Data Article

Data on the physical function of children with cerebral malaria

Kento Konno\textsuperscript{a,*}, Yuichi Takata\textsuperscript{b,*}

\textsuperscript{a}Syogai Iryo Clinic Sapporo, Hokkaido 006-0814, Japan
\textsuperscript{b}Department of Physical Therapy, Faculty of Human Science, Hokkaido Bunkyo University, Hokkaido 061-1449, Japan

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\textbf{A B S T R A C T}

We collected data from children with motor dysfunction living in Malawi from October 2, 2017 to November 15, 2017, using questionnaires and physical examinations. These data included diagnosis, birth history, medical history, and history of malaria based on interviews and patients' personal medical records. The patients' families provided consent to participate in this research. After applying the exclusion criteria, the remaining 33 patients (27%) were diagnosed with cerebral malaria (CM). We report the patients' type of paralysis, muscle tone, age of malaria infection, and Gross Motor Functional Classification Score. This dataset reports basic data on the physical function of an underreported pediatric population with CM. Future comparative studies with other children with CM are needed to improve rehabilitation interventions.

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\textit{Abbreviations:} CP, cerebral palsy; CM, cerebral malaria; GMFCS, Gross Motor Function Classification System.
* Corresponding authors.
E-mail addresses: kento.konno.0920@gmail.com (K. Konno), takata@do-bunkyodai.ac.jp (Y. Takata).

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### Specifications Table

| Subject | Physical Therapy and Rehabilitation |
|---------|-------------------------------------|
| Specific subject area | Physical therapy in pediatrics |
| Type of data | Table, Graph, Figure |
| How data were acquired | Questionnaire, Physical therapy evaluation |
| Data format | Raw, Analyzed |
| Parameters for data collection | Sample: Children who needed treatment in the rural areas of Malawi. Parameters: Age, sex, diagnosis, birth history, term, type of paralysis, muscle tone, history of malaria, age of malaria diagnosis |
| Description of data collection | The participants were children who lived in remote areas of the Republic of Malawi and needed rehabilitation. They visited an outreach clinic (the Sue Ryder Foundation in Malawi) for treatment. A questionnaire was provided to the family to collect detailed information regarding their vital statistics and diagnoses, and the children underwent a physical examination. We defined cerebral malaria as a condition where the patient had developed normally after birth but acquired physical disability after having malaria. |
| Data source location | Data were collected at Institution: local clinics of the Sue Ryder Foundation in Malawi City/Town/Region: Balaka and Ntcheu districts Country: Malawi Data were analyzed at Institution: the Sue Ryder Foundation in Malawi City/Town/Region: Balaka district Country: Malawi |
| Data accessibility | With the article Repository name: [Mendeley Data] Direct URL to data: [http://dx.doi.org/10.17632/2fc53mk7yd.1](http://dx.doi.org/10.17632/2fc53mk7yd.1) |

### Value of the Data

- Our data are useful to determine the extent of physical dysfunction following recovery from malaria.
- Local healthcare providers and children with CM can benefit from our data by providing more specialized care and improving quality of life, respectively.
- These data will inform research on motor dysfunction in patients with CM by characterizing the patterns of physical dysfunction.

### 1. Data Description

Many individuals who contract malaria demonstrate neurological sequelae [1,2] with most of the physical symptoms disappearing over time [3,4]. However, our results indicated that physical dysfunction may persist following recovery from malaria.

This dataset and supplementary files give relevant details and explanations about the enrolled population and procedures used to collect the data. These data are expressed as figures and tables.

The data obtained from patients with CP, CM, and other conditions are presented in Figs. 1 to 5 in Microsoft Word format. The supplementary file provides a Microsoft Excel table of the raw data.

In Fig. 1, we provide a flow diagram of the participant selection process. We recruited 124 potential participants with CP. We excluded 22 participants diagnosed with other conditions. The remaining participants had a history of malaria (n=69). Of these, 36 were diagnosed with CP before the onset of malaria and were excluded. Finally, 33 children with CM were included in our analysis.
After physical examination, we classified the children with CM who had contracted malaria according to the type of paralysis (Fig. 2). The participants had quadriplegia (n=16), paraplegia/hemiplegia (n=10), athetosis (n=1), and mixed-type paralysis (n=1).
We evaluated muscle tone based on the Surveillance of CP in Europe CP classification guidelines [5]. The study participants had spastic paralysis (n=25), flaccid paralysis (n=6), athetosis (n=1), and mixed-type paralysis (n=1) (Fig. 3).

We recorded the age at which the children had contracted malaria (Fig. 4). The participants contracted malaria at age 1 (n=5), 2 (n=1), 5 (n=1), and older than 5 (n=5).

Using the GMFCS, the participants were classified according to the dysfunction severity (Fig. 5). This system consists of 5 levels used to differentiate children with CP based on their ability to self-initiate movement and their need for assistive technology and mobility aids. The participants were classified as level IV (n=14), V (n=14), III (n=4), and I (n=1).

2. Experimental Design, Materials and Methods

2.1. Participant enrollment and sample collection

The participants were 124 children who lived in remote areas of the Republic of Malawi and visited an outreach clinic (the Sue Ryder Foundation in Malawi) between October 2 and November 15, 2017 for therapy and rehabilitation. A questionnaire was provided to the family to collect detailed information regarding their vital statistics and diagnoses, and the children underwent physical examination. The age, sex, diagnosis, adverse events that occurred at birth, length of
the pregnancy, type of paralysis, and muscle tone were recorded. Children were diagnosed with CM if they developed normally after birth but suffered physical disabilities after having malaria. Some subjects were excluded based on the criteria outlined in Fig. 1.

We measured the degree of CM based on muscle tone, type of paralysis, and GMFCS score. The age at which each participant contracted malaria was also recorded.

This dataset will be useful to researchers who are studying the motor consequences of malaria in children.

2.2. Sample quality assurance and quality control

Participants were randomly selected and interviewed.

Ethics Statement

The content of the survey was explained orally and in writing to the participants and their families and all participants and families provided informed consent/assent prior to study participation. The ethics committee of Limited Liability Company Habilis approved all study protocols, and each participant provided written informed consent prior to enrollment (number 17002).

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that have or could be perceived to have influenced the work reported in this article.

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Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2021.106961.
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