

# MOTOR DEVELOPMENT IN CHILDREN WITH ZIKA VIRUS CONGENITAL SYNDROME AFTER 10 MONTHS OF REHABILITATION.

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## INTRODUCTION

Zika virus comes from flaviviridae family and is transmitted with Aedes Aegypti mosquito female bite.

In the mid-2015, the epidemic arrived in Brazil and was at first noticed with the countless cases of newborn with microcephaly in the Northeast region of the country. It was later observed that these children also presented other signs like hyperreflexia, hypertonia, brain malformation, irritability and visual and hearing alterations. This particular group of alterations was called Zika Virus Congenital Syndrome.

These children grow with severe motor delay but can benefit from early intervention programs provided by multi-professional teams.

## PURPOSE

The study's objective was to evaluate the motor performance of children with Zika Virus Congenital Syndrome after 10 months of multi-professional rehabilitation.

## PARTICIPANTS

The convenience sample comprised initially 21 children with confirmed diagnosis of Zika Virus Congenital Syndrome under treatment in a rehabilitation center in Goiás – Brazil, according to the study inclusion and exclusion criteria. Inclusion criteria were: Children up to eight months old and attendance equal or superior to 75% in rehabilitation activities. During the study, six participants were excluded, one due to the mother death, one due to the child death and four for presenting less than 75% attendance in rehabilitation activities, totalling 15 participants.

## METHODS

It is a longitudinal and observational study. Data were collected from October 2017 to July 2018. The children were evaluated in the beginning and then 10 months after rehabilitation. During this period, they were subject to rehabilitation performed by the institution's multi-professional team. In order to collect children's clinical and socio-demographic data, questionnaires were used, created by the researchers. Alberta Infant Motor Scale (AIMS) was used for evaluation of motor performance.

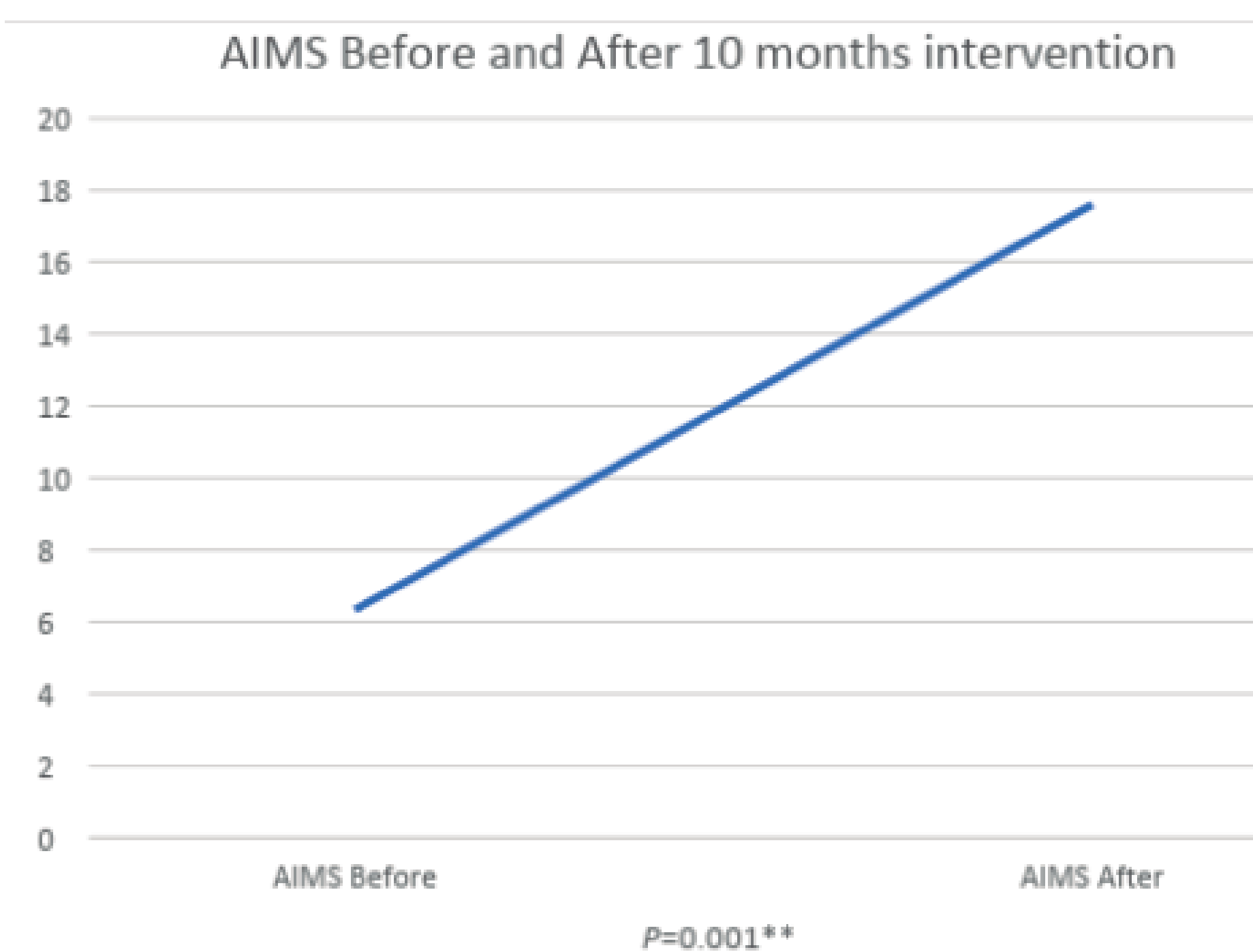
## RESULTS

In total, 15 children concluded the follow-up during the 10-month period. Table 01 presents data referring to the children's clinical profile.

Table 1. Characterization of children's general profile

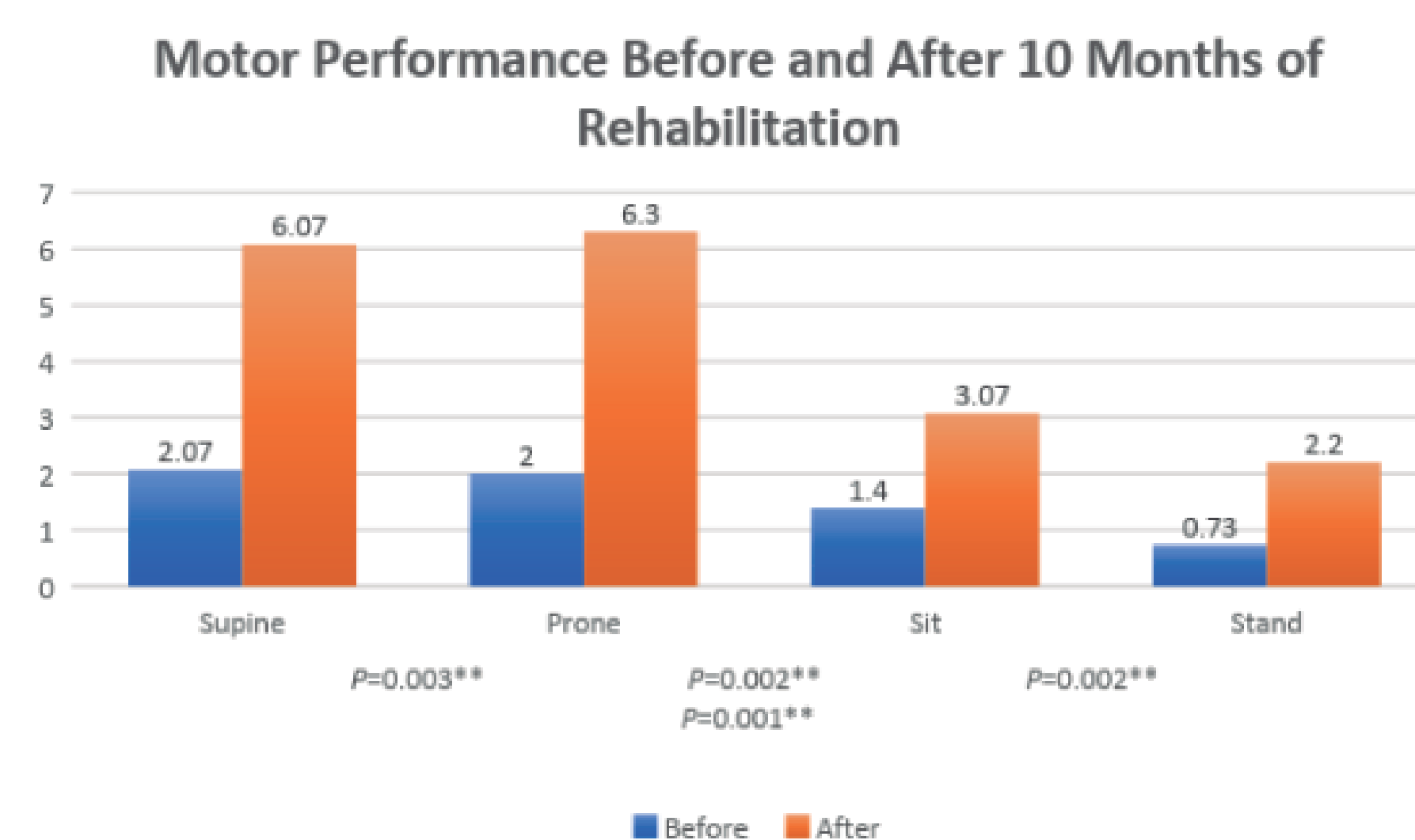
	Median	Average ± DP	Minimum	Maximum
Chronological age (days)	68.0	79.1 ± 53.5	20.0	254.0
Corrected age (days)	68.0	79.1 ± 53.5	20.0	254.0
Weight	2745.0	2568.3 ± 803.7	1025.0	3595.0
Cephalic perimeter (cm)	29.0	28.4 ± 3.3	22.0	33.0
Height (cm)	45.5	45.3 ± 6.4	33.0	59.0
Apgar 1st min	8.0	8.0 ± 1.1	6.0	10.0
Apgar 5th min	9.0	9.4 ± 0.6	8.0	10.0

Diagram 1 shows the evolution of children's motor performance after 10 months of intervention.



The initial motor performance of 6.33 corresponds to age between 1 and 2 months of motor age and the final motor performance of 17.60 corresponds to motor age between 3 and 4 months.

Diagram 2 shows the evolution of children's motor performance according to AIMS subscales.



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## DISCUSSION & CONCLUSIONS

Children with diagnosis of Zika Virus Congenital Syndrome evaluated in this study presented improvement in motor development after 10 months intervention. This improvement in motor performance was significant when AIMS total score and subscales were evaluated, particularly in supine and prone.

However, these subscales are associated to more primitive movements, which reinforce the severity of these children and indicate that children with Zika Virus Congenital Syndrome present reserved prognosis and motor performance<sup>3</sup>. This result corroborates other studies that evaluated children affected by the Zika Virus and concluded that they present significant delay in motor development, sensory and visual alterations and important dependence in daily activities, needing intensive and continuous care<sup>4-6</sup>.

The present study's results demonstrate the importance of rehabilitation processes and early intervention for these children in order to minimize these alterations and improve their life quality.

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