

Updates in Public Health and Preventive Medicine

Author Response

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Article Title: Awareness-Raising on Air Quality and Health Effects in Primary School Children by Using MAPEC_LIFE Study Educational Package: Preliminary Data

Author Response to Review Comments

Reviewer: Mohamed El-Helaly, Mansoura University, Egypt

We thank the reviewer and the Editor for evaluating positively our manuscript. Our point-by-point responses to comments are detailed on the following pages

1. Material an methods need to be more clear and to provide more information about the children enrolled in the study such as their ages, sex,.....etc.

The section was improved with information regarding the children enrolled: "...The followed preliminary study, to assess the effectiveness of the EP, interested 50 teachers of 200 that used the EP to a total of 1048 primary-school children attending 2nd, 3rd and 4th grade classes, in particular 340 (32.4 %), 360 (34.4%) and 348 (33.2%) pupils respectively...".

2. Authors need to provide more information about on all tools they used and explain why they used them?

In the text: "...The Educational Package (EP) was created during MAPEC_LIFE Project by a focus group composed by six primary school teachers' and three researchers of the project. Audio-visual aids and games, with specific didactic leaflets for adults, were chosen considering the children's age and published experiences.

The EP was composed by a storyboard, five lesson plans and three videogames (Figure 1). The storyboard was an introductory video of three minutes that illustrated the main educational contents of the video games. For the video games, three key messages were chosen: air pollution and health hazards, healthy lifestyles, and effects of pollutants at the cellular level and positive action of vitamins (e.g. fruits and vegetables). Finally, were five the important topics described into teachers' leaflets: I) source and characteristics of the most important air pollutants, II) effects of air pollution on health, III) policies to reduce exposure to air pollution, IV) lifestyles V) information about the effects of air pollutants on cells...."

3. Did authors use sampling techniques for selecting enrolled children and teachers?

In this preliminary phase, we used a convenience sampling because the sample population involved in the MAPEC_LIFE project was readily available and convenient.

Cited in the text: "... The teachers and pupils involved were chosen for convenience by those already participating in the MAPEC_LIFE project..."

4. Provide detailed information about Likert Scale. also, is it validated or not?

In the text: "...A Likert scale is a psychometric scale commonly involved in research that employs question-

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naires and it is the most widely used approach to scaling responses in survey research (12). The original Likert scale used a series of questions with five response alternatives....”

5. All abbreviations should be written complete on the first time they appear in the text.

The words were written as suggested

6. Why did authors selected 2nd to 4th grade children? Can they understand the educational materials concerning air pollution?

In the text: “...Children of 1st and 5th classes were not involved because corresponding teachers were not available in this preliminary phase....”

7. All results should be statistically tested for significance to proof significance

In Material and Methods section

“...To evaluate the possible statistical significance between classes Chi-square test was used for each question. ...”

In results and discussion section

“...Considering the results by school classes and only the answer “very”, the data revealed more frequency replies for 2sd grade classes for understanding and children feedback (Table 2). Nevertheless, statistical analysis does not make in evidence significative differences, for $p < 0,05$, between classes: the EP seems to be appreciated by all the teachers and pupils....”

8. Table 1: Kindly abbreviate TOT?

We deleted “TOT” and we inserted “total” in Table 1.

9. I did not find any discussion. All results could be analysed and discussed in reference to other studies done on the same subject of the current work

Discussion section was added to results reporting

“...The usefulness of the tools to promote new knowledge was evaluated positively by all teachers and videogames were greatly appreciated by the majority of children. In fact, adding “very much” and “much” answers, 72%, 54% and 62% of teachers considered the educational package effective, understandable and simple respectively. Meanwhile 72% and 54%, respectively, expressed as positive perception in terms of enjoy ability and usefulness (Figure 2), confirming the importance of a game-based learning approach, demonstrated in many studies (13, 14). Considering the results by school classes and only the answer “very”, the data revealed more frequency replies for 2sd grade classes for understanding and children feedback (Table 2). Nevertheless, statistical analysis doesn’t make in evidence significative differences, for $p < 0,05$, between classes: the EP seems to be appreciated by all the teachers and pupils. Play, in its diverse forms, constitutes an important part of children’s cognitive and social development and computer games have increasingly replaced more traditional games as leisure activities. The use of traditional teaching approaches appears to be insufficient, and the use of information technology tools may increase student motivation. Audiovisual tools and videogames have been recognized as being very efficient and promising for motivating children to actively participate in learning activities (15,16)....”