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LETTER TO EDITOR

CHILDHOOD EPILEPSY MANAGEMENT IN INDONESIA: CHALLENGES AND CURRENT CONDITION

Sunny Mariana Samosir[1], Prastiya Indra Gunawan[*], Riza Noviandi[1], Lintang Qusnul Budi Setiawati[1]

[1]Neurology Division, Department of Child Health, Faculty of Medicine, Airlangga University, Dr. Soetomo General Academic Hospital, Surabaya, INDONESIA,

Corresponding Author: Prastiya Indra Gunawan, Department of Child Health, Universitas Airlangga, Faculty of Medicine, Dr. Soetomo General Academic Hospital, INDONESIA, **Email:** prastiya-i-g@fk.unair.ac.id

INTRODUCTION

Many Epilepsy is a prevalent chronic neurological disorder that affects individuals of all ages and genders worldwide [1]. The overall prevalence of epilepsy in the general population is approximately 1% to 2%. Most cases occur in children, with an incidence of 3.5 to 7.2 per 1,000 children. About 30% of individuals with epilepsy have drug-resistant epilepsy [2]. However, the distribution of epilepsy is uneven, with nearly 80% of cases found in low- and middle-income countries (LMICs). Regions such as Southeast Asia, Latin America, and sub-Saharan Africa report new cases at rates up to twice those of high-income countries [3]. In LMICs, the underlying causes are more varied, often including factors such as birth asphyxia, central nervous system infections, and traumatic brain injuries [4].

Indonesia, classified as a middle-income country by the World Bank, continues to face significant challenges in managing childhood epilepsy. Despite ongoing improvements in healthcare and economic development across Southeast Asia, epilepsy management remains complex due to the region's diverse cultural, ethnic, and political landscape. This complexity is reflected in several gaps, including deficiencies in knowledge and training, diagnostic facilities and accuracy, medical and surgical treatments, and the persistent stigma associated with epilepsy [5]. In 2022, the World Health Assembly launched the Intersectoral Global Action Plan (IGAP) on epilepsy and other neurological disorders, aiming to set global targets for raising awareness, improving diagnostic capabilities, expanding access to appropriate treatments, and achieving effective seizure control [6].

Based on our survey, a total of 349 health care providers (HCPs) participated in this study, including 127 (34.6%) pediatricians and 222 (63.6%) general practitioners, representing 38 provinces in Indonesia. The majority of respondents (32.7%) were from Java Island, the most populated island in the country. The majority of participants (67.3%) were employed in the public sector, while 32.7% worked in private practice.

The availability of diagnostic tools for childhood epilepsy was inconsistent. Electroencephalography (EEG) was available in only 26.9% of respondents' workplaces. Magnetic resonance imaging (MRI), the preferred neuroimaging tool for epilepsy diagnosis, was available in only 18.6% of facilities. Computed tomography (CT) scans were accessible in 49% of healthcare centers. Higher-tier hospitals generally had more advanced diagnostic tools. Following diagnosis, a significant gap remains in the availability of ASMs to effectively manage seizures. This survey assessed the most commonly used ASMs in Indonesia. The majority of HCPs reported using valproic acid (69.1%), followed by phenytoin (14.3%) and phenobarbital (8.3%). However, a small proportion of participants (1.43%) indicated that ASMs were not available in their hospitals.

To date, there are no precise data available on the prevalence of childhood epilepsy in Indonesia. Globally, the prevalence of active epilepsy is estimated to be 6.3 per 1,000 children [8]. Given Indonesia's child population of 79 million in 2022, it is estimated that approximately 474,000 children may be affected by epilepsy. Among the HCPs surveyed in this study, 71.6% reported managing fewer than 4 cases of unprovoked seizures per month, while 1.7% handled more than 20 cases. This is a stark

contrast to the limited number of neuro-pediatricians available nationwide. As of early 2024, data from the Pediatric Neurology Working Group indicate that there are only 84 practicing neuro-pediatricians across the country [7]. In this study, 80.5% of respondents reported not having access to a neuro-pediatrician in their city, with one-third of the country's neuro-pediatricians concentrated in the capital city, and the remainder unevenly distributed across other regions.

Epilepsy is included in the medical education curriculum in Indonesia. Continuing medical education is also needed for enhancing physician knowledge. However, many respondents in this survey reported that their most recent continuing medical education on childhood epilepsy had taken place more than 1 year ago. Thus, the author's made a community service by giving training to medical provider in Simpang Lima Gumul Hospital, Kediri, Indonesia to enhance their knowledge in treating seizure in children which give a good impact by increasing the training participant's knowledge. This highlights a pressing need for more frequent and comprehensive education and training programs to better equip HCPs in Indonesia for effective epilepsy management.

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