	<p>Lines have been deleted.</p> <p>The observations were corrected and highlighted in yellow. The level of significance for FEV_1/FVC ratio obtained using the independent samples t test was given. However, since the difference in FEV_1 and FVC were not significant the dispersion has not been included. Table 2 has been correctly labelled as table 1.</p> <p>Figure 1 was replaced by box plots to show the dispersion of the median values of the FEV_1/FVC ratio. The plots of the predicted values of FEV_1 and FVC have not been included as the two groups included a single sex with similar physiological characteristics.</p> <p>The reference values have been added and highlighted.</p> <p>This has been corrected and highlighted.</p>



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	<p>indicated.</p> <p>Lines 150-151: The data do not show a “reduced FEV₁”, but the number of people with reduced FEV₁. The sentence should be corrected accordingly.</p> <p>From Table 3, it appears that there is a significant difference in impaired or normal FEV₁/FVC according to the previous exposure as indoor or outdoor cleaners. This fact may distort the data on respiratory function in the present groups of workers (indoor vs outdoor), especially if the previous exposure lasted for long time. A better mention to this could be done in discussion.</p> <p>Lines 153 and 189: should be “ *Indicates a <i>p</i>-value at significance level <0.05.”</p> <p>Figure 2: data should not be presented as points linked by lines, since it is not the behaviour of a phenomenon varying according to X-axis (on X-axis are here the distribution parameters). I would see much better also here a box-plot representation, more conventional and appropriate, that shows all the parameters desired. If the authors use SPSS software, it should be easy to do that.</p> <p>Lines 211-214: regarding data of Figure 3, the so different median values of FVC between the two groups (impaired/normal) are really not significant? As told for the previous figure 1, just histograms without dispersion values are not complete for understanding well the phenomenon.</p>	<p>Sentence was corrected and highlighted.</p> <p>Corrected as table 2. The variable has been deleted from the table and was discussed in the discussion. However other factors such as duration of previous employment were considered during data collection but were not controlled for during analysis. Hence it is appropriate that we remove the variable to avoid distortion of data.</p> <p>This has been corrected accordingly.</p> <p>This has been replaced by boxplots.</p> <p>Although the median values for FVC were so different, this difference was not proved significant by the independent samples t test for nonparametric data. Box plots have been used for each parameter to show the dispersion.</p>
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	Did the authors try to find a direct correlation between PM _{2.5} values and the various respiratory parameters? Alternatively, considering the nominal variable “impaired/normal” in the respiratory parameters, a logistic regression versus PM _{2.5} values could be evaluated.	No direct correlation was made, however a logistic regression model was used for Impaired/normal versus PM _{2.5} and cleaning group. This analysis has been presented in the revised manuscript.
<u>Minor</u> REVISION comments	<p>Lines 143, 149, 152: The table is named “Table 2”; I do not see a Table 1, so this Table 2 should be “Table 1”. Similar comment for Table 3, that should become “Table 2”.</p> <p>Line 273: “The results of this study showed” Line 287: “were quite high”</p>	<p>The tables and figures have been correctly labelled.</p> <p>Lines 273 and 287 were corrected.</p>
<u>Optional/General</u> comments	The manuscript presents an interesting study of the exposure to air pollutants among a sample of street sweepers and office cleaners in Zambia. The English language is very good and clear; some adjustments may be necessary with figures and statistical details.	