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Regarding the characterization of the population as a tool of external validity

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Dear Mr. editor,

We have read with great interest the article published by Aponte-Martín et al. entitled *Improving colonoscopy preparation using information and communication technologies (ICT), randomized clinical trial*[(1)]. The authors used information and communication technologies (ICT) to improve the quality of patient preparation for colonoscopy through the use of an educational video. We highlight the suitability of using ICT for these types of patients, not only because of the easy and unlimited access to necessary information for the proper procedure but also because we have observed that, in Colombia, the use of these technologies has steadily increased over the past five years, particularly among the adult and elderly population[(2)], which is the main focus for the application of this examination. Therefore, it is essential to have an appropriate characterization of the population, especially with regard to variables that may seriously affect the results of the clinical trial.

In the aforementioned study, no clear description was provided regarding age, socioeconomic status, and educational level for the different working groups. This not only leaves room for potential biases in the assessment of bowel preparation and adenoma detection but also decreases the external validity of the results, as they cannot be extrapolated to the general population due to the lack of sociodemographic information about the study sample. We believe that it is essential to take into account the various social variables and determinants that affect patients' ability across different regions of Colombia to access and view the video in a timely manner. Although there are areas with high rates of ICT usage, such as Bogotá (84.3%), Meta (82.6%), and Cundinamarca (77.7%) among individuals over the age of five, there are other departments, such as Vichada (12.7%) and Vaupés (21.4%), where the proportion of the population using ICT is significantly lower[(2)].

Other factors to consider include the low rate of ICT use in small towns (41%) and remote rural areas (34.3%). Age is also a relevant variable, as only 40.84% of adults between the ages of 65 and 69, and just 20% of adults aged 70 and older, reported using ICT. This represents a significant barrier when implementing this type of intervention or assessment tool[(3)].

Additionally, it is important to highlight the lack of rigor in verifying whether the video was actually viewed, as patients were simply asked during the follow-up visit whether they had watched the video or not. This method allows for false positives that cannot be filtered and may introduce a social desirability bias, which should be considered when conducting the study. This contrasts with the methodology used in the

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study by Hayat U et al., where access codes were employed and patients were not directly asked, thereby reducing this type of bias[4–6]. This, combined with the subjectivity involved in describing the clarity of the instructions on how to access the video, raises concerns, especially considering that the material consisted of a printed envelope containing the video link. Since the individuals who received it were between 30 and 84 years old, there is a considerable likelihood that many may have experienced difficulties using the tools required to view the video.

Moreover, by explaining the study to patients and making them aware that they were being observed, the results, although statistically significant as demonstrated by the authors, may have been influenced by the Hawthorne effect, which positively alters patients' behavior simply because they know they are part of a study. Furthermore, the article mentions that pilot tests were conducted to assess the ease of access to and viewing of the video; however, beyond stating that such tests were carried out, no further details are provided regarding the outcomes or findings.

Finally, the article concludes by recommending the routine use of this technological strategy; however, it also points out a "possible limitation of the study, which is that the population involved consists of middle and high-income patients, who may have had greater access to internet technologies"[1], as mentioned by the authors. Due to this, the results and conclusions derived from this research could not be extrapolated to the general population, let alone implement this practice in a systematic and routine manner.

In conclusion, we believe that various factors that could have directly affected the results were overlooked in this study. Furthermore, a clear description regarding the age, socioeconomic status, and educational level of the sample used was not provided, so the results cannot be applied to the Colombian context, nor can they be verified with the methodology provided by the authors. In addition, we propose the use of a method similar to that of Hayat U et al., so as to have more than the patient's testimony and reduce the possibility of false positives. Additionally, it is recommended to add some sort of code at the end of the video, which should be provided by the patients during the follow-up consultation, without informing them about its existence beforehand. This would verify their engagement when accessing the video.

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