

Utilizing Interactive Techniques to Enhance Primary School Pupils' Understanding of Epilepsy

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ABSTRACT

Kegiatan pengabdian kepada masyarakat ini bertujuan untuk meningkatkan pengetahuan dan sikap siswa kelas 1 SD Inpres Baru Kota Palu tentang epilepsi melalui strategi penyuluhan dasar dan interaktif. Didukung oleh Rumah Sakit Umum Tadulako Palu dan Pusat Penelitian dan Pengabdian Masyarakat (LPPM) Universitas Tadulako, penyuluhan dilaksanakan pada tanggal 4 September 2024, melibatkan lima dosen dari berbagai institusi dan dua mahasiswa dari Fakultas Kedokteran Universitas Tadulako. Metode interaktif yang diterapkan antara lain percakapan singkat, penjelasan dengan spanduk bergambar, sesi tanya jawab, dan permainan tentang kosakata epilepsi. Strategi ini dipilih untuk memastikan anak-anak dapat memahami materi dengan mudah dan mendorong partisipasi aktif siswa. Siswa memilih jawaban dengan menandai “ya” atau “tidak” menggunakan tanda centang atau silang pada tes pra dan pasca yang sederhana menggunakan pertanyaan lisan. Pengetahuan siswa tentang epilepsi—termasuk kesadaran, gejala, dan tindakan pertolongan pertama selama kejang—menunjukkan peningkatan yang signifikan sebagai respons terhadap program ini. Selain perkembangan kognitif, sikap siswa juga berubah; mereka menjadi lebih empati terhadap teman sebaya penyandang epilepsi. Kegiatan ini menunjukkan bahwa literasi kesehatan dasar pada anak-anak sekolah dasar dapat ditingkatkan secara efektif melalui pendekatan pendidikan visual sederhana, diskusi, dan permainan; strategi ini dapat diterapkan di sekolah lain untuk mengurangi stigma terkait epilepsi sejak usia dini.

This community service activity aims to improve first-grade SD Inpres Baru Kota Palu students' knowledge and attitudes about epilepsy through basic and interactive teaching strategies. Supported by Tadulako General Hospital Palu and the Research and Community Service Center (LPPM) of Tadulako University, the educational project took place on September 4, 2024 involving five lecturers from various institution and two students from the Faculty of Medicine, Tadulako University. Among the interactive techniques applied were brief conversations, explanations with illustrated banners, question-and-answer sessions, and a word-completion game on epilepsy vocabulary. This strategy was selected to guarantee young children could grasp the content easily and to promote active student participation. Students chose responses by marking "yes" or "no" with a check or cross on straightforward pre- and post-tests using oral questions. Students' knowledge of epilepsy—including awareness, symptoms, and first aid actions during seizures—showered a notable rise in response to the program. Apart from the cognitive development, students'

attitudes changed; they grew more empathetic towards peers with epilepsy. This activity shows that basic health literacy in primary school children can be effectively improved by simple visual-based education approaches, discussions, and games; these strategies can subsequently be implemented in other schools to mitigate the stigma associated with epilepsy from an early age.



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INTRODUCTION

Epilepsy, a chronic neurological disorder, is particularly prevalent in low- and middle-income nations such as Indonesia, especially among primary school-aged children. Approximately 70 million individuals globally are affected by epilepsy, with a higher prevalence observed among children in underdeveloped nations. Despite the scarcity of national epidemiological data in Indonesia, it is estimated that approximately 1.5 million individuals are affected by epilepsy.(Suryani et al., 2021)

Social issues, especially in primary school environments, encompass a deficiency in fundamental understanding of epilepsy, resulting in numerous misconceptions, stigma, and inequitable treatment of individuals with epilepsy. Children with epilepsy reportedly experience greater social stigma than the seizures themselves, which can result in social isolation, anxiety disorders, cognitive impairment, and behavioral issues.(Makhado et al., 2024)

The infrequency and methodology of epilepsy education in Indonesian primary schools render this community service project essential. The insufficient understanding of epilepsy among educators and pupils results in poor management and often culminates in the exclusion of children with epilepsy from the educational setting. Research conducted in multiple countries has demonstrated that school-based educational interventions can significantly enhance knowledge, promote positive attitudes, and assist students in recognizing and managing seizures, thereby reducing the stigma associated with epilepsy.(Brabcova et al., 2021)

The primary challenges faced by the partners—first-grade students at SD Inpres Baru Kota Palu—include insufficient health literacy regarding epilepsy, prevalent misconceptions such as the belief that epilepsy is contagious or caused by supernatural phenomena, and a lack of knowledge concerning first aid protocols during seizures. The enhancement of students' knowledge and the modification of their attitudes is significantly hindered by the absence of straightforward, age-appropriate educational resources. Prior research on educational methodologies, such as visual aids, dialogues, and fundamental games, indicates their efficacy in enhancing understanding and engagement among young learners.(Abidin, 2023)

It is highly recommended that school-based intervention programs utilizing visual media and participatory activities foster early health comprehension and mitigate the emergence of negative stigma within the educational setting. This community service initiative aims to enhance the knowledge and perceptions of first-grade students at SD Inpres Baru Kota Palu regarding epilepsy through engaging and straightforward educational methods, thereby promoting a more inclusive and stigma-free school atmosphere concerning epilepsy. The anticipated advantages encompass enhanced fundamental health literacy, a shift towards greater empathy and inclusivity, and the creation of a sustainable educational tool for implementation in academic institutions.(Chen et al., 2022; Greatta Zakiah et al., 2021)

METHOD

The community service event took place on September 4, 2024, at SD Inpres Baru in Palu City aims to engage 20 first-grade students at SD Inpres Baru Kota Palu, who possess a limited foundational comprehension of epilepsy. The initiative includes five scholars and two students from the Faculty of Medicine at Tadulako University, who will serve as facilitators, with support from Tadulako General Hospital in Palu and the Research and Community Service Centre (Lembaga Penelitian dan Pengabdian kepada Masyarakat / LPPM) of Tadulako University.

The implementation process began with a preparatory phase, involving collaboration with the school, the creation of instructional materials and assessment tools, and the production of media, such as illustrated banners, pre-test and post-test sheets, and word-guessing games. During the implementation phase, the activity began with an introduction of the objectives, preceded by an oral pre-test in which students indicated their responses with a 'yes'/check mark (√) or 'no'/cross mark (x) on the answer sheet. Education is conveyed through illustrated banners, concise discussions, question-and-answer sessions, and word-guessing games related to epilepsy terminology.

A post-test is conducted in the same approach as the pre-test to evaluate improvements in students' understanding. The final phase includes a collective reflection with students, the distribution of fundamental instructional modules, and the documentation of the activity. The flowchart for activity implementation includes the following stages: preparation and coordination, development of materials and media, an educational session beginning with an oral pre-test, followed by colorful visual illustrated banners and discussion, word-guessing games, an oral post-test, reflection and closure, and concluding with the distribution of modules and documentation.

Each step is crafted to guarantee that pupils are actively engaged and comprehend the information in an enjoyable manner. The success indicators for this community service initiative encompass an elevation in students' knowledge scores on the post-test relative to the pre-test, an augmentation in the number of students able to identify the signs, symptoms, and first aid procedures for epilepsy, and a transformation in attitudes to foster greater empathy and inclusivity towards peers with epilepsy. Furthermore, success is evaluated based on students' active engagement in debates and activities, together with the sustained utilization of the basic educational modules by the school as instructional resources.

RESULTS AND DISCUSSION

The community service project titled 'Understanding Epilepsy' was conducted at SD Inpres Baru Kota Palu, involving 20 first-grade students. The initiative received support from a team of lecturers from various institutions and students from the Faculty of Medicine at Universitas Tadulako. The methods employed included presentations featuring graphic banners, lectures, brief question-and-answer sessions, and a word-guessing game focused on epilepsy terminology. Before the session, most students had a limited understanding of epilepsy; many incorrectly believed it was contagious, and only a few were aware of the correct first aid procedures to follow during a seizure. Following the educational session, there was a significant improvement in students' understanding, as shown by the post-test results, where the majority of students correctly answered questions regarding the definition of epilepsy, symptoms of seizures, and the appropriate actions to take when helping a peer who is experiencing a seizure.

Table 1. Pre-Test and Post-Test Results

| Questions articulated by the facilitator | Pre-Test | | Post-Test | |
|---|----------|---------|-----------|---------|
| | Wrong | Correct | Wrong | Correct |
| 1. Epilepsy involves seizures | 14 | 6 | 2 | 18 |
| 2. Friends can give you epilepsy | 5 | 5 | 3 | 17 |
| 3. A teacher or adult should help someone who is having a seizure right away. | 13 | 7 | 1 | 19 |
| 4. You can put something in the mouth of a friend who is having a seizure. | 17 | 3 | 4 | 16 |
| 5. When a friend has a seizure, tilt their body to one side. | 16 | 4 | 3 | 17 |

The pre- and post-test results in Table 1 show that first-grade elementary school students' epilepsy education was effective. Before the educational intervention, most students struggled to answer key questions. Only 6 out of 20 students (30%) correctly identified epilepsy as characterized by seizures, and only 3 (15%) understood that placing an object in the mouth of a seizure victim is dangerous. Only 4 (20%) students understood the importance of putting someone on their side during a seizure. All knowledge domains improved after community service education.

The post-test showed that 18 students (90%) correctly identified epilepsy as seizures and 16 students (80%) understood the importance of not putting objects in a seizure victim's mouth. 17 students (85%) knew to tilt a seizure victim. Post-intervention, 19 students (95%) correctly identified the need for prompt adult intervention during a seizure. Results show epilepsy education program effectiveness. The significant increase in accurate answers across all inquiries shows that students learned epilepsy facts and first-aid procedures. This shows that focused educational interventions can greatly improve young students' health knowledge and create safer, more supportive emergency responses.



Picture 1 Documentation activities

Our findings suggest that the implementation of engaging and enjoyable educational methods effectively improved the knowledge and modified the attitudes of first-grade elementary school students regarding epilepsy. This practice improved cognitive skills and cultivated empathetic and inclusive attitudes towards peers with epilepsy. The findings correspond with additional studies indicating that health education employing visuals, discussions, and interactive activities markedly improves health literacy among primary school-aged children. The program's success indicators were demonstrated by improved post-test scores, changes in students' attitudes, and heightened interest and engagement in the activities. The main contributing factors were active student engagement, institutional backing, and the utilization of age-appropriate educational materials.(Lahiq et al., 2023)

The challenges faced included limited interaction time and varying levels of student comprehension; however, these were overcome through an engaging and participatory teaching approach. The principal outcomes of this activity are improved knowledge, changes in students' attitudes, and the development of fundamental educational modules that can function as sustainable teaching resources in schools. These findings highlight the imperative of integrating epilepsy education into primary school curricula to reduce stigma and improve the quality of life for individuals with epilepsy.(Chidakwa et al., 2023)

CONCLUSION

The community service initiative 'Understanding Epilepsy' at SD Inpres Baru Kota Palu has markedly improved first-grade students' comprehension and perceptions of epilepsy. The results demonstrated a significant improvement in students' understanding of epilepsy, encompassing its signs, symptoms, and first aid protocols during seizures. The direct educational methods, including illustrated banners, concise discussions, and word-guessing games, demonstrated effectiveness in making the

content understandable and engaging for the students, encouraging them to inquire, show empathy, and recognize essential first aid procedures for epilepsy.

The program's success was enhanced by student enthusiasm, collaboration between faculty and students, and extensive institutional support. The challenges encountered included limited interaction time and varying levels of student comprehension; however, these obstacles were overcome through an engaging and interactive teaching approach. The program's outcomes, including improved post-test scores, changes in empathetic attitudes, and enduring educational modules for schools, demonstrate the efficacy of this community service initiative.

To improve and sustain the effectiveness of the initiatives, it is recommended to periodically implement similar health education programs that involve both educators and parents to expand educational outreach and strengthen understanding within the academic environment. The development of varied and flexible instructional materials tailored to students' needs is crucial for maintaining achieved results. A longitudinal evaluation of changes in student behavior is recommended to ensure the sustainability of program results.

Moreover, integrating epilepsy education into the primary school curriculum could effectively reduce stigma and improve the quality of life for children with epilepsy. Appreciation is conveyed to the Faculty of Medicine at Tadulako University, Tadulako General Hospital in Palu, the Research and Community Service Centre (LPPM) of Tadulako University, and the staff of SD Inpres Baru in Palu City for their support and collaboration during the successful execution of this community service initiative.

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