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LETTER TO THE EDITOR

Response rate to an online questionnaire amidst the COVID-19 pandemic in undergraduate students and alumni from a Colombian university

Tasa de respuesta a un cuestionario en línea en medio de la pandemia de COVID-19 en estudiantes de pregrado y egresados de una universidad colombiana

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Dear Editor:

In epidemiology and public health research, caution is required when addressing results reported in studies based on the administration of online questionnaires. The most critical limitation of such studies is the inability to ensure the representativeness of the sample.[1] However, when having a representative sample is secondary, online questionnaires are an excellent alternative for exploratory studies that seek to obtain information about emerging phenomena quickly and cost-effectively or address sensitive issues, as this approach allows reaching populations that are difficult to contact using traditional strategies.[2] Online research guarantees that participants remain completely anonymous and ensures that they provide more honest responses, regardless of their social desirability, stigma, or discrimination.[3]

The response rate of online questionnaires is typically lower than that of paper-based questionnaires. In the case of online questionnaires, the response rate varies depending on the target population, ranging from 5% to 10% in the general population and from 20% to 47% in university students.[4] In addition, most of these responses are submitted within the first week after receiving the invitation to participate.[2]

In Colombia, studies based on sending questionnaires via physical mail or email are rare. However, the coronavirus disease 2019 (COVID-19) pandemic forced epidemiological studies to rely on online questionnaires, but the response rate to this type of instrument in our country remains unknown. Data on this situation could be useful for future research because rates vary across countries and depends on the type of participants.[1,4] Bearing this in mind, the aim of this letter to the editor is to report the response rate to an online questionnaire after being available for three weeks.

An observational cross-sectional study was carried out. Participants included active adult undergraduate students and recent graduates from a Colombian public university. A first invitation to complete the questionnaire was sent using the Google Form© link in the week of January 18-24, and a reminder email was sent in the week January 25-31. Consequently, the Google Form© link sent via email was available to be completed between January 18 and February 1, 2021. In addition, the questionnaire was accessible from February 2 to February 11 for any late respondents.

The number of responses was established at the end of the first and second weeks (early responders), as well as ten days later (late responders). Student's t-test and Chi-square test were performed to make comparisons between early and late responders, with a significance level of $p<0.05$. All statistical analyses were carried out in the IBM-SPSS statistical software, version 23.0.

The study was approved by the research ethics committee of the institution where it was carried out (Minutes 002 of the ordinary meeting held on March 26, 2020, by the Ethics Research Committee of Universidad del Magdalena), and informed consent was obtained from all participants.

An invitation to fill out the questionnaire was sent via e-mail to 22 270 active undergraduate students and alumni registered as such in the university records. In total, 1 486 responses were received, with 0.33% (n=5) failing to complete the informed consent form and 4.51% (n=67) being excluded for being under the age of 18. Thus, the final sample consisted of 1 414 respondents, for an overall response rate of 6.37%. Participants' age ranged between 18 and 58 years (mean=24.5, SD=6.6). The complete sociodemographic information of respondents is shown in Table 1. Regarding response times, 81.82% (n=1.157) completed the questionnaire the first week, 13.86% (n = 196) in the second week, and 4.31% (n = 61) during the additional 10-day period.

Table 1. Demographic characteristics of the participants.

Variable	n	%
Sex		
Female	933	66.0
Male	481	34.0
Marital status		
Single or separated	1 109	78.4
Married or cohabiting	305	21.6
Faculty		
Business and Economics	439	31.0
Basic Sciences	60	4.1
Education Sciences	150	10.6
Engineering	331	23.4
Health Sciences	235	16.6
Humanities	199	14.1
Income		
Low	1 090	77.1
Middle or high	324	22.9
Residence		
Urban	1 214	85.9
Rural	200	14.1

Source: Own elaboration.

There were no significant differences between early and late responders in terms of age, sex, faculty, marital status, type of residence (urban or rural), and income (p>0.05).

The findings described above show that the response rate obtained here is similar to response rates observed in other studies conducted before the COVID-19 pandemic. For example, Van Mol,[5] in a study conducted in 15 651 students from the University of Antwerp, Belgium, between October and December 2013, reported that the overall response rate in the first wave (i.e., after sending the first invitation) was 6.2%, and that it increased to 16.5% after sending the first reminder.[5] Despite the contextual differences, only the first wave response rate reported by Van Mol[5] is similar to the response rate obtained during the first week in our study (5.21%).

Obtaining a high response rate after a reminder email is unusual; however, it should be noted that response rates may vary among participants according to their demographic characteristics, attitudes, beliefs, level of hesitancy, or access barriers (i.e., unavailability of Internet and/or equipment to complete online questionnaires).[4]

On the other hand, our findings suggest that extending the deadline for submitting the response beyond the second week does not significantly increase the overall response rate. Thus, extending the deadline after 2 weeks or more could be useless to increase the overall response rate to online questionnaires.[2,4]

As the results of this type of studies are taken into account when public health programs, strategies, and policies are developed and implemented, it is essential to avoid the use of online questionnaires in the context of the COVID-19 pandemic since up-to-date information from a large percentage of participants in the target population is required.

In conclusion, the response rate to an online questionnaire in active students and alumni from a public university in Colombia during the COVID-19 pandemic was 6.37%, and 95.68% of respondents submitted their response during the first two weeks after sending the invitation. Replication of these results is necessary.

Conflicts of interest

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