

IDENTIFICATION OF DISABILITIES AMONG INDIGENOUS CHILDREN IN THE VILLAGES OF DOURADOS/MS

IDENTIFICAÇÃO DE DEFICIÊNCIAS ENTRE CRIANÇAS INDÍGENAS NAS ALDEIAS DE DOURADOS/MS

IDENTIFICACIÓN DE DISCAPACIDADES ENTRE NIÑOS INDÍGENAS EN LAS ALDEAS DE DOURADOS/MS

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ABSTRACT: This study aimed to map indigenous children with signs of disabilities, born in Dourados/MS, between 2009 and 2014, and to evaluation visual impairment associated with cerebral palsy in the age group from zero to five years. The research was based on the ecology of human development and in ethnographic principles, relying on the active participation of family members in the application of the Functional Evaluation instruments of the Integrated Vision for Global Development, whose protocols were adapted to the language, culture and indigenous daily life. The mapping surveyed the number and birth conditions of indigenous children, as well as the location of five children with visual impairment and cerebral palsy. In turn, the evaluations of visual functioning and global development made it possible to identify the specific needs arising from the disability situation and reflect on strategies for early intervention, with a view to better learning opportunities in early childhood.

KEYWORDS: Disabilities identification. Early intervention. Indigenous education. Special education.

RESUMO: O estudo objetivou o mapeamento de crianças indígenas com indícios de deficiências, nascidas em Dourados/MS, entre os anos de 2009 a 2014, e a avaliação da deficiência visual associada à paralisia cerebral na faixa etária de zero a cinco anos. A pesquisa pautou-se na ecologia do desenvolvimento humano e nos princípios etnográficos, contando com a participação ativa dos familiares na aplicação dos instrumentos de Avaliação Funcional da Visão integrada ao Desenvolvimento Global, cujos protocolos foram adaptados à linguagem, à cultura e ao cotidiano indígena. O mapeamento levantou o número e as condições de nascimentos das crianças indígenas, bem como a localização de cinco crianças

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com deficiência visual e paralisia cerebral. Por sua vez, as avaliações do funcionamento visual e do desenvolvimento global permitiram identificar as necessidades específicas decorrentes da situação da deficiência e refletir sobre as estratégias para intervenção precoce, tendo em vista melhores oportunidades de aprendizagem na primeira infância.

PALAVRAS-CHAVE: *Identificação de deficiências. Intervenção precoce. Educação indígena. Educação especial.*

RESUMEN: *Este estudio tuvo como objetivo mapear a los niños indígenas con signos de discapacidad, nacidos en Dourados/MS, entre los años de 2009 y 2014, y evaluar la discapacidad visual asociada con la parálisis cerebral en la franja etaria de cero a cinco años. La investigación está anclada en la ecología del desarrollo humano y en los principios etnográficos, y contó con la participación activa de los miembros de la familia en la aplicación de los instrumentos de la Evaluación Funcional de la Visión Integrada para el Desarrollo Global, cuyos protocolos han sido adaptados al lenguaje, a la cultura y al cotidiano de los indígenas. El mapeo ha levantado el número y las condiciones de los nacimientos de los niños indígenas, así como la ubicación de cinco niños con discapacidad visual y parálisis cerebral. Por su turno, las evaluaciones del funcionamiento visual y del desarrollo global han permitido identificar las necesidades específicas derivadas de la situación de discapacidad, y reflexionar sobre las estrategias para intervención precoz, con miras a mejores oportunidades de aprendizaje en la primera infancia.*

PALABRAS CLAVE: *Identificación de discapacidades. Intervención precoz. Educación Indígena. Educación Especial.*

Introduction

The identification of the condition of disability and specific needs in children, from zero to five years old, constitutes an important procedure for the construction of early intervention strategies, with a view to enhancing child development. However, diagnosing disability in early childhood is still a major challenge, especially in developing countries (ANDRADE; LEWIS, 2008; PINTO *et al.*, 2012).

In the indigenous context, this task becomes much more complex, either because of the precarious access of indigenous peoples to Health and Education services, or because the grounding of the deficiency in myth-religious conceptions of different ethnicities (SÁ, 2011; SOUZA, 2011).

As an approximation of the object, some studies carried out with the Kaiowá, Guarani and Terena peoples that inhabit the municipalities in the south of Mato Grosso do Sul stand out, particularly regarding the identification of schoolchildren with disabilities.

The work of Bruno and Souza (2014, p. 430), on the socio-cultural representations of disability among the Guarani and Kaiowá indigenous people, analyzed the narratives of

religious leaders and the elderly, who signaled the absence of indigenous people with disabilities in the past, “[...] or, in the worst case, that they were eliminated, so they did not develop at all”. In addition, other reports understood the cause of the deficiency linked to non-indigenous medicines and cesarean delivery, also stating that it was possible to prevent and treat deficiencies with medicines and prayers. (BRUNO; SOUZA, 2014).

Lima (2013) pointed out that the relatives of deaf indigenous children reveal a strong feeling of shame for the lack of communication and concern for the future of their children. Coelho (2011) observed that family members do not understand deafness, think that deaf children are “crazy” or “weakheaded”, do not know the potential of these children and the possibilities of communication and interaction in the family environment.

Sá and Bruno (2012) carried out, in the period 2009-2010, in 19 indigenous schools in 11 municipalities in the state of Mato Grosso do Sul, screening and evaluating of the visual acuity of 6,618 indigenous schoolchildren and found 210 cases of altered visual acuity (errors of refraction). The students participating in the mapping were in the initial and final years of elementary school, aged between six and 21 years. These students were referred for ophthalmological evaluation at a hospital in Dourados/MS, where ophthalmological care was organized with the collaboration of the National Health Foundation (FUNASA) and the prefectures from where the children came. Among the 16 cases of visual impairment, nine blind students and seven with low vision were detected who had not been diagnosed until then. According to the authors, it is a high incidence, when compared to data from the World Health Organization (WHO), which indicate in Brazil, the estimated prevalence of blindness of 0.062% in the population up to 15 years of age. Among the Kaiowá and Guarani indigenous students studied, the prevalence was 0.15%.

The authors pointed out that the prevalence of pathologies among indigenous students were: “optic atrophy (six), retinal dysfunction (four), chorioretinitis (one), congenital cataract (one), glaucoma (one), eye trauma (one) and discharge myopia with astigmatism (one)” (SÁ; BRUNO, 2012, p. 638).

Souza (2011, p. 126), in turn, identified that, among indigenous people from villages in the municipalities of Dourados and Paranhos/MS, the “highest incidence is of physical disability and especially cases of cerebral palsy. A fact that can denote the lack of medical assistance to pregnant women and of the traditional resources for monitoring and orientating traditional midwives”. The author listed the probable factors of cerebral palsy among the indigenous population investigated: “maternal malnutrition, child malnutrition, birth trauma, perinatal anoxia (lack of oxygen at birth), prematurity, infections (rubella, toxoplasmosis, high

blood pressure, diabetes of mother), meningitis, measles and traumatic brain injuries” (SOUZA, 2011, p. 126).

Regarding the identification of disability among indigenous people in the process of schooling, Silva and Bruno (2016, p. 81) reiterated that this procedure occurs during elementary school, especially when the student has difficulties in literacy and performing mathematical operations and, most of the time, “[...] when the disability is visible”.

In the review of scientific production, no research was found on the incidence of disability in the indigenous population aged 0 to 5 years. This data indicates the importance of carrying out the early identification of the deficiency of indigenous people in early childhood, in view of prevention, primary care and education measures for this population.

In addition, research indicates that visual impairment is one of the conditions most associated with cerebral palsy (REGOLIN *et al.*, 2006; FAZZI *et al.*, 2012), which makes it “indispensable to identify problems and the possibilities of facilitating the visual functioning of these children in different situations” (BRASIL, 2013, p. 29).

In this study, a person with visual impairment is considered to be someone who has blindness (“visual acuity is equal to or less than 0.05 in the best eye, with the best optical correction”) or low vision (visual acuity between 0.3 and 0,05 in the best eye, with the best optical correction”) (BRASIL, 2004).

In turn, cerebral palsy, as a physical disability (BRASIL, 2004), is defined as “a group of permanent disorders of the development of movement and posture attributed to a non-progressive disorder that occurs during the development of the fetal or infant brain, and may contribute to limitations in the person's functionality profile” (BRASIL, 2013, p. 9).

Given the above, this text aims to map the deficiencies and identify indigenous children with visual impairment and cerebral palsy, aged between zero and five years, in the villages of Dourados/MS, as well as to evaluate the visual functioning integrated to the global development, adequate to the indigenous sociocultural context.

Theoretical-methodological approach

The construction of the research followed the paths of an ethnographic case study from a socioecological perspective. According to Yin (2001, p. 21), the case study is defined as “an empirical investigation that studies a contemporary phenomenon in depth, in its real life context, when the limits between the phenomenon and the context are not clearly evident”. The

ethnographic bias attempted to understand the phenomenon through immersion in the social, cultural, educational and ecological context of indigenous children with disabilities.

Articulated, the ecological perspective of human development (BRONFENBRENNER, 1996), prioritizes the observation of the subject in his natural environment and interactions in different contexts. Bronfenbrenner (1996) uses Russian *matryoshka* dolls as an illustration of the ecological environment, in which the structures fit within each other, symbolizing the microsystem (family, school), the mesosystem (the child participates in a set of microsystems in interrelations, community, culture, religion), the exosystem (the developing person does not participate directly in it, but suffers external influences) and macrosystem (public policies and institutions).

Particularly, the emphasis of this study focused on the interactions that occur in the microsystem, where daily relationships determine the development process, and the mesosystem, a context in which the indigenous child, in early childhood, with or without disabilities, develops in the extended family, within the dynamics of each community. These environments are expanded by health services, in the interaction with health agents, in the systematic attendance at the health center, in the family religiosity, in the school.

In this sense, the study proposed to analyze the interactions, the visual functioning, integrated to the global development and the influences that occur in the different environments in which the indigenous children with visual impairment and cerebral palsy transit. Thus, it sought to pay attention to interactions in the family, the impact of health care and special education for the development and inclusion of indigenous children with disabilities.

It is noteworthy that, for the development of the investigation, all ethical procedures in research were carried out, with the proper authorization of the institutions and with the signing of a free and informed consent term by the participants. Data were collected in 2015.

The first stage consisted of mapping indigenous children with disabilities born in Dourados/MS, from 2009 to 2014. Initially, the two main hospitals in the municipality of Dourados/MS were contacted, responsible for serving the indigenous population, hereinafter referred to as Hospital 1 and Hospital 2, with a view to obtaining formal authorization to collect information on indigenous newborns. The authorization for the research was granted only by Hospital 1, whose data, collected through a book of records of indigenous people born alive, indicated 11 indigenous children with congenital malformation, in the period covered.

After this procedure, in order to expand the mapping, some therapeutic and educational institutions, health posts, indigenous leaders, community health agents and teachers were contacted to identify other indigenous children with possible disabilities in the villages of

Dourados/MS. In this movement, four more indigenous children with signs of disabilities were identified. Thus, of the total of 15 indigenous children, from zero to five years old, with suspected disabilities, five were selected under the hypothesis of having visual impairment and cerebral palsy.

The second stage of the investigation included the assessment of visual functioning integrated with global development, in the five indigenous children, detected in the initial mapping. To this end, the Functional Assessment protocols of the Integrated Vision for Global Development, developed by Bruno (2005)⁴, were used, whose instruments, procedures and materials have been adapted to the Kaiowá and Guarani language and culture. Participants in this stage were family members, parents and/or guardians of indigenous children with a hypothesis of visual impairment and cerebral palsy, following the application of the protocols and bringing reports and information about their children and/or guardians. Among the five children, only one received schooling; in this case, an indigenous teacher from the Multifunctional Resource Room also participated in this stage of the research.

According to Bruno (2009, p. 29-30), the Global Vision and Development Functional Assessment recommends:

- shifting the focus of child-centered assessment and intervention to a perspective that reflects the emphasis on family, environment and community ecology. The belief is that the child develops as a result of interaction with parents and others in the environment;
- the evaluation of multiple systems, that is, the family, interactions, environment, culture. These systems interact and influence each other and cannot be treated in isolation;
- family-centered assessment and intervention, that is, continuous records of observations and conversations between parents and professionals would be the basis for decisions about the intervention;
- emphasis on conversation with the family, through open questionnaires in order to gather information that would direct the intervention process;
- attention to family rituals, daily routines and games that would reflect the family's life patterns and would be the means by which the intervention would be produced;
- in addition to observing the child's developmental stages, using a structure and collecting adequate and varied information through information about interactions, the child's development, environments, support systems and parents' level of satisfaction;
- the use of registration forms would help the teacher to work with the family; obtain information over time about the child, such as interactions, developmental profile, perceptions, goals, needs, family expectations, and information about the environment;

⁴ Para maiores informações sobre questões teóricas e metodológicas, bem como o acesso aos protocolos que constituem a referida avaliação, consultar Bruno (2005; 2009).

- use of materials that offer means for parents to reflect on the needs of the child, on families on available resources and on environmental supports.⁵

The Functional Assessment of Vision integrated with Global Development not only sees visual functions, it also looks at forms of interaction, communication, perceptual functions, as the child plays and understands the world around her. This type of evaluation is based on the ecological theory of human development (BRONFENBRENNER, 1996), attentive to the child's natural environment, through a dialogical relationship and active participation of the family.

Thus, the evaluation undertaken at this stage of the research made use of open interviews with family members and observations of the overall visual performance and development of indigenous children with suspected visual impairment and cerebral palsy.

In this ecological evaluation, “[...] it is used for the analysis and interpretation of the evaluation data, of communicative variables of intrapersonal, interpersonal and group level; situational variables, in which materials, spaces and time are rearranged in the natural context”⁶ (BRUNO, 2009, p. 33).

From the observation of family interactions and daily activities, information on visual functioning was collected, in order to understand the global possibilities and specific needs that could interfere in the learning process of indigenous children with disabilities, from zero to five years.

⁵ - a mudança de foco da avaliação e da intervenção centradas na criança para uma perspectiva que reflete a ênfase na ecologia da família, do ambiente e comunidade. A crença é de que a criança se desenvolve como resultado da interação com os pais e outras pessoas no ambiente;

- a avaliação de múltiplos sistemas, isto é, da família, das interações, do ambiente, da cultura. Esses sistemas interagem e influenciam-se mutuamente e não podem ser tratados de forma isolada;

- a avaliação e intervenção centrada na família, ou seja, registros contínuos das observações e das conversações entre pais e profissionais seriam a base para as decisões acerca da intervenção;

- ênfase na conversa com a família, por meio de questionários abertos de modo a reunir informações que dirigiriam o processo de intervenção;

- atenção aos rituais familiares, às rotinas diárias e às brincadeiras que refletiriam os padrões da vida da família e seriam os meios pelos quais a intervenção seria produzida;

- além da observação das etapas de desenvolvimento da criança, utilização de uma estrutura e coleta de informações adequadas e variadas por meio de informações sobre as interações, o desenvolvimento da criança, sobre os ambientes, os sistemas de apoio e o nível de satisfação dos pais;

- o uso de formulários de registros serviria para ajudar o professor a trabalhar com a família; obter informações ao longo do tempo sobre a criança, tais como as interações, o perfil de desenvolvimento, as percepções, os objetivos, as necessidades, as expectativas da família, e informações sobre o ambiente;

- emprego de materiais que oferecessem meios para os pais refletirem sobre as necessidades da criança, das famílias sobre recursos disponíveis e sobre suportes do ambiente.

⁶ “[...] utiliza-se para análise e interpretação dos dados de avaliação, de variáveis comunicativas de nível intrapessoal, interpessoal e grupal; variáveis situacionais, nas quais os materiais, os espaços e tempo são rearranjados no contexto natural”

Results and discussions

The findings of this study confirm the data of a research carried out by Sá and Bruno (2012) among the population of Guarani and Kaiowá indigenous students with visual impairment, in the region of Grande Dourados/MS. Similarly, there are indicators of deficiencies above the national average among indigenous communities; the fragility, in indigenous health services for pregnant women, of prevention programs, diagnoses, treatment and care of medical specialties for children with disabilities.

In the Dourados Indigenous Reserve (RID), the setting for this research, consisting of two villages (Bororó and Jaguapirú), indigenous people of the Kaiowá, Guarani, Terena and non-indigenous ethnic groups live together. RID does not have basic sanitation, garbage collection, road maintenance, poor lighting and lack of water. The vulnerable part of the village is located in the Bororó region, where most of the Kaiowá people live. These circumstances have caused a high rate of infant mortality and malnutrition. Until 2005, 40% of indigenous children in this region had nutritional deficiency (ALCÂNTARA, 2007).

In some areas of the RID, the houses pile up in disarray, and “the gathering of relatives' houses in a small plot usually forms species of clusters [...]”⁷ (PEREIRA, 2007, p. 8). As a result “of this new organization, the Guarani and Kaiowá children have lost the reference of the extended family, have been left without firm family support and, when not, included in the configurations of new marriages”⁸ (BRUNO, 2014, p. 148). In this way, many children end up in a situation of vulnerability, especially indigenous children with disabilities (BRUNO, 2014).

Then, data on the detection of deficiencies will be presented, as well as on the Functional Assessment of the Vision integrated with Global Development, with the active participation of family members.

Mapping indigenous Kaiowá and Guarani children with disabilities between 0-5 Years

At that moment, the trajectory traveled to map indigenous children from zero to five years old with congenital malformation will be elucidated, as well as to identify those suspected of having visual impairment and cerebral palsy.

Using data obtained from Hospital 1, Table 01 was prepared, with a survey of indigenous children born from 2009 to 2014 and indicative of congenital malformation.

⁷ “a reunião de casas de parentes num pequeno lote costuma formar espécies de aglomerados [...]”

⁸ “dessa nova organização, as crianças Guarani e Kaiowá têm perdido a referência da família extensa, têm ficado sem um apoio familiar firme e, quando não, inclusas nas configurações de novos casamentos”

Table 01 - Registration of Indigenous Neonates in Dourados/MS (2009 - 2014)

Year	2009	2010	2011	2012	2013	2014	Total
Births	217	176	260	134	124	62	973
Born with Malformation	02	03	01	03	02	00	11
Hospital Birth	204	170	240	126	117	55	912
Home birth	01	04	08	07	04	04	28
Birth in Transit	12	02	12	01	03	03	33

Source: research data collected at the hospital 1.

It is noteworthy that all births that occurred in the spaces of Hospital 1 took place through normal delivery, since the hospital does not perform a cesarean section. When the procedure is necessary, the patient is referred to Hospital 2 - whose data, as previously informed, were not accessed. The record of the occurrence of births varied between Hospital 1, at home or in transit.

Among the indigenous neonates born alive, in the period 2009-2014, the number was 973, 11 with congenital malformation. Of these, the highest incidence among neonates was altered limbs (five), followed by cleft lips and cleft palate (three), spina bifida (two) and only one with visual impairment associated with cerebral palsy. Studies on the etiology of recurrent disabilities have not yet been carried out by health services, which are essential for measures to prevent disabilities.

Yamamoto (2004) points out that it is possible to avoid 70% of disabilities among indigenous children. Therefore, “the prevention of physical and mental disabilities must be a concern of the whole community since before the conception of the fetus, during pregnancy, during childbirth, immediate postpartum and throughout life”⁹ (YAMAMOTO, 2004, p. 53).

The data in this study revealed: 912 hospital births, 28 births at home and 33 births in transit. The number of children born in transit is relevant. The birth in transit means that the woman went into labor and the SESAI (Secretariat for Indigenous Health) vehicle, private car or wagon did not arrive in time to send the parturient to the hospital. The risk of fetal distress is greater, as village roads are often potholed, with puddles and no lighting, without the slightest condition for the safe birth of a child. Thus, the child is born by the hands of family members, the driver or the cart driver, and then is taken to the hospital for the completion of labor. Due to the conditions of birth in transit, the child may suffer neonatal anoxia (lack of oxygen), which is one of the main causes of visual impairment associated with cerebral palsy. Thus, transit

⁹ “a prevenção das deficiências físicas e mentais deve ser uma preocupação de toda comunidade desde antes da concepção do feto, durante a gravidez, durante o parto, pós-parto imediato e ao longo de toda a vida”

delivery should be seen by indigenous health as an emergency to be resolved for better quality of life for parturients and prevention of disabilities in neonates.

In possession of the information obtained at Hospital 1, we sought to locate, in the RID villages, the 11 children born with malformation. The search was supported by the “captain”¹⁰ of the Bororó village, health workers, teachers and health post staff. Chart 1 shows the age, situation and ethnicity of the 11 indigenous children found in the RID.

Chart 1 - Characterization of Indigenous Children Born with Malformation (2009 - 2014)

Child	Age	Situation Found	Ethnicity
A	02 years	Internal limb malformation compensated with growth.	Kaiowá
B	05 years	Spina bifida and malformation in the lower limb, physical disability without other associated ones.	Terena
C	05 years	Cleft lips and cleft palate without surgery.	Kaiowá
D	02 years	Suspected diaphragmatic hernia.	Terena
E	03 years	Malformation in the right foot.	Kaiowá
F	02 years and 02 months	Malformation in the upper limbs, face and physical impairments.	Kaiowá
G	01 year and 09 months	Cleft lips and cleft palate. The child has already made the correction of the cleft lip, but the cleft palate remains open.	Kaiowá
H	04 years	The child was born with a “bad right foot”, had several surgeries, but did not solve the problem, feels pain in the foot.	Terena
I	04 years e 05 meses	Malformation of the toes of the right foot.	Kaiowá
J	04 years	Malformation in the hand.	Kaiowá
K	02 years	Has cleft lips and cleft palate, but had the surgery. There are no other associated deficiencies.	Terena

Source: research data (2015).

The data in Table 01 indicate a higher prevalence of congenital malformation among Kaiowá children, with seven out of 11 cases. In addition, of the total number of children found, only one (child F) fit the hypothesis of visual impairment and cerebral palsy.

In order to expand the mapping, considering the possibilities of indigenous children born at home, in other hospitals or who came from other villages in the region, strategies for searching information at health posts, schools and a specialized institution were adopted assisting people with disabilities.

From this effort with the institutions and professionals of Health and Education, it was possible to identify four more indigenous children, between zero and five years old, with a

¹⁰ This is a nomenclature given to the village's political leadership.

hypothesis of visual impairment and cerebral palsy. Therefore, the final sample of five indigenous children with the profile chosen for the investigation was obtained.

Chart 2 shows the children identified with visual impairment and cerebral palsy, with a fictitious name, age, ethnicity and forms of therapeutic and educational assistance.

Chart 2 - Indigenous Children, from Zero to Five to Years, with Hypothesis of Visual Impairment and Cerebral Palsy in the Villages of Dourados/MS

Fictitious Name ¹¹	Age	Ethnicity	Clinical care	Specialized Educational Service	Schooling
<i>Mitã Porã</i> ¹²	02 years	Kaiowá	Yes	No	No
<i>Mitã'i</i> ¹³	01 year	Kaiowá/Terena (Kaiowá mother, Terena father)	No	No	No
<i>Mitã Arandu</i> ¹⁴	04 years	Kaiowá	Yes	No	No
<i>Mitã Porayhu</i> ¹⁵	02 years	Kaiowá	No	No	No
<i>Mitã Rory</i> ¹⁶	05 years	Kaiowá	No	Yes	Yes (Pre-School)

Source: research data (2015).

The data indicate the prevalence of suspected visual impairment and cerebral palsy among Kaiowá children. Of the five children identified, two receive rehabilitation care at a specialized institution, and only one is undergoing schooling with the support of Special Education.

For Bruno (2014), the constitutional right to health, rehabilitation and education must be guaranteed so that these children have quality of life. Souza (2011) and Sá (2011) indicate that these fundamental social rights have been neglected for indigenous children in general, with or without disabilities, especially in the RID.

Functional assessment of the integrated vision for global development

To identify the functioning of the vision, the procedures followed the items described by Bruno (2005) for the Functional Vision Assessment. The items evaluated were: reaction to

¹¹ The names, in Kaiowá and Guarani, are fictitious, elaborated according to the characteristics of the children described by family members.

¹² *Mitã Porã* means beautiful child.

¹³ *Mitã'i* means little child.

¹⁴ *Mitã Arandu* means smart, attentive, alert child.

¹⁵ *Mitã Porayhu* means beloved child.

¹⁶ *Mitã Rory* means happy/cheerful child.

light, brightness, movement, colors; attention and eye contact; fixation and visual tracking; sensitivity to contrasts, perception of shapes, faces and objects; visual field and visual sphere.

In relation to Global Development, it was observed, also through a protocol prepared by Bruno (2005), how the child interacts with the context, communicates and uses his sensory-motor and perceptual skills for action in the environment.

Some of the materials selected for the evaluation were: large focus flashlight, *tereré* cup¹⁷ with black and white contrast (used by the child's family), child's bottle with black and white contrast, plate, spoon, plastic animals, horse, frog, spider, mouse, ox, cow, dog (animals of the indigenous daily life).

The results obtained with the Functional Assessment of the Integrated Vision for Global Development and the information provided by the families will be presented below:

a) *Mitã Porã*

She was born in January 2013, at 36 weeks of gestation, through normal delivery, at Hospital 1. As a result of birth conditions, she was admitted to Hospital 2; she was discharged with a diagnosis of prematurity, stable hydrocephalus and cerebral palsy. Daughter of teenage parents, as soon as she was discharged from Hospital 2, she was taken care of by a nutritional recovery center, close to the RID, where she had been hospitalized for more than two years and had little contact with the family.

Basic Visual Functions: the child shows reaction to lights, colors, movements, people and faces between 5 and 10 cm away. *Visual contact:* has difficulty maintaining eye contact, does not show interest in objects, needs verbal mediation to direct the look. *Visual Field:* fix the gaze on the peripheral and lower right side. *Focal distance:* at 05 cm is able to perceive the object. *Visual-Motor Function:* impaired visual tracking, active search for objects through movement and sound. *Visual-Perceptual Function:* the child perceives people and objects in motion, recognizes the bottle and mug with contrast, by the smell and objects of personal use.

b) *Mitã'i*

The child was born in May 2014, the result of a high-risk pregnancy. The mother, aged 27, between the fourth and seventh months of pregnancy continued to show menstrual flow, had high blood pressure and was frequently in the hospital. Apparently without atypical

¹⁷ Typical drink from southern Mato Grosso do Sul, made with the infusion of yerba mate (*Ilex paraguariensis*) in cold water.

conditions until the age of three months, when the mother noticed that she was not developing properly and went to seek medical help at a health post in the RID, through which Hospital 2 was referred, whose report was indicating prematurity, 36-week gestation, with tomography showing brain morphological changes, suggestive of schizencephaly. At three months of age, Mitã'i was examined by an ophthalmologist, whose report was not accessed. The mother says that, according to the report, the child has 100% vision in both eyes.

Basic Visual Functions: shows sensitivity to light, brightness, sensitivity to contrasts and objects in a 35 cm visual sphere. Maintains eye contact at this distance. *Visual Coordination and Eye-Object Coordination:* shows interest in the nearby object, in the lower midline and shows intention to catch it, despite the motor difficulty. *Visual Field:* locates the object in the lower visual field up to 30 cm, then loses it. *Visual-Motor Function:* has impaired visual segment; is unable to follow objects for a long time, but the child focuses the vision on bright and audible objects. *Visual-Perceptual Function:* perceives the baby bottle and associates the use and function of the object; sense by the smell. Recognizes the mother's face and is interested in the color and brightness of objects used in Functional Vision Assessment. Possibly, it is a cortical visual deficiency that should be investigated.

c) *Mitã Arandu*

He was born in November 2010, with poor physical formation in his feet. At eight months, a professional from the health center located in the RID requested additional tests because the child did not yet firm his neck, nor did he sit down. According to the mother, the child "had his neck hanging". He was diagnosed with cerebral palsy and referred to a specialized institution for people with disabilities. The medical report reported signs of cortical dysplasia suggesting polymicrogyria, colpocephaly with dysgenesis of the corpus callosum, cerebellar hypoplasia, bilateral maxillary sinusopathy.

Basic Visual Functions: reacts to the movements of people, the lights, the colors, the faces and the smiles, maintains close eye contact. Features fleeting fixation and useful central and peripheral field. *Visual-Motor Function:* the visual sphere observed up to 01 m makes tracking of moving objects, keeps the fixation. Keep his head and eyes in the light and moving objects. *Visual-Perceptual Function:* identifies people closely, recognizes the dog, its toys, familiar objects. Perceives gestures, maintains interest in images from books/magazines.

d) *Mitã Porayhu*

Born in February 2013, during pregnancy the mother was diagnosed with diabetes and

used insulin. At birth, malformation was found in the hands and the left ear. The child was taken to Hospital 2, where was diagnosed with malformation in the right upper limb with non-articulated thumb and left upper limb, malformation in the bilateral pinna.

Mitã Porayhu has good sensorimotor development, is independent, walks, runs and jumps. Communicates with children and adults. The performance of the visual assessment encountered certain obstacles, due to family conflicts, but, according to the family's information and through the observation of the child playing with a can, the interaction with objects and the exploration of the environment, does not appear to have visual impairment.

e) *Mitã Rory*

He was born in July 2009, of the Kaiowá ethnicity, parents who speak the mother tongue, from the village Sucuri, in Mato Grosso do Sul. The parents came to Dourados in search of treatment for their son. The student is enrolled in Early Childhood Education, in the afternoon, has pedagogical support and attends the Multifunctional Resource Room, on the opposite shift. The mother reports that she had a quiet pregnancy and a normal birth. At one month of age, the child had pneumonia, was hospitalized for four months in an Intensive Care Unit (ICU). After these procedures, in the mother's opinion, his body went "all limp". There in the hospital he was doing physiotherapy on his arms and legs. The doctor said that he no longer had a chance of life, as he only breathed with the help of devices. Contrary to expectations, he developed and started walking at the age of two. At three years old he only spoke the initials of the words. The parents said that he is cheerful, agitated, however, fickle in mood and easily irritated.

As reported by the professor at the Multifunctional Resource Room, *Mitã Rory* presents motor alterations on the left side, difficulties in concentration and attention, behavioral and emotional oscillations. Still, she reports that the child has visual difficulties: he places the objects very close to him to see; need help to pick up the spoon and incentive to eat. In addition, he loves to play ball and handle books with pictures, especially those containing pictures of animals.

Basic Visual and Motor-Visual Functions: presents sensitivity to contrasts; reacts to the movement of people, to the near light, to the faces, smiles of familiar people. Eye contact with objects is often quick, at other times, the gaze is distant and disconnected. Reacts to objects with brightness and high contrast when close, about 30 cm away. He showed difficulty in fixing and maintaining visual contact with objects in a central position. He prefers to lie on his side to facilitate their fixation and identification. Visual follow-up was impaired, with involuntary

movements (nystagmus) and evidence of strabismus. Search for moving object and sound. Visual field changed.

The indigenous children evaluated, with the exception of *Mitã Porayhu*, presented symptoms, signs and visual response compatible with low vision, marked loss of visual function, restricted visual field and impaired visual sphere. As this research was not responsible for performing an ophthalmological diagnosis, the children were referred to Hospital 2, which is responsible for providing medical specialties to indigenous peoples in the city of Dourados/MS, for ophthalmological evaluation and possible needs for optical correction. The possible indication of special optical resources for school activities of the student undergoing schooling should also be investigated.

For families and caregivers, guidelines on early intervention strategies for visual stimulation integrated with the overall development of children were carried out. It is worth noting that only one child attends Early Childhood Education, for this one, together with the specialist teacher of the Multifunctional Resource Room, a Plan for Specialized Educational Assistance and pedagogical activities for the optimization of residual vision, development of visual-motor and perceptual functions, autonomy and independence was elaborated, as well as guidelines for meeting specific needs in the context of the regular room. These activities were made available at the school unit in which the student was enrolled.

Final considerations

The mapping of Kaiowá and Guarani indigenous children with congenital malformation, in the period 2009-2014, in Dourados / MS revealed: 912 births in hospitals, 28 in households and 33 births in transit occurred during transport to the hospital. In the latter case, it is worth mentioning the expressive number and high-risk conditions of parturients that may be factors responsible for neonatal anoxia, the major cause of visual impairment and cerebral palsy, among neonates. We are, therefore, facing a situation of production of disability.

The initial survey identified 11 children born with congenital malformation in the period, observing the prevalence of: changes in the lower and upper limbs (five), cleft lips and cleft palate (three) and other organic alterations (three), among which, one with a hypothesis of visual impairment and cerebral palsy. Such data point to the need for clinical investigations about the etiology that develops changes in neonates.

Contact with educational and rehabilitation institutions, as well as with Health and Education professionals, made it possible to identify four more children, from zero to five years

old, in the indigenous villages of Dourados/MS, with suspected visual impairment associated with paralysis cerebral.

The results of the Functional Assessments of the Integrated Vision for Global Development indicate that of the five children, four have significant low vision with: visual response between 10 cm and 1m away, altered ocular motility, ocular deviation, difficulty in fixing and visual tracking and alterations visual-perceptual. It is an emergency that these children are referred for ophthalmological evaluation, correction of possible eye changes, to early intervention programs; and for the student in school, the investigation of special optical resources to optimize learning.

It should be noted that the right of children with disabilities to early detection and intervention programs is ensured by the Brazilian Inclusion Law (BRASIL, 2015) and by the National Special Education Policy from the perspective of Inclusive Education (BRASIL, 2008). These documents recommend intersectoral actions in the field of Health, Education and Social Assistance, with a view to assisting children and providing guidance to families.

Bronfenbrenner (1996) helps to understand the relationships that are established between the various environments in which the developing person is inserted and the influence on the learning process and the quality of life. In the case of the indigenous population, the omission of public policies regarding the prevention of disabilities and primary care for children has been responsible for the situation of vulnerability experienced by indigenous children with disabilities in the Grande Dourados region.

The trajectory of the present investigation was based on collaborative action with families, paying attention to the necessary intercultural dialogues, and in the joint elaboration with the specialist teacher of the Multifunctional Resources Room of a Specialized Educational Assistance Plan, enabling the school community to gain knowledge on the specific needs of the student and, therefore, the adjustments to the classroom.

In addition, this study opens a gap for the discussion on the fragility of the rights of indigenous children with disabilities, with actions in the field of Health for the prevention of secondary disabilities and opens the opportunity for the creation of an early intervention program focused on the family and in the indigenous community, which is founded on the values and cultures of the ethnic groups involved.

It is expected that, at such an uncertain time for children born under the cycle of epidemic of dengue, *Chicungunya* and *Zika virus*, factors that can cause cases of premature births and microcephaly, families can hope for better development opportunities, learning and quality of life, within the indigenous way of being.

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