



Use Of Learning Technology (E-Learning) At Mtsn 3 South Bengkulu: Challenges and Opportunities

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Abstract:

Background of Study: The Ministry of Religious Affairs of the Republic of Indonesia has developed an E-Learning platform to advance educational technology and promote the digitalization of learning in madrasahs. Madrasah Tsanawiyah Negeri (MTsN) 3 South Bengkulu has adopted this system; however, its implementation has not yet reached an optimal level due to various infrastructural and pedagogical challenges.

Aims and Scope: This study investigates the challenges and opportunities associated with the use of E-Learning at MTsN 3 South Bengkulu, with a specific focus on its application in conducting learning evaluations. The scope encompasses identifying barriers, evaluating institutional readiness, and proposing feasible strategies for improvement.

Methods: A descriptive research design was employed, integrating qualitative and quantitative approaches. Data were collected through observations, interviews, and questionnaires, and analyzed using data triangulation to ensure validity and reliability.

Results: The study identified several obstacles to effective E-Learning implementation: limited access to digital devices, unstable internet connectivity, inadequate technological readiness among teachers and students, low student motivation, insufficient understanding of online learning, unsupportive home learning environments, and a lack of parental support in providing technological resources. Opportunities include enhancing digital literacy, integrating interactive learning activities, and strengthening stakeholder collaboration.

Conclusion: Successful E-Learning implementation in madrasahs requires coordinated efforts among government bodies, educational institutions, and private stakeholders. Recommendations include expanding device access, providing targeted digital literacy training, and designing engaging online learning strategies to optimize both instructional delivery and evaluation processes.

Keywords: Digitalization, E-Learning, Learning Technology.

1. INTRODUCTION

In the contemporary epoch, technology assumes a pivotal role in bolstering educational methodologies. The integration of technological tools, exemplified by E-Learning platforms, serves to optimize the efficacy of pedagogical endeavors. E-Learning allows students to access materials anytime and anywhere, which provides

flexibility in the learning process (Elcullada Encarnacion et al., 2021). Schools that have adequate technological facilities can use learning technologies such as E-Learning better (Bøe et al., 2021). However, in reality, many schools still face limitations in access to technology, such as at Madrasah Tsanawiyah Negeri 3 South Bengkulu, hereinafter abbreviated as MTsN 3 BS, which has a direct impact on students' learning experiences. Information communication technology (ICT) refers to the utilization of computer-based communication, which includes classroom and e-learning teaching approaches (Jassim, 2020). The gap in access to technology in schools can exacerbate educational inequality, because not all students can utilize technology in the learning process. The effective use of E-learning tools is dependent on the perspective of the users, as well as their knowledge and competences with respect to both computer and mobile usage (Kurdi et al., 2020).

Learning is a process that changes students' behavior to encourage them to want to learn. When connected to the present, states that technological changes force students to open their eyes to developments in the era. Education is here to facilitate students to be open to the development of the era (Graesser et al., 2022).

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Learning materials are now packaged in the form of electronic media, thus demanding that classroom learning is also technology-based (Ghosh et al., 2021). Use of electronic media in education makes the learning process more interesting and increases student involvement. Traditional education confined to classroom sessions at school or university will not cultivate the skills and knowledge that students have (An, 2021). The opportunity for teachers and students to interact in person within the classroom is quite restricted. Moreover, the distribution of teaching materials is predominantly done in the classroom, resulting in delays or even non-delivery if meetings fail to take place. This may impede student growth. An E-Learning application was developed to address this issue (Ubaydullaeva et al., 2024).

E-Learning is a method of information technology advancement that can be applied in the field of education. E-Learning is an innovative approach that greatly influences the educational experience, enhancing both the delivery of content and the development of diverse student skills (Grant, 2021). With E-Learning, students not only hear the material explained by the teacher but also actively watch, practice, show, and more. Through diverse interactive elements and a more cohesive evaluation system, learners can refine their practical abilities and understanding in a more self-directed and concentrated way (Graham & Halverson, 2022). Teaching resources can be transformed into different formats to become more engaging and dynamic, thus inspiring students to progress further in their learning journey (Hartanto, 2016). With E-Learning, someone can share information with each other and can access learning materials at any time. The use of communication on mobile devices allows the development of E-Learning features into a mobile version (FIRAT, 2023).

The use of mobile devices in E-Learning has several limitations such as limited resources, storage capacity, access and display screens, in addition to mobile devices having different platforms. Learning media with the application of current technology is the primary choice in developing learning models, which is currently known as e-learning (Tjahjamoorniarisih et al., 2023). E-Learning represents a significant phenomenon within the realm of education, exerting a profound impact on the transition of traditional educational practices to digital formats. This evolution has entailed modifications in both educational content, in terms of material substance, and in the educational systems employed. (Melrose et al., 2021). According to several studies, one of the key aspects of E-Learning is its ability to integrate face-to-face learning with digital elements, such as video conferencing, web-based learning materials, and other interactive tools. This combination can increase the contribution and interactivity between learners, as well as facilitate more effective collaboration between them (Matthew et al., 2021).

One definition of E-learning is that E-Learning is a network with the ability to update, store, distribute and share teaching materials or information (Hoerudin et al., 2023). In simple terms, electronic learning (E-Learning) refers to a learning process that employs networks (Internet, LAN, WAN) as a means of delivery, interaction, and facilitation, backed by various types of additional learning services. A system or educational approach that incorporates information technology into the teaching and learning process is referred to as E-Learning (Shofwan et al., 2021). E-Learning enhances engagement between students and educational resources or content. Students are able to exchange information or viewpoints on different topics concerning lessons or the requirements for their personal development. Furthermore, educators can upload learning resources and tasks that students are required to complete in specific areas online for student access (Peña-Ayala, 2021). Based on requirements, educators may also offer chances for learners to reach specific study resources or test questions that can only be accessed by them once and within a defined timeframe.

In 2018, MTsN 3 South Bengkulu began implementing E-learning with Blended Learning learning in the final madrasah exam evaluation on subjects that are in the National Examination and religious education subjects using the UMBK application with semi-online mode assisted by other devices such as VHD, VDI, VirtualBox, Google Chrome, Exsam Browser and others. Based on requirements, educators may also offer chances for learners to reach specific study resources or test questions that can only be accessed by them once and within a defined timeframe (Kang & Kim, 2021).

The Covid-19 pandemic has forced many educational institutions to adapt to distance learning using the E-Learning platform (Stecula & Wolniak, 2022). This is in line with the policy of the Ministry of Religion which encourages madrasahs to utilize technology in the teaching and learning process (Oliveira et al., 2021). With the emergence of the Spread of Covid-19 in 2020, the Ministry of Religion Policy makers made a new innovation in online learning, namely creating a Madrasah E-Learning platform for the teaching and learning process of Students and Teachers at home using existing devices such as Computers and Mobile Phones because at that time the Government required learning in schools to be carried out without face-to-face in class but Distance Learning from home, in this case Education in Madrasahs is required to use the Madrasah E-Learning Platform starting from Teachers making RPP, making teaching materials, making Evaluations, Teacher attendance and making Student attendance. Prior to the COVID-19 pandemic, E-learning was growing approximately 15.4% yearly in educational institutions around the world without uncertainties or pressure on those institutions or on students (Alqahtani & Rajkhan, 2020). MTsN 3 South Bengkulu at that time participated in utilizing the Madrasah E-Learning

platform and until the Covid-19 ended until now in 2024 Madrasah E-Learning is still being used. The utilization of computational technology, the integration of information technology across various sectors of modern production, in daily routines, and societal interactions constitute essential characteristics of any given community. (Sandybayev, 2020).

The current use of Madrasah E-Learning is in the implementation of learning evaluations such as BAB Summative, Mid-Semester Summative, End-Semester Summative and Madrasah End-Summative. Based on this background, the researcher will analyze the use in this case is E-Learning in the implementation of learning evaluation at MTsN 3 South Bengkulu. The main focus is how to use E-Learning and what are the challenges in its use at MTsN 3 South Bengkulu. Then, how do these challenges affect the effectiveness of E-Learning and solutions that can be implemented to overcome these challenges at MTsN 3 South Bengkulu.

2. MATERIAL AND METHOD

The methodology used in this study is Descriptive using Qualitative and quantitative data. Researchers describe the challenges and opportunities for using learning technology, in this case E-Learning, which is applied at MTsN 3 South Bengkulu. The data sources in this study are the head of the madrasah, teachers, and computer operators, and students of MTsN 3 South Bengkulu. Observations and interviews were conducted to collect information related to the use of E-Learning. The data obtained were then analyzed with the following flow: Data collection, Data reduction, Data presentation, and Conclusion drawing. Miles, M. B., & Huberman, A. M. (1994) defines that data validity is carried out by means of source triangulation, data triangulation, and triangulation of data collection techniques or methods.

3. RESULT AND DISCUSSION

3.1 Result

E-Learning at MTsN 3 South Bengkulu is a technology-based online learning system designed to enhance students' access to education within the madrasah environment. By utilizing this platform, students can engage with their lessons, submit assignments, and communicate with teachers and peers from any location and at any time, offering greater flexibility in the learning process. The Madrasah E-Learning system is integrated across all subject areas, including general subjects such as Mathematics, Science, Indonesian, Arabic, English, Social Studies, Civics, Physical Education, Informatics, Arts and Culture, as well as religious subjects like Qur'an and Hadith, Fiqh, Aqidah Akhlak, and Islamic Cultural History (SKI)..

The platform provides a variety of features that support learning, including: (1) Independent Learning: Students can access modules, articles, and learning videos to understand the material independently; (2) Assignments and Exercises: Teachers can give assignments or exercises that students can do online. After completion, the assignment can be checked directly by the teacher;

(3) Quizzes and Evaluations: There are quizzes or evaluation tests to determine students' understanding of the material. Evaluation scores are directly recorded in the system, so that students and teachers can find out the results quickly; (3) Discussion Forums: Students can ask questions or discuss with teachers and classmates through the forums provided, helping to foster understanding and social interaction online; (4) Online Exams: The E-Learning platform supports exams held online for daily, mid-semester, or end-of-semester assessments.

The adoption of E-Learning at MTsN 3 South Bengkulu has delivered notable advantages, particularly in broadening educational access. Students now enjoy greater flexibility in managing their studies, the ability to engage with learning materials beyond the confines of the classroom, and opportunities to cultivate digital competencies that are increasingly essential in today's technology-driven society. This learning model fosters independent study habits and promotes digital literacy, equipping students with valuable skills to face future demands in a competitive global landscape.

Nevertheless, several obstacles still hinder the full effectiveness of E-Learning. A key issue is the digital gap—students with consistent access to devices and stable internet connections are far better positioned than their peers in remote or under-resourced areas. Additionally, the absence of face-to-face interaction can weaken student engagement and slow the development of social and communication skills. Extended exposure to screens and reduced physical interaction may also have negative implications for students' mental and emotional health. Despite these concerns, with comprehensive planning and adequate support, E-Learning remains a promising and viable option for inclusive and long-term educational advancement.

The implementation of E-Learning at MTsN 3 South Bengkulu faces a range of challenges that must be addressed to ensure the effectiveness of online education. These challenges include the limited availability of digital devices such as computers and smartphones at the school, restricted internet connectivity, the technological readiness of both teachers and students, low student motivation and comprehension of E-Learning, unsupportive home environments, and insufficient parental assistance in providing access to necessary technology.

One of the most pressing issues is the limited access to digital tools. Many students lack adequate devices like laptops or smartphones, and internet access remains insufficient, particularly in rural or remote areas. This digital divide leads to disparities in the quality of education between students in well-connected urban areas and those in underserved regions. Based on observations conducted at MTsN 3 South Bengkulu, data has been compiled regarding the availability and condition of computer hardware and smartphones owned by the school, its teachers, and students. A summary of this data can be found in Table 1 below:

Table 1. Condition of Technology Devices

Device Name	Device Condition			Number of Devices
	Good	Minor Damage	Severely Damaged	
PC Komputer	8	2	15	25
School Laptop	2	1	5	8
Teacher Laptop	21	0	0	21
Teacher's Mobile Phone	21	0	0	21
Student Mobile Phone	120	0	0	120
Amount	172	3	15	190

The results of this observation can conclude that at MTsN 3 South Bengkulu there are 190 computer and smartphone devices consisting of 172 devices in good condition, 3 devices in slightly damaged condition and 15 devices in severely damaged condition. The total number of students who will use the devices is 177 students and 21 teachers, so the use of Madrasah E-Learning is not very effective considering that there are many shortcomings in the devices. Currently, one of the ways taken to continue implementing the use of Madrasah E-Learning in terms of implementing Learning Evaluation at MTsN 3 South Bengkulu considering the many shortcomings of the devices is to create 2 sessions in one subject that is tested and

however this method is not yet the right solution. In addition, the readiness of teachers and students in using technology is also a major obstacle. E-Learning requires special skills in operating digital devices and online learning platforms. Many teachers are not yet familiar with online teaching methods, which makes the learning process less than optimal. Students also face similar difficulties, especially if they do not have experience or skills in using technology. The following is a diagram of the expertise of MTsN 3 South Bengkulu teachers in technology after conducting observations and interviews:

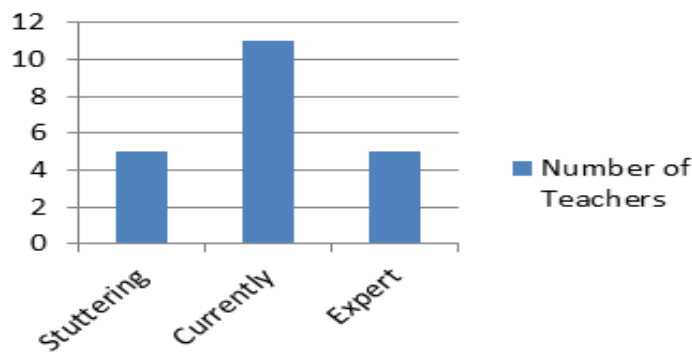


Figure 1. Bar Chart of Teacher Expertise in Technology

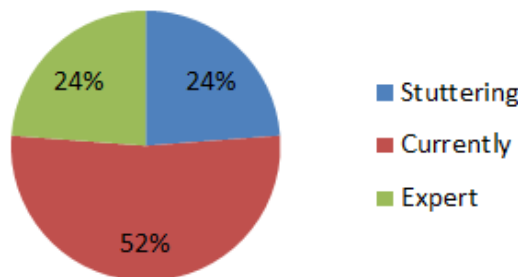


Figure 2. Circle Diagram of Teacher Expertise in Technology

The findings from observations and interviews with teachers at MTsN 3 South Bengkulu are illustrated using bar and pie charts. Teachers' technological proficiency was categorized into three levels: Technology

Inexperienced, Moderately Skilled, and Technologically Proficient. Based on the data, 24% (5 out of 21 teachers) fall into the Technology Inexperienced category, 52% (11 teachers) are considered Moderately Skilled, and the

remaining 24% (5 teachers) are identified as Technologically Proficient. These results suggest that the implementation of E-Learning at MTsN 3 South Bengkulu is feasible. Despite the presence of teachers who are less familiar with technology, the school has adopted an effective solution: encouraging collaboration where tech-savvy teachers support and mentor their less experienced colleagues.

The study found that the implementation of E-Learning at MTsN 3 South Bengkulu has created new opportunities for students and teachers to engage with technology in learning. Students benefited from flexible access to modules, assignments, quizzes, and discussion forums that allowed them to learn beyond the classroom environment. The system also enabled online examinations for various assessments, which helped streamline the evaluation process. However, despite these advantages, significant challenges were observed. The availability of only 190 devices, with 15 of them severely damaged, was not sufficient to accommodate 177 students and 21 teachers effectively. Teachers' technological skills also varied widely, with some teachers categorized as inexperienced, others moderately skilled, and only a portion truly proficient. This condition resulted in disparities in how teachers and students could adapt to E-Learning. The lack of sufficient devices and uneven technological readiness made the implementation less than optimal, highlighting the need for stronger institutional and governmental support.

3.2 Discussion

Nevertheless, E-Learning presents challenges, particularly in reducing the level of direct interaction between teachers and students. In traditional classroom settings, students can ask questions and receive immediate feedback. In contrast, online learning often relies on communication tools like chat and video conferencing, which may not always provide timely or effective clarification. This limitation can negatively affect student motivation and hinder their comprehension of the subject matter.

The findings indicate that while E-Learning has introduced innovative ways of delivering education, it also presents multiple obstacles that must be addressed. On one hand, students gain independence, flexibility, and digital literacy that prepare them for the demands of the 21st century. On the other hand, poor infrastructure, limited device access, and weak internet connectivity created barriers to equal participation. Furthermore, the absence of face-to-face interaction reduced students' motivation, communication, and social development. Teachers with low digital competence struggled to adapt to online teaching methods, resulting in less engaging learning experiences. Students also faced difficulties in managing time and staying disciplined in the absence of direct supervision. These challenges highlight the importance of not only technological investment but also human capacity building. Without adequate support, E-Learning risks widening educational inequalities rather than bridging them.

3.2.1 Implications

The results imply that E-Learning implementation requires more than just technology—it requires systemic readiness and strong collaboration among stakeholders. For the government, the implication is to ensure that digital infrastructure reaches schools in both urban and rural areas. For teachers, the implication is the need to continuously improve digital skills and teaching strategies through training and professional development. For students, the implication is learning how to balance independent study with online collaboration to stay engaged. Parents also play a crucial role in providing a supportive home environment, which has been shown to be one of the main determinants of student success in online learning. Policymakers must recognize that E-Learning is not simply a technological shift, but also a cultural change that affects teaching methods, learning behaviors, and family involvement. These implications show that holistic approaches are needed to optimize the benefits of digital education.

While E-Learning offers time flexibility, this benefit can also present significant challenges. In the absence of direct supervision from teachers, many students struggle with self-discipline and time management, which may lead to decreased focus and falling behind in their studies due to poor organization. Additionally, the home environment often does not provide optimal conditions for online learning. Some students lack a quiet and comfortable space to study, and not all receive adequate parental support in navigating digital tools. Furthermore, E-Learning presents difficulties when it comes to practical activities and assessments that require specific equipment or hands-on engagement. Therefore, it is essential for educational stakeholders and policymakers to develop targeted strategies that address these barriers and enhance the overall effectiveness of E-Learning implementation.

To address the obstacles associated with implementing E-Learning at MTsN 3 South Bengkulu, enhancing access to technology emerges as a key solution. It is crucial for the government and relevant educational stakeholders to allocate greater funding toward improving technological infrastructure in schools. This includes supplying both hardware and software that support effective online learning, as well as ensuring reliable internet connectivity. Strong collaboration between the government and MTsN 3 South Bengkulu is essential to promote fairer access to digital tools, such as providing learning devices for students in need and extending internet coverage to remote areas. Moreover, support from both public and private sectors can play a significant role in helping students from low-income families gain access to the internet, ensuring that no learner is excluded from the benefits of online education.

Teachers and schools collaborate to obtain funds from the government which are then allocated to complete inadequate facilities and infrastructure, especially the need for IT learning media such as computers, laptops and Wifi networks. This is done as an effort to overcome the problem of facilities and infrastructure. In addition,

teachers can help students learn by using their own laptops. Regarding the problem of IT expertise of educators, mentoring can be done with educators who understand IT better. Not only that, collaboration can be done with teachers who understand technology better, so that learning media can be developed more varied and IT-based. In addition, institutions can hold training or workshops on IT, training is shown in the development of IT-based learning media.

3.2.2 Research Contribution

This research contributes to the growing body of literature on E-Learning by presenting a case study of a madrasah context in Indonesia. Unlike many studies that focus on urban or higher education institutions, this study provides insights into how E-Learning is experienced in a rural-based religious school. The research highlights the importance of considering infrastructural limitations, teacher competence, and socio-cultural dynamics when analyzing digital education. By providing empirical evidence on the availability of devices, teacher proficiency levels, and students' motivation, the study sheds light on the actual conditions faced in the field. Furthermore, it emphasizes the role of teacher collaboration, where more technologically skilled teachers assist their colleagues, as a practical strategy to overcome digital challenges. This contribution enriches the understanding of how educational technology can be adapted in diverse learning environments and provides valuable guidance for policymakers and educators.

The development of digital competencies is essential for both teachers and students to ensure the effective implementation of E-Learning. To maximize the benefits of online education, it is important that educators and learners receive appropriate training in navigating and utilizing E-Learning platforms efficiently. Familiarity with the necessary hardware and software will enable teachers to use educational technology more effectively, thereby enhancing the delivery of instruction at MTsN 3 South Bengkulu. Well-structured training programs can strengthen teachers' technological proficiency, allowing them to leverage various platform features to enrich the learning experience and improve student access to instructional materials. Furthermore, to sustain student motivation and support their well-being, it is important to incorporate interactive elements into E-Learning environments. Activities such as group discussions, collaborative assignments, and real-time Q&A sessions can foster social engagement, helping students feel more connected to their peers and instructors while maintaining their enthusiasm for learning. Overcome students, teachers and schools seek or provide solutions so that students have the same understanding and motivation in the teaching and learning process so that students have the same assumptions or thoughts about the lesson, teachers use real-life learning media. In addition, providing mentorship tailored to students'

individual or group needs based on their abilities can significantly support their learning progress. Teachers can further assist students by allowing them to use personal laptops, enabling more flexible access to learning resources. Both educators and parents play an important role in guiding students on effective time management and maintaining learning discipline. Establishing daily or weekly academic goals can help students stay organized and focused on their studies. To alleviate digital fatigue caused by prolonged screen exposure, teachers should encourage regular breaks during online sessions. Moreover, incorporating non-academic virtual activities—such as storytelling sessions or casual discussions about hobbies—can create opportunities for social interaction and help maintain students' mental well-being. Through the application of these strategies, the challenges faced in implementing E-Learning at MTsN 3 South Bengkulu can be addressed more effectively.

3.2.3 Limitations

The study is limited by its scope and methodology. It was conducted in one school only, meaning the findings cannot be generalized to all madrasahs in Indonesia. The research used descriptive methods, relying on observations, interviews, and questionnaires, which may capture subjective perspectives but not necessarily all dimensions of effectiveness. Another limitation is the rapidly changing nature of technology, which means that the challenges identified may evolve in the near future. For instance, as digital devices become more accessible, some obstacles may be resolved, while new ones may emerge. Moreover, the study did not explore in detail the psychological effects of E-Learning, such as digital fatigue or mental health concerns among students. These limitations point to the need for further research with broader samples, diverse methods, and longitudinal designs to fully understand the impact of E-Learning.

3.2.4 Suggestions

Several suggestions emerge from the findings of this study. First, the government should prioritize funding to provide adequate digital devices and ensure stable internet access, especially in rural schools. Schools should establish partnerships with private companies or local communities to support students from low-income families with devices or internet packages. Teachers need continuous training not only on technical aspects but also on effective online pedagogy that keeps students engaged and motivated. Parents should be given guidance on how to support their children's online learning by providing a quiet study environment and monitoring learning discipline. Students should be trained in time management and self-directed learning skills to make the most of E-Learning. Future research should expand to include multiple madrasahs across

different regions of Indonesia, compare rural and urban settings, and investigate long-term outcomes of E-Learning adoption. By applying these suggestions, stakeholders can transform E-Learning from a temporary solution into a sustainable and inclusive educational model.

4. CONCLUSION

The implementation of E-Learning at MTsN 3 South Bengkulu has shown both its potential and its limitations in supporting the digital transformation of education. On one hand, the system provides greater flexibility, promotes independent learning, and equips students with essential digital skills that are increasingly relevant in the 21st century. E-Learning also broadens access to learning resources and supports more efficient evaluation processes through online assignments, quizzes, and examinations. On the other hand, several barriers continue to hinder its effectiveness, including limited availability of technological devices, unstable internet connectivity, low levels of digital literacy among some teachers and students, and inadequate parental support in creating conducive home learning environments. These obstacles have reduced student motivation and created disparities in access and learning outcomes.

To ensure the successful implementation of E-Learning, strong collaboration among stakeholders is essential. The government needs to strengthen infrastructure and ensure equal access to devices and internet connectivity. Schools must continue to provide digital literacy training for teachers and students, while also encouraging collaboration among educators with different levels of technological competence. Parents should play a more active role in supporting and supervising their children's online learning. With these combined efforts, E-Learning can become not only a temporary solution but also a sustainable and inclusive educational model that improves the quality and equity of learning.

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6. CONTRIBUTION STATEMENT

The research was carried out through a collaborative effort in which all contributors were actively involved in every stage of the process. The team jointly developed the research design, conducted observations, interviews, and questionnaires, and analyzed the data using both qualitative and quantitative approaches. They worked together in interpreting the findings, writing the manuscript, and revising it based on feedback to ensure academic rigor and clarity. All contributors reviewed and approved the final version of the manuscript and agreed to be accountable for the integrity and accuracy of the study.

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