JPPIPA 11(2) (2025)

Jurnal Penelitian Pendidikan IPA

Journal of Research in Science Education

http://jppipa.unram.ac.id/index.php/jppipa/index

Evaluation Study on the Use of the SSE (Samarinda Smart Edu) Application for Elementary School Teachers in Samarinda City

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Received: October 25, 2024
Revised: December 27, 2024
Accepted: February 25, 2025
Published: February 28, 2025

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DOI: 10.29303/jppipa.v11i2.10205

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Abstract: This research aims to determine the user experience of elementary school teachers in Samarinda City using the SSE application for evaluation learning media in terms of 6 aspects (attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty) as well as the responses, troubles, and feedback from teachers as users. The research uses a mixed method with sequential explanatory design, analyzing quantitative data through the User Evaluation Questionnaire (UEQ) and qualitative data through interviews. The results show that the teachers' experience level for the aspects of attractiveness (1.71), efficiency (1.74), stimulation (1.41), novelty (1.27) are included in the "Good" category and for the aspects of perspicuity (1.72) and dependability (1.22) are included in the "Above Average" category based on the result of quantitative data. However, several positive and negative responses were given based on the result of qualitative data which explains general troubles experienced by teachers are that not all teachers can operate technological devices, the application is considered quite confusing and less effective. Some feedbacks given by teachers explains that can be redeveloped in terms of features, provide technical guidance before used in schools. Still, in terms of its purpose, SSE application helping teacher performance in evaluating learning results.

Keywords: Application; Elementary school teacher; Evaluation; Samarinda smart edu; SSE; Users experience

Introduction

The importance of Information and Communication Technology (ICT) drives the development of education so that currently learning that utilizes information technology is a must and increasingly visible (Haq, 2023; Suminar, 2019). In other words, education now demands learning that optimizes the use and utilization of ICT. The central and regional governments are required to play a role in supporting various educational institutions so that they can continue to be adaptive to changes in the educational paradigm from traditional to information technology. Teachers and students are expected to follow and master technology in supporting the learning process (Lao et al., 2021). It is essential for prospective 21st-century teachers, particularly elementary school teachers, to possess technological knowledge (Maryani et al., 2024). Incorporating stimulation components into the use of information and communication technology is one strategy that can be used to increase the effectiveness of learning through its use (Salsabila et al., 2020). Moreover, incorporating technology will foster innovation among teachers, enabling them to cultivate an engaging learning environment (Irawan et al., 2023). Many schools have implemented the use of technology as a learning medium (Fansury et al., 2025). One of the efforts that can be made is to prioritize programs related to the use of ICT in the learning process as has been done by the Samarinda City Government. In this case, the Samarinda City Education and Culture Office (DISDIK) initiated by the Samarinda City government is

How to Cite:
Yuntiari, A. D., & Pujiriyanto. (2025). Evaluation Study on the Use of the SSE (Samarinda Smart Edu) Application for Elementary School Teachers in Samarinda City: Bahasa Indonesia. *Jurnal Penelitian Pendidikan IPA*, *11*(2), 964-971. https://doi.org/10.29303/jppipa.v11i2.10205

innovating in the development of ICT for the education process, where this innovation program is also in line with the vision and mission of the Samarinda City government to process Samarinda City as a "Smart City" which is characterized by the use and integration of information technology (Tanoto Foundation, 2022). The Samarinda City Education and Culture Office (DISDIK) launched the SSE (Samarinda Smart Edu) application platform on September 27, 2020 to facilitate and monitor the teaching and learning process in all elementary and junior high schools in Samarinda City. Nuryadin (2020) explained that there are 135 elementary schools and 70 public and private junior high schools in Samarinda City that have registered and are using the SSE application, where 3,988 teachers and 68,881 students have used the application. The SSE application has also been equipped with several supporting features such as student absences, question banks, and media for teachers to give assignments and conduct learning evaluations in the form of daily tests or exams for students. The provisions for implementing learning evaluations using the SSE application have been issued by DISDIK through a circular addressed to all schools at the elementary and junior high school levels in Samarinda City to carry out learning evaluations in the form of Mid-Semester Assessments (PTS) and End-Semester Assessments (PAS) through the SSE application independently and remotely. The use of the SSE application in the learning evaluation process is also related to the urgency of the Covid-19 pandemic situation that had hit Indonesia at that time. There are several considerations in order to suppress the transmission and spread of Covid-19, so the Ministry of Education and Culture (Kemendikbud) has implemented a Learning from Home (BdR) policy (Putri, 2022). During the Covid-19 pandemic, learning evaluations had to be done online in accordance with government recommendations (Fitrah et al., 2020). In line with the policy of the Ministry of Education and Culture, the Samarinda City government supports efforts to carry out BdR activities for students through the use of the SSE application platform. In line with the urgency of the use of the SSE application at that time, teachers are not only required to be able to utilize technology in the learning process, but teachers are expected to be able to use technology and evaluate its use in the right way. Evaluation itself is essentially a process of making decisions about the value of an object where the assessment decision (value judgment) is not only based on measurement results (quantitative description), but can also be based on observation results (qualitative description) (Siregar et al., 2021). The learning model evaluation itself should be flexible, according to students' present needs (Besser et al., 2022; Cavanagh et al., 2020; Hassan et al., 2021). In the 21st century, the evaluation activities are not only conducted conventionally but have also seen significant development with the emergence of applications that can be used as tools for evaluation, leveraging Information and Communication Technology (ICT) media (Widiyawati et al., 2019). In general, the implementation of learning evaluations still uses a conventional system, namely paper-based (Wulandari et al., 2021). Meanwhile, research conducted by Suhardi (2018) explains that the evaluation process using paper media has many weaknesses, namely, it takes a long time, the costs are quite high in the printing and distribution process of manuscripts, and a special safe storage space is also needed because it is confidential. Learning evaluation needs to be carried out so that deficiencies in the learning program that have been designed do not recur in subsequent learning (Sitompul, 2018). The challenges of a traditional and boring assessment system can be overcome effectively through unique and creative evaluations (Daryanes et al., 2020). In essence, the form of learning evaluation can utilize technology media that is made so attractive so that students' responses can be more interested and even active and not afraid when facing the evaluation process. A study conducted by Haddar (2024) explains that learning evaluation media at the Elementary School level in Samarinda City in the 2021/2022 academic year was carried out through assignments, questions via the Google Forms platform, Quiziz, SSE, etc. The role of the SSE application at that time was expected to be able to facilitate the conditions and needs of teachers and students in carrying out the learning evaluation process during and after the Covid-19 pandemic. A good evaluation system for students is an evaluation that can provide motivation to always improve their abilities (Magdalena et al., 2023). The assessment obtained through evaluation media is expected to be able to describe the actual competence of students (socess must be appropriate, valid, and relevant to student needs. However, the use of the SSE application at the elementary and junior high school levels in Samarinda City has raised several pros and cons and learning problems. Learning problems are problems that interfere, hinder, or complicate or even result in failure to achieve learning goals (Ana, 2022). One of the problems is teacher preparation related to the shift from learning evaluation with a conventional system, namely based on exam papers to a distance system using the SSE application which feels quite sudden without any preparation or careful planning. This situation may be quite common in schools, especially for older generation teachers. Finally, teachers are not ready to face changes in learning with the use of information and communication technology (ICT) (Asmuni, 2020). In

addition, several studies that have been conducted previously also indicate the same gaps and problems related to the problems of using the SSE application as a learning evaluation media. One of the learning problems in Samarinda City is the problematic use of the SSE (Samarinda Smart Edu) application (Oktavia et al., 2023). The use of the SSE application has many difficulties because the link sometimes experiences network disruptions (Haddar, 2024). Teachers do not get sufficient understanding or special BIMTEK so that teachers have a little difficulty in using the application (Annisa, 2023). Students experience obstacles in accessing the SSE application during PTS and PAS simultaneously in Samarinda City (Nor, 2022).

The latest update regarding the program for using the SSE application has been discontinued by the Samarinda City Education and Culture Office (DISDIK) as of November 2023. Meanwhile, the program carried out by the Samarinda City government, namely "Samarinda Smart City", is still running until 2026 and one of the prioritized programs is improving quality education through digitalization in the education sector. In this case, the researcher sees the potential importance of conducting a detailed and in-depth evaluation of the SSE application that has been used by school teachers from elementary school levels in Samarinda City. This evaluation can be used as a reference for improvements for the development team on Samarinda City Education and Culture Office (DISDIK) and as a follow-up to one of the programs carried out by the city government by improving the quality of the SSE application program and similar innovations in the future.

Referring to various analyzes regarding pro and cons of SSE application, it is important for the Samarinda City Education and Culture Office (DISDIK) as SSE application's developer to sees the importance of conducting a detailed and in-depth evaluation of the SSE application that has been used in Samarinda City. Therefore, this study aims to determine user experience as well as responses, troubles, and feedbacks of elementary school teachers in Samarinda City when used the SSE application for evaluation learning media. In other words, research findings of SSE application are analysed in mobile learning are analyzed in a comprehensive and holistic manner through various literature reviews originating from internationally and nationally reputable scientific sources.

Method

This research used mixed methods where researchers use two different methods that are combined (quantitative and qualitative). The research design used Sequential Explanatory, one of the research designs that classifies in the first stage with the collection and analysis of quantitative data first, then followed by the second stage with the collection and analysis of qualitative data to strengthen the results of quantitative research conducted in the first stage (Pane et al., 2021). Based on the definition, the researcher on the first stage collected and analyzed quantitative data using UEQ (User Evaluation Questionnaire) and UEQ tool to determine the user experience of elementary school teachers in Samarinda City while using the SSE application as a learning evaluation media in terms of 6 aspects (attractiveness, efficiency, dependability, perspicuity, stimulation, and novelty), and for the second stage the researcher collected data and then analyzed qualitative data by conducting interviews with several elementary school teachers to determine the responses, problems and feedbacks experienced by elementary school teachers (EST) on using the SSE (Samarinda Smart Edu) application as a learning evaluation media, then analyzed the entire data (quantitative and qualitative) to obtain several conclusions from the results of the data analysis as an evaluation of the use of the SSE application in Samarinda City.

Figure 1. Sequential explanatory research design

The mixed methods research with the Sequential Explanatory research design was used by the researcher to obtain more comprehensive and complete data related to the evaluation of the use of the SSE application compared to using only one qualitative or quantitative method. The population in this study were elementary school teachers in Samarinda City, namely 3,001 teachers. The number of elementary school teachers is spread across 162 elementary schools and 10 sub-districts in Samarinda City. In addition, to determine the minimum number of research samples used, the researcher used the Slovin formula with a tolerance of 10% (0.1) because the population size was known and included in the large population category. Based on the results of calculations using the Slovin formula, the minimum number of research samples was 97 elementary school teacher respondents, but the researcher collected more than the required samples with a total sample of 255 elementary school teacher respondents. The following is the distribution of

elementary school teacher respondent samples in each sub-district in Samarinda City.

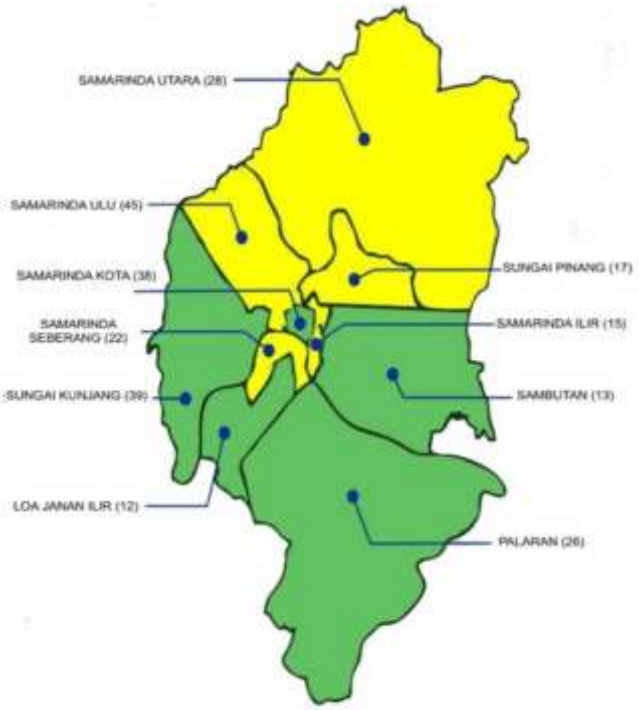

Figure 2. Overall answer EST on each district in Samarinda (Source: Processed Primary Data, 2024)

Data collection techniques used observation (to observe and review data related to the use of SSE applications in elementary schools), questionnaires (to categorize the level of user experience of elementary school teachers who have used SSE applications reviewed from 6 aspects using 26 question items from 6 aspects of the User Experience Questionnaire - UEQ), interviews (to detail and complete the information obtained from the collection of questionnaire data that was previously carried out using interview guide references that researchers have compiled and validated based on 6 aspects of UEQ).

The validity of the data used focuses on 3 criteria, namely, credibility, dependability and transferability. The data analysis technique for this study uses quantitative data as the main method while qualitative data is used to explain in more detail and depth about quantitative data. The data processing technique from the quantitative method is analyzed by entering it into the UEQ tool in the form of a Microsoft Excel formula and processed automatically. According to Schlepp (2015), data from a scale of 1-7 is transformed into several value weights: (1,-3), (2, -2), (3, -1), (4,0), (5,1), (6, 2), (7,3). The data transformation process will calculate the mean, variance and standard deviation values, as well as calculate confidence intervals and comparisons with benchmark data sets (Laugwitz et al., 2008). The benchmark will categorize the user experience of using the SSE application into 5 categories (per aspect): very good: In the range of 10% of the best results, good: 10% of the results in the benchmark data set are better and 75% of the results are worse, above average: 25% of the benchmark results are better than the product evaluation results, 50% of the results are worse, below average: 50% of the benchmark results are better than the product evaluation results, 25% of the results are worse, and bad: In the range of 25% of the worst results. The benchmark graph from the UEQ Excel tool also displays a benchmark graph to state the quality of the SSE application being evaluated. The data processing technique from the qualitative method is analyzed using the Miles and Huberman model with modifications for its use carried out in only one cycle (one cycle) stage. The stages in data analysis are sequentially, namely: 1) data reduction, 2) data display, and 3) conclusion verification.

Results and Discussion

User Experience's Elementary School Teachers

The discussion of the research results begins with data acquisition to determine the user experience of elementary school teachers in Samarinda City related to the experience of using the SSE (Samarinda Smart Edu) application as a learning evaluation media. Quantitative data acquisition was carried out using the User Experience Questionnaire (UEQ) which consists of 26 question items and 6 aspects (attractiveness, efficiency, clarity, accuracy, stimulation, and novelty). The graph below shows the average value of each UEQ question item of elementary school teachers regarding the experience of using the SSE (Samarinda Smart Edu) application as a learning evaluation media in Samarinda City.

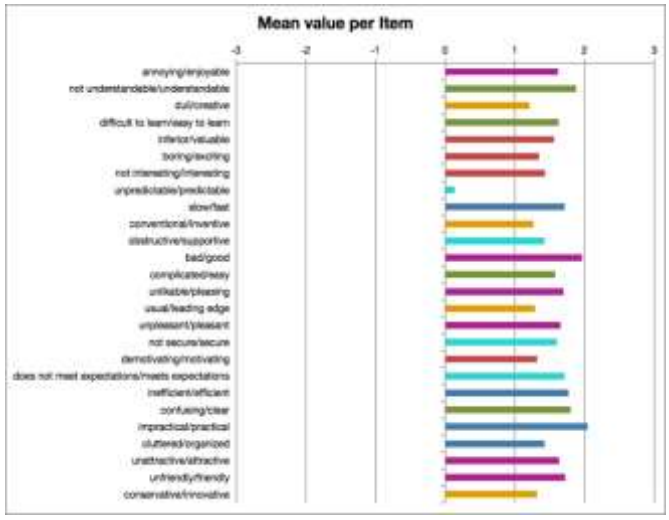

Figure 3. Mean value of EST answer on each item of UEQ (Source: Processed Primary Data, 2024)

Table 1. Mean Value of EST answer on Each Aspects of UEQ

Aspects	Mean	Comparison to Benchmark	Interpretation
Attractiveness	1.71	Good	10% of results better, 75% of results worse
Perspicuity	1.72	Above Average	25% of results better, 50% of results worse
Efficiency	1.74	Good	10% of results better, 75% of results worse
Dependability	1.22	Above Average	25% of results better, 50% of results worse
Stimulation	1.41	Good	10% of results better, 75% of results worse
Novelty	1.27	Good	10% of results better, 75% of results worse

The graphic image shows that 26 items represent the user experience evaluation and show positive answer values. Meanwhile, the 8th item, which is one of the dependability aspect items, represents a smaller average value than the items in other aspects. Based on the results of the average value of the existing quantitative data, the researcher calculated and interpreted the data into each aspect of UEQ. The table and graph show the average value of the recapitulation of each aspect of the Elementary School Teacher UEQ related to the user experience of using the SSE application.

Based on the table and graphic images above, the average value for the aspects of attractiveness, efficiency, stimulation, novelty are 1.71, 1.74, 1.41 and 1.27 respectively, which are included in the "Good" category, meaning that the SSE (Samarinda Smart Edu) application is attractive, efficient, motivating and innovative based on the overall impression of elementary school teachers' user experience. The average value for the perspicuity and dependability aspects are 1.72 and 1.22 respectively, which are included in the "Above Average" category, meaning that the SSE (Samarinda Smart Edu) application is quite easy to use and makes users feel in control in interactions, security and meets expectations based on the overall impression of elementary school teachers' user experience.

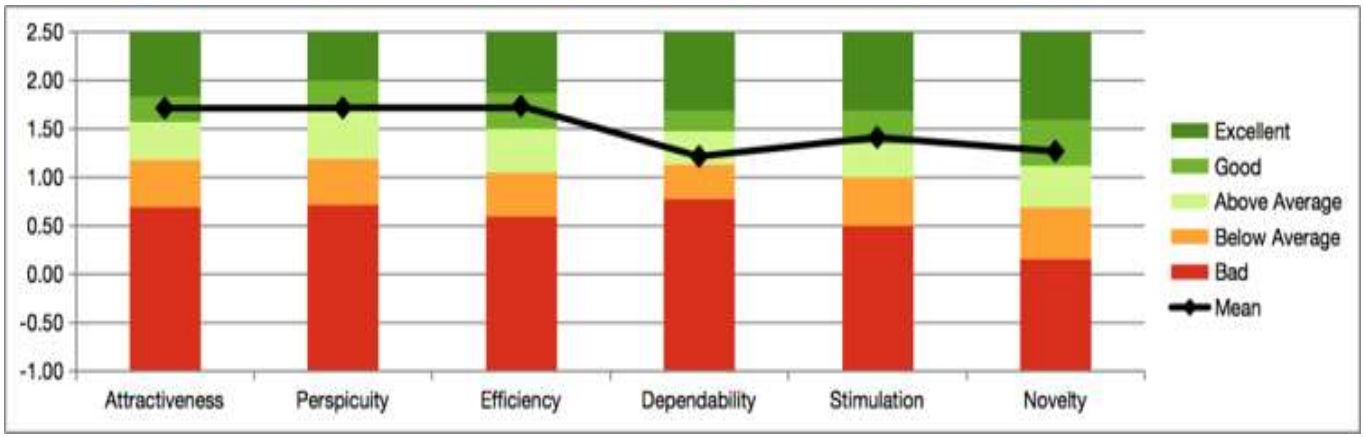

Figure 4. Mean value of EST answer on each aspect of UEQ (Source: Processed Primary Data, 2023)

Responses, Troubles, and Feedbacks of SSE Application

The following discussion is the result of obtaining qualitative data as a whole to complete the evaluation process of the SSE application in more depth through interviews with 11 elementary school teacher respondents as sample representatives to find out the responses, troubles and feedback of elementary school teachers in Samarinda City in the experience of using the SSE (Samarinda Smart Edu) application as a learning evaluation media reviewed from all items and aspects of the UEQ (User Evaluation Questionnaire). After obtaining and analyzing qualitative data by reducing and displaying data (data display) of interview results. The following is a conclusion of the interpretation of the interview results as a whole, namely:

Responses - Based on all UEQ aspect items, it can be narrated that each teacher respondent interviewed gave positive or negative responses to each UEQ scale item related to their experience using the SSE application as a learning evaluation media. Several positive responses from respondents regarding the experience of using the SSE application stated that the SSE application is fast and efficient because the exam assessment results can be recorded automatically, practical because it can be accessed anywhere and anytime, and quite structured because the stages of inputting questions and answer keys and exam results are in one application (Respondent Interview Results No. 228). Meanwhile, several negative responses from respondents regarding the experience of using the SSE application stated that the SSE application is unpredictable because the SSE

application server can go down suddenly, less secure because cases were found between students working on exams in groups, and respondents considered it quite confusing because there were no clear instructions or procedures for use related to its application as a learning evaluation media. (Respondent Interview Results 141).

Troubles - Based on all UEQ aspect items, it can be narrated that each teacher respondent interviewed experienced different troubles (obstacles). However, the researcher concluded several troubles (obstacles) experienced by respondents in general, namely, the first is in terms of teacher ability where not all teachers have the ability or even understand how to operate technological devices such as PCs/Laptops, especially for older (experienced) teachers, the second is that the SSE application is considered quite confusing because it was implemented suddenly and there are no clear instructions for use regarding its use for teachers. According to Hendra et al (2023) explained that these obstacles are included in the category of "difficulty adapting" which means that teachers are not used to using technology and can be time-consuming and increase frustration and anxiety so that further explained how to overcome these obstacles, namely from the educational institution (Samarinda City Education Office) must provide training and technical support to ensure users can use technology products (SSE Applications) correctly and effectively. The third obstacle is that the SSE application is considered less effective because teachers are still asked to create exam questions on other application platforms because during the exam the SSE application can suddenly experience server down, and the SSE application is considered to take up a lot of teacher time because it is necessary to input exam questions and answer keys one by one into the SSE application which at that time was still not used to using the application so that it takes time to adapt to using the SSE application as a learning evaluation media.

Feedbacks - Based on all UEQ aspect items, it can be narrated that each teacher respondent interviewed provided different input. However, the researcher concluded that the input experienced by respondents in general was that, in terms of objectives, it was good to help teachers' performance in evaluating learning outcomes, but the SSE application still needs to be developed in terms of its user features so that it can be used more optimally, the application developer needs to consider conducting technical guidance (BIMTEK) for teachers in schools as a whole, not only for certain schools, before its use is implemented, clear instructions for use need to be made, not only for students, but teachers as users must also be given clear instructions/procedures for use, the capacity of users who can access the SSE website or application needs to be increased so that the server goes down suddenly when the exam is taking place at school (Hendra et al., 2023).

Conclusion

Based on the results of the evaluation study of the use of the SSE application for elementary school teachers in Samarinda City, several conclusions can be drawn, including: (1) The average value based on the impression of elementary school teachers (user experience) regarding the use of the SSE application as a learning evaluation media as a whole for the aspects of attractiveness, efficiency, stimulation, novelty, respectively, are 1.71, 1.74, 1.41 and 1.27 which are included in the "Good" category and for the aspects of perspicuity and dependability respectively, are 1.72 and 1.22 which are included in the "Above Average" category (above average), (2) Positive and negative responses were given by elementary school teachers in Samarinda City in the use of the SSE application as a learning evaluation media based on the acquisition and analysis of qualitative data on each UEQ aspect item, the troubles (obstacles) experienced by elementary school teachers in general are that not all teachers have the ability to operate technological devices, the SSE application is considered quite confusing because there are no clear instructions for use for teachers, and is considered less effective because teachers are still asked to create exam questions on other application platforms and need to input exam questions and answer keys one by one into the application, the suggestions (feedbacks) given by elementary school teachers in general are, it can be redeveloped in terms of features so that there is no server down and it is very necessary to provide technical guidance for teachers regarding the use of the application before it is implemented or used in schools, but in terms of purpose it is good to help teacher performance in evaluating learning outcomes. As for suggestions for further research, researchers recommend that the SSE application can still be developed in terms of its usage features so that it can be used more optimally, application developers need to consider conducting technical guidance (BIMTEK) for teachers in schools as a whole, not only for certain schools, before its use is implemented, clear usage instructions need to be made, not only for students, but teachers as users must also be given clear usage instructions or procedures, the capacity of users who can access the SSE website or application needs to be increased so that the server goes down suddenly when the exam is taking place at school.

Acknowledgments
Thank you to all parties who have helped in this research so that this article can be published.

Author Contributions
All authors contributed to writing this article.
Funding
This research received no external funding.

Conflicts of Interest
The authors declare no conflict of interest.

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