Acta Scientific PEDIATRICS (ISSN: 2581-883X)

Volume 9 Issue 2 February 2026

Research Article

Developmental Delay Among Children in Togo

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Received: January 08, 2025
Published: January 31, 2026

Abstract

Introduction: Developmental Delay (DD) affects 5 to 10% of children, with significant implications for their quality of life. This study aims to describe the clinical aspects of DD in children aged 0 to 5 years in Togo.

Methods: This is a descriptive cross-sectional study on DD in children treated at the physiotherapy unit of the Sylvanus Olympio University Hospital and at the National Centre for Prosthetics and Orthopaedics (CNAO) in Lomé. Patient records were analysed and interviews were conducted with the mothers of the children included in the study.

Results: The participation rate was 95.0% (38/40). The average age of the children was 11 months ± 1.8 months, with a sex ratio of 1.2. The mothers (58.0%) experienced complications, including 21.0% premature births. They reported exposure to infections (89.0%) and two out of three children (66.0%) presented with perinatal asphyxia. The diagnosis of DD was made before the age of 1 year in 60.5% of children. Delays in head control and sitting were observed in 86.8% and 84.2% of cases, respectively. Limb spasticity (73.7%), sensory disorders (42.1%) and motor coordination defects (73.7%) were present. In terms of treatment, 37 children received physiotherapy (97.4%).

Conclusion: These results demonstrate the importance of monitoring pregnancies, early screening, multidisciplinary care, and active family involvement in the prevention and management of DD.

Keywords: Psychomotor Delay; Child; Togo

Citation: Yvon Foli Agbeko., *et al.* "Developmental Delay Among Children in Togo". *Acta Scientific Paediatrics* 9.2 (2026): 06-10.

Introduction

Developmental Delay (DD) affects approximately 1-3% of children under the age of 5 worldwide, with an estimated 52.9 million children affected in 2016 [1]. Nearly 95% of these cases are concentrated in low - and middle - income countries, which are particularly vulnerable due to poverty, malnutrition and limited access to healthcare from pregnancy through early childhood [2-4]. Studies conducted in sub-Saharan Africa report high local prevalence rates, reaching up to 19% in some regions [4]. The assessment of a child's DD focuses on motor, postural, manual, sensory and language skills. Psychomotor developmental delay is defined as a significant impairment in cognitive functions and adaptive behaviour compared to the age norm [5]. The WHO does not propose an isolated and fixed definition of 'developmental delay', but integrates it into the broader framework of developmental disorders. DD is influenced by a complex interaction between genetic and environmental factors, which begins in utero. The first years of life are crucial, as they are a critical period for the acquisition of essential skills [6]. Several risk factors associated with the increased risk of DDs have been identified, including malnutrition, extreme poverty, chronic infections, low levels of stimulation in the early years, inadequate cognitive stimulation, iodine deficiency, iron deficiency anaemia, maternal depression, and exposure to violence [7]. DD in children is a public health issue that is receiving increasing attention due to its implications for the overall development of the child. This delay manifests itself in difficulties in acquiring motor, cognitive and social skills, thus affecting the quality of life of children and their families. Rapid and effective therapeutic interventions are essential to maximise benefits in children. In Togo, Amadou., *et al*. analysed imaging data from 92 children aged 0 to 16 years. Children with psychomotor retardation had brain abnormalities (69.6%) on imaging, including cerebral atrophy (41.0%) and hydrocephalus (23.0%) [8]. Few studies have been conducted on DD in children in sub-Saharan Africa in general and in Togo in particular. The overall objective of this study was to describe DD in children aged 0 to 5 years in Togo.

Methods

The study was conducted in the paediatric physiotherapy department of the National Orthopaedic Equipment Centre (CNAO) and in the paediatric physiotherapy unit of the Sylvanus Olympio University Hospital (CHU SO). The CNAO is a social and health rehabilitation facility resulting from German-Togolese cooperation. Its main objective is to provide preventive, curative and rehabilitative care to people with disabilities through various specialities. The services provided include orthopaedic equipment, physiotherapy education, orthopaedic education and social and psychological support. In addition to this objective, the centre provides technical assistance, capacity building for professionals and supervision of trainees. This study is a descriptive cross-sectional study conducted from 3rd February to 28th May 2025. The source population is represented by parents of children residing in Lomé who have undergone rehabilitation or who are receiving medical or physiotherapy treatment at the CNAO or the CHU SO. Participants were selected for convenience, based on their availability, accessibility, or ease of inclusion in the study. The inclusion criteria were mandatory attendance at rehabilitation sessions, the existence of DD lasting between 0 and 5 years, written consent from parents, and agreement from physiotherapists. Data were collected using a pre-tested questionnaire designed to gather information from the physiotherapy register and patient files. For data processing, we carried out a manual analysis followed by analysis using Microsoft Word and Excel 2013 software. The study variables were age, gender, age at diagnosis, clinical signs of DD and quality of care. Authorisation was obtained from the management of CNAO and CHU – SO before the study began. Informed written consent, confidentiality and anonymity were guaranteed.

Results

A total of 38 parents of children with developmental delay out of 40 agreed to participate in the study, representing a participation rate of 95.0%.

The average age was 11 months ± 1.8 months, and 55.0% were between 1 and 2 years old. The sex ratio was 1.2.

During pregnancy, 79.0% of mothers received adequate prenatal care, but 57.9% experienced complications (preterm delivery, long and difficult labour, dystocia, vaginal infections, foetal malposition and malaria).

Eleven mothers (29.0%) reported having a chronic illness during pregnancy (7 hypertension, 2 diabetes, 2 asthma). Preterm births accounted for 21.0% with an average gestation period of 32 weeks and 5 days. Mothers (89.0%) reported exposure to infections. Two out of three newborns (66.0%) presented with perinatal asphyxia.

The clinical profiles of the children with DD are shown in Table I.

	Number N = 38	Percentage %
Age of diagnosis		
Before 1 year	23	60.5
Between 1 and 3 ans	13	34.2
After 3 ans	02	5.3
Clinical delay		
Head control	33	86.8
Sitting position	32	84.2
Walking	16	42.1
Language	16	42.1
Multiple	02	5.3
Associated motor disorders		
Spasticity	28	73.7
Muscle hypotonia	22	57.9
Balance and walking disorders		
Hypertonia	08	21.1
Musculoskeletal deformities	04	10.5
Non motor disorders		
Sensory disorders	16	42.1
Cognitive disorders	10	26.3
Behavioural disorders	05	13.2
Absents	07	18.4
Motor coordination		
Normal	10	26.3
Abnormal	28	73.7

Table I: Clinical description of DD in children.

DD is diagnosed before the age of 1 in 60.5% of children (Table I). Delays in head control and sitting were observed in 86.8% and 84.2% of cases, respectively. Physical examination also revealed limb spasticity (73.7%), sensory disorders (42.1%) and poor motor coordination (73.7%) (Table I).

In terms of treatment, 37 children received physiotherapy (97.4%), with 90% attending 2-3 physiotherapy sessions per week, each lasting 30-45 minutes. According to the mothers, an improvement in clinical condition was noted in 68.4% of cases.

Discussion

Epidemiological data

The prevalence of RPM in children varies from country to country. It is 6.4% among preschool children in Egypt [9], 11.7% in Malawi [10], 16.4% in Saudi Arabia [11], 24.6% among 9- to 16-year-olds in Rwanda [12], and up to 56.4% in Nepal [13].

The results reveal that the majority of children were between 1 and 2 years old, a critical age group for motor development. This distribution is consistent with a study conducted in Bamako by Coulibaly [14]. In Malawi, however, the prevalence of disability was higher among children aged up to 5 years (n = 60; 29.3%) than children aged 2–4 years (n = 40; 5.5%) [10]. A male predominance (55.3%) was observed, which is often reported in the literature [9,15].

Prenatal care and perinatal complications

One-fifth of mothers (21.0%) did not receive regular medical monitoring during their pregnancy. More than half (57.9%) reported complications such as premature births, long and difficult labour, dystocia, vaginal infections, abnormal foetal positions and malaria. These figures are consistent with the findings of the World Health Organisation study on inequalities in access to prenatal care [16]. This distribution highlights the crucial importance of medical monitoring during pregnancy to ensure the well-being of both mother and child. According to Griffiths D., *et al*. [17], lack of prenatal care is a significant predictor of psychomotor developmental delay, particularly due to the risks of premature birth, neonatal hypoxia and in utero infections. In a systematic review and meta-analysis, four determinants—birth interval, birth weight, sex of the child, and maternal education, which were reported as determinants in at least two primary studies—were selected for meta-analysis. However, only two determinants, birth weight and maternal education levels, remained significant determinants of DD [2]. A child born to a less educated mother had three times more risk [3.04; 95% CI (2.05, 4.52)] for DD as compared to their comparison group. In addition, children who had low weight at birth had a 3.6 times [3.61; 95% CI (1.72, 7.57)] higher risk for DD as compared to children who had normal birth weight [2]. In a rwandan study, gestational age at delivery and district of origin were most highly associated with DD, with preterm children at significantly higher risk of having DD compared to term children and children from a first District at high risk of DD compared to children from a second district [12]. In saoudian Arabia, binary logistic regression analysis revealed that artificial/complementary feeding before 6 months of age, narrow spacing between children (< 3 years), preterm delivery, number of household children (> 3), and lower level of maternal education were the most determining risk factors associated with DDs [11]. In Egypt, children in urban communities were more likely to have at least one DD than those in rural areas, and children of middle social class than of low or high social class. The strong perinatal predictors for at least one DD were children with a history of postnatal convulsions, low birth weight, or history of postnatal cyanosis and mothers had any health problem during pregnancy. Higher paternal and maternal education decreased the odds of having any DD by 4 [9].

Motor and non-motor problems

The motor delays observed in our study mainly concern head control (86.8%), sitting position (84.2%) and walking (42.1%) (Table I). These results are similar to those of the study by Pereira., *et al*. (2018) in Brazil [18], which confirms that children who had problems at birth have difficulty acquiring good posture. In addition to motor difficulties, we also observed that some children had sensory (42.1%), cognitive (26.3%) and behavioural (13.2%) disorders (Table I). This shows that developmental delay affects not only movement but also the way children perceive, understand and interact with their environment. In Rwanda, delays in the combined group among the domains of gross motor, communication, fine motor, personal social, and problem solving were 12.8%, 2.5%, 8.4%, 1.7% and 7.5%, respectively [12]. In Egypt, developmental language delay was the most prevalent, affecting 4.2% of children. The least affected domain was gross motor (1.9% of children) [9]. In Malawi, 41 (4.4%) in "language" and 77 (8,3%) in "social" domains were reported [10I]. The most prevailing DDs were the communication, problem solving, and personal/social skills (5.6%, 5.5% and 4.6% respectively). Lower rates of DDs were identified for fine motor, and gross motor milestones (1.9%, and 1.5% respectively) [11].

Physiotherapy and treatment

In our study, almost all children (97.4%) underwent physiotherapy sessions. These rehabilitation sessions lasted an average of 30 to 45 minutes. Rapid and effective therapeutic interventions are essential to maximise benefits in children. In addition, parental involvement in the therapeutic process is a key factor contributing to the effectiveness of interventions, strengthening the parent-child bond and promoting a supportive environment. From early childhood, multidisciplinary care (paediatrician, neurologist, psychomotor therapist, physiotherapist, occupational therapist, speech therapist, psychologist, social workers) is put in place to prevent the emergence of specific needs for adapted education [19,20]. The UK's GAME (Guidelines for Adolescent Mental Empowerment) programme, conducted in children aged 24–36 months with psychomotor delay, reported progress in motor skills, language and parent-child interaction. The Part C programme (Wisconsin, United States), based on early physiotherapy, has shown persistent cognitive benefits up to 36 months in preterm children [21].

Progress and improvement in children's condition

According to feedback from families, 68.4% of children showed improvement in their condition. This improvement is reflected in progress such as learning to sit up, crawling, or a reduction in muscle hypertonia. This demonstrates the effectiveness of physiotherapy interventions, especially when implemented early, as also shown by studies by Kofod., *et al*. (2020) [22] and Novak., *et al*. [23], which emphasise the importance of early treatment in achieving better functional outcomes in children.

Conclusion

These results show the importance of pregnancy monitoring, early screening, personalised and multidisciplinary care, and active family involvement. It is therefore imperative to strengthen the capacity of rehabilitation facilities, train more specialised professionals, and raise awareness among families of the importance of continuous and coordinated care.

Bibliography

1. Feigin VL., *et al*. "Global Burden of Disease study 2016 Child Development Collaborators. Developmental disabilities among children younger than 5 years in 195 countries and territories, 1990-2016: à systematic analysis for the Global Burden of Disease Study 2016". *Lancet Global Health* 6.10 (2018): e1100-1021.

2. Wondmagegn T., *et al*. “Prevalence and determinants of developmental delay among children in low- and middle-income countries: a systematic review and meta-analysis”. *Frontiers in Public Health* 12 (2024): 1301524.

3. Emerson E and Hatton C. “The epidemiology of developmental delay and disability in low- and middle-income countries”. *Journal of Intellectual Disability Research* 67.3 (2023): 220-231.

4. Reimschisel T. “Global developmental delay and regression”. *Neuropsychiatry Education Key* (2016).

5. WHO. “International Classification of Diseases (11st éd.)” (2022). icd.who.int

6. Collège National des Pédiatres Universitaires (CNPU) de la France. “Développement psychomoteur du nourrisson et de l’enfant - Item 55”. Consulté le : 23 janvier (2025).

7. Walker SP., *et al*. “Child development: risk factors for adverse outcomes in developing countries”. *Lancet* 369 (2007): 145-157.

8. Amadou A., *et al*. *European Scientific Journal* 13.2 (2012): 258-268.

9. Metwally AM., *et al*. “Screening and determinant of suspected developmental delays among Egyptian preschool-aged children: a cross-sectionalnational community-based study”. *BMC Pediatrics* 23 (2023): 521.

10. Murphy R., *et al*. “Estimated prevalence of disability and developmental delay among preschool children in rural Malawi: Findings from “Tikule Limodzi,” a cross-sectional survey”. *Child Care Health Development* 46 (2020): 187-194.

11. Shatla MM and Goweda RA. “Prevalence and risk factors of developmental delays among preschool children in Saudi Arabia”. *JHIPH* 50.1 (2020): 10-17.

12. Tuyisenge V., *et al*. “Screening for developmental delay in urban Rwandan children: a cross sectional study”. *BMC Pediatrics* 23 (2023): 522.

13. Bishwokarma A., *et al*. “Developmental delay and its associated factors among children under five years in urban slums of Nepal”. *PLoS ONE* 17.2 (2022): e0263105.

14. Coulibaly M. “Prévalence du retard de développement psychomoteur chez les enfants de 0 à 5 ans au CSREF de Bamako”. Bamako : Bibliothèque Santé Mali (2020).

15. Haute Autorité de Santé. “Repérage des troubles du neurodéveloppement chez l’enfant : signes d’alerte et outils d’aide au repérage”. (2020).

16. WHO. “World Report on Rehabilitation”. Geneva : WHO (2022).

17. Griffiths D., et al. “Use of machine learning to identify perinatal risk factors for adverse developmental outcomes in extremely premature infants”. *JAMA Network Open* 6.9 (2023): e2334292.

18. Pereira do Nascimento ES., *et al*. “Physiotherapy interventions to promote gross motor development in children at risk of or diagnosed with cerebral palsy: a systematic review”. *Brazilian Journal of Physical Therapy* 22.3 (2018): 198-211.

19. Council on Children with Disabilities. “Developmental surveillance and screening of infants and young children”. *Pediatrics* 118.1 (2006): 405-420.

20. Ochandorena Acha M., *et al*. “Early Physiotherapy Intervention Program for Preterm Infants and Parents: A Randomized, Single Blind Clinical Trial”. *Children (Basel)* 9.6 (2022): 895.

21. EM Consulte. “Programmes post hospitaliers prématurés”. (2012).

22. Kofod LM., *et al*. “Parents’ experiences with home-based rehabilitation for children with developmental delays”. *Disability Rehabilitation* 42.21 (2022): 3014-3022.

23. Novak I., *et al*. “Early, accurate diagnosis and early intervention in cerebral palsy: Advances in diagnosis and treatment”. *Developmental Medicine and Child Neurology* 59.9 (2017): 887-891.