LETTER TO THE EDITOR

Development and validation of a questionnaire to evaluate infection control in oral radiology: methodological issues to avoid misinterpretation

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To the Editor

We were interested in reading the article by Costa et al¹ published in *Dentomaxillofacial Radiology* in January 2017. The authors aimed to evaluate the construct and content validity and reliability of a designed questionnaire which captures compliance with the standard precautions for control of infection in radiology practice. The results have demonstrated that the questionnaire can be a valid and reliable tool.

Although the results were very interesting, some methodological and statistical issues should be taken into account. It was stated that the Kaiser criterion of an eigenvalue >1 was used to extract factors, which corresponded to 69.5% of the total variance.¹ As a general rule in factor analysis, an eigenvalue of >1 is considered to extract the factors, as each factor explains at least 15% of variance of the variables.² In the study conducted by Costa et al,¹ only factor 1 had an eigenvalue >1.

Authors indicated that the created questionnaire is a valid tool, whereas such an interpretation can be much optimistic. Hence, the important question is that is it possible to evaluate construct validity of a designed

questionnaire using exploratory factor analysis alone, without any validation study. At least two random data sets are needed to assess construct validity. In other words, the construct of the questionnaire should be initially evaluated using exploratory factor analysis in a data set. Then, its construct validity must be tested in a different independent sample through confirmatory factor analysis.^{3–5}

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