Occupational Therapy and continuing education of teachers: a strategy for school inclusion of students with neurodevelopmental disorders

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ABSTRACT: The inclusive perspective requires from teachers the ability to work with children with Neurodevelopmental Disorders, i.e., to include them in the educational process. This research aimed to analyze the impacts of a continuing education proposal for early childhood education teachers, mediated by an occupational therapist, for the school inclusion of students with neurodevelopmental disorders. This was a qualitative research, in which participated 13 teachers and assistants from a Reference Center for Early Childhood Education in Belém (PA). From the results the following units of meaning: 1) Neurodevelopmental Disorders at school: lack of knowledge leading to insecurity; 2) Concepts of teachers about inclusive education; 3) Family and school: fundamental partnership for education and child development; 4) Continuing education as a strategy for school inclusion: occupational therapy possibilities. These results strengthen the initial training of basic education teachers and the need for continuing education; similarly, they show the occupational therapist can be a potential collaborator in this process.

KEYWORDS: Education, continuing; Child rearing; Mainstreaming (education); Teacher training; Occupational therapy; Neurodevelopmental disorders.

RESUMO: A perspectiva inclusiva tem exigido que os professores estejam aptos a trabalhar com crianças com Transtornos do Neurodesenvolvimento, visando a efetiva inclusão das mesmas. Esta pesquisa objetivou analisar repercussões de uma proposta de formação continuada para professores da educação infantil, mediada por terapeuta ocupacional, visando a inclusão escolar de alunos com transtornos do neurodesenvolvimento. Tratou-se de uma pesquisa qualitativa, da qual participaram 13 professoras e auxiliares de um Centro de Referência em Educação Infantil, em Belém (PA). Os resultados fizeram emergir as seguintes unidades de significação: 1) Transtornos do neurodesenvolvimento na escola: desconhecimento gerando insegurança; 2) O imaginário de professores sobre a educação inclusiva; 3) Família e escola: parceria fundamental na educação e desenvolvimento infantil; 4) Formação continuada como estratégia para inclusão escolar: possibilidades da terapia ocupacional. Estes resultados contribuem para fortalecer as práticas de formação inicial de professores da educação básica e sinalizam a necessidade de investimentos na formação continuada, da mesma forma que evidenciam que o terapeuta ocupacional pode ser um potencial colaborador neste processo.

DESCRITORES: Educação continuada; Educação infantil; Inclusão educacional; Capacitação de professores; Terapia ocupacional; Transtornos do neurodesenvolvimento.
INTRODUCTION

Health-education interaction is one of the main targets of school health policies and actions\(^1\). Education for health promotion has been recommended in schools and daycare centers, to improve the protection and development of students, ensuring a suitable environment for their growth and learning. Given this context, the continuing education of teachers is fundamental – considering their main role – for them to include all children in the educational process.

There are several disorders related to children’s development that can hinder their participation in formal education. “Neurodevelopmental Disorders” is a term that replaced the “Disorders Usually First Diagnosed in Infancy, Childhood or Adolescence”, which is used by the DSM-5 – Diagnostic and Statistical Manual of Mental Disorders (2014)\(^6\).

Such disorders often have early onset, usually before the child starts attending school, and frequently result in permanent damages in the life of the affected person, involving personal, social, academic and/or professional aspects, which may cause development deficits in learning and of cognitive functions, and even cause social and intellectual dysfunctions. Some examples: Intellectual Developmental Disorder, Social Communication Disorder, Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Specific Learning Disability, and Motor Disorders\(^5\).

Children with this kind of disabilities belong to a Special Education Target Group (SETG) as they recurrently present physical, cognitive or social limitations, both in short- and long-term, which can limit their integration in school and society\(^3\). One of the pillars of this policy is the previous training of teachers regarding inclusive actions, being fundamental for implementing practices that go beyond mere adaptations for disabilities and meet learning demands of all children\(^3,6\).

In this sense, Brazilian CNE/CP resolution No 1/2002 establishes the National Curriculum Guidelines for Training Basic Education Teachers. It defines early formation on diversity as a function of higher education institutions to include three main groups: students with a) disabilities; b) global development disorders; and c) high abilities/gifted\(^7\).

Despite this legislation, studies have been identifying several gaps in this initial education, evidencing the need for a continuing training to ensure the constant update of teachers according to the daily demands of their professional practices\(^8,9\).

The occupational therapist is thus considered a professional that has an important role in the health/education interaction at school. Some studies already suggested the benefits in continuing education provided by occupational therapists, such as the research of Simões et al.\(^9\) on the continuing training of Specialized Educational Assistance (SEA) teachers to use Assistive Technology (AT) in inclusive practices. The instrumentalization of teachers was also addressed by Trevisan and Della Barba\(^11\) concerning collaborative consulting for inclusive education of children with disabilities. Gebrael and Martinez\(^12\) investigated continuing training of teachers to work with low vision students. Sant’Annai\(^13\) also focused on the training of teachers for early childhood education, emphasizing the playful side of children with disabilities\(^13\).

Understanding that the educational process can be regarded as ‘childhood occupation’\(^14\), we consider that occupational therapists can collaborate to educational inclusion processes by developing actions to train teachers to meet the needs of all children.

Our experience in an Early Childhood Education Unit in Belem during the Multi-Professional Residency in Health – Specialization in Family Health Strategy, linked to the Para State University (UEPA), allowed us to keep in contact with several demands of this scenario. In addition to that, the daily complaints of teachers about their lack of knowledge on child development triggered the interest in carrying out this research.

Thus, this research aimed to analyze the repercussions of a proposal for continuing education for early childhood education teachers mediated by an occupational therapist to include students with neurodevelopmental disorders at school.

METHODOLOGICAL PROCEDURES

This was a qualitative research, which, according to Minayo\(^5\), aims to understand reality and considers opinions, values, beliefs, relationships, representations, and actions that can be collected in the field of work and through documentary analysis.

Data was collected from a Municipal Reference Center in Early Childhood Education at the city of Ananindeua, metropolitan region of Belém (PA), Brazil. Eight early childhood education teachers and five assistants participated in the research (13 professionals).

The research was approved by the Research Ethics Committee of the Brazil Platform (Plataforma Brasil), under protocol No. 1,084,209, of 05/12/2015. The Institution board authorized this research, and all participants signed the Informed Consent Form.

They were identified by the letter P (participant) followed by a random number, as follows: P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12 and P13.
Data collection was performed from June to July 2015 in three phases. In the first, a structured interview was applied to each participant to investigate how these professionals see themselves regarding health, if they have knowledge on Children Neurodevelopmental Disorders, and what they think about inclusive education. Moreover, we explored the main needs and difficulties they must deal with in the school routine.

The second phase comprised four 90-minute continuing education meetings, which occurred in the of the institution. Group dynamics and case discussions were performed in these meetings to clarify fundamental aspects of Children Neurodevelopmental Disorders chosen by the participants (Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder) and to provide a space for dialogue and knowledge exchange between the education professionals and the lecturer, an occupational therapist. The researcher recorded this phase through written reports in a field journal, photos, and sound records of the formation meetings.

After these continuing education meetings, in the third phase we applied a questionnaire to identify the impact of the activities and contents presented at the training.

RESULTS

Characterization of the research subjects

All participants were female. Of the 8 teachers participating in the research, 6 had an undergraduate degree in pedagogy, 1 was completing the same degree, and 1 had teacher licensure in Languages. Concerning assistants, of the 5 participants, 4 were at the beginning of their undergraduate studies, and 1 had no university education. Among them, 2 were Pedagogy undergraduate students and 2 Social Service undergraduate students.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>NAME</th>
<th>GRADUATION</th>
</tr>
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<tbody>
<tr>
<td>Teachers</td>
<td>P1</td>
<td>Pedagogy</td>
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<td></td>
<td>P2</td>
<td>Pedagogy</td>
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<td>P4</td>
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<td>P6</td>
<td>Teaching Licensure in Languages</td>
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<td>P9</td>
<td>Studying Pedagogy</td>
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<td>P11</td>
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<td>Assistants</td>
<td>P3</td>
<td>Social service</td>
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<td></td>
<td>P12</td>
<td>None</td>
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<td></td>
<td>P13</td>
<td>Studying Pedagogy</td>
</tr>
</tbody>
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Source: Field research, 2015

Continuing education meetings: content and experiences

Four meetings were organized (Chart 2).

To help the understanding, the results obtained in the field research will be addressed through units of meaning, as follows.

Chart 2 – Organization chart of the continuing education meetings

<table>
<thead>
<tr>
<th>DATE</th>
<th>ACTIVITY</th>
<th>DESCRIPTION</th>
<th>OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>26th June</td>
<td>Understanding the Autism Spectrum Disorder (ASD) triad.</td>
<td>Divided into groups, the participants created posters sorting the disorders features in social, language, and behavioral dysfunctions.</td>
<td>Stimulate the integration and presentation of the group; Investigate their knowledge on the theme; Clarify doubts; Promote a space for experience exchanges.</td>
</tr>
<tr>
<td>29th June</td>
<td>Activity 1: Recognizing the Autism Spectrum Disorders.</td>
<td>Divided into 4 groups, the participants read and discussed a clinical case and identified which form of the disorder corresponded to it.</td>
<td>Investigate their knowledge on the theme; Clarify doubts.</td>
</tr>
</tbody>
</table>

(1) It should be noted that the small number of meetings was due to the little time availability of teachers and helpers; the period was also precisely defined so all could participate in the research, without interfering in their educational activities.
Neurodevelopmental Disorders at school: lack of knowledge leading to insecurity

The continuing education activities performed during the research allowed us to observe the lack of knowledge on the theme, the lack of training, and the difficulties and limitations of the participants to work with SETG, as it can be observed in the following excerpts:

“When I was told I would have an autistic student in my class this year it was complicated, because I did not know nothing about the subject […]” (P1)

[…] it was very difficult at the beginning, then we had to gather information, we were desperate […]” (P10)

“we have only superficial knowledge […]” (P7)

In addition to this lack of knowledge, the teachers had many complaints about the demands posed by the inclusive school routine, as evidenced by the speech of P6:

“Here in the kindergarten we have the good fortune of having assistants to aid us, because if we haven’t, we would not be able to cope with the workload, the high number of students, and still give special attention to those students who need it […]” (P6)

It is noteworthy that the lack of knowledge, one of the causes that generates insecurity when dealing with these children, shows the importance of educational actions and continuing training for these teachers and assistants. The participants of the had no information on how to promote learning and mediate the coexistence of children with Neurodevelopmental Disorders and their families in the school routine.

Concepts of teachers about inclusive education

When questioned about school inclusion, most of the participants considered it as the physical presence of the children in a regular school classroom, as demonstrated in the following excerpts:

“Inclusive education is when there is interaction among typical and disabled students” (P5)

“Inclusive education is to bring this child to the coexistence with normal children, and showing that they are equal to everyone” (P13)

“Inserting students in daily activities” (P10)

Only P2 presented a broader concept of inclusive education:
“I guess inclusion is the assumption that the school will adjust itself to the children with disability, and not the contrary”

When questioned if the school where they worked was inclusive, most of the participants said yes, mainly due to the acceptance of SEGT students at the school:

“I consider this institution inclusive, because we always have disabled children and try to insert them into regular education” (P11)

“Yes, because we have several children with disorders” (P6)

Some teachers, however, disagree regarding the inclusion process in the Institution, highlighting the crowded classrooms and the lack of support from the municipality:

“The school is not very inclusive. I do my best, but the class is too crowded, and I have a student with SEN” (P1)

“[…] The physical structure of the school is almost adequate, but the Education Secretariat does not support us with the proper training and material” (P2)

Concerning continuing education actions, the teachers of this study showed they see the family as an ally to improve the care of children at school. Moreover, they recognize the importance of a child-school-family mediation, as we can see in an excerpt from the P11’s testimony:

“Now that we are informed about it, we can deal with the fear of the parents, who may think the child will be a weak, dependent person […] because behind such fear, such non-acceptance, is not the disorder itself, but the lack of knowledge […]”

We found out that in the institution there are no periodic meetings with the children’s families. This contact between relatives and school only happens when there are “issues of necessity” – in the terms used by P7 –, which reveals the lack of interaction between family and institution:

“We call the parents, but only if it is really necessary, if any incident happens; otherwise we give them the student’s report every six months, but there is not much attention to it and it is not even for all the children” (P7)

Teachers acknowledged the importance of a partnership between family and school and considered that, when this relationship is weakened, the low school performance of the children is noticeable, often causing significant delays on their development. Thus, the issue of professional qualifications emerged as a training strategy for teachers to narrow the relationship between school and families:

“The more we teachers own this information, the more confident we are to speak about it, and the parents will
feel more secure in seeking help [...] in approaching the teacher and speaking about situations they see at home, and in referring those children to special care [...]” (P7)

**Continuing education as a strategy for school inclusion: occupational therapy possibilities**

The results in this category point out gaps in the school routine, which feature demands for Occupational Therapy. Concerning how these teachers and assistants analyze their role in the health process of their students, we realized they understand their importance and responsibility in daily situations at school:

“Here in the daycare center we are always very attentive to the children’s health, always trying to be in contact with the family to improve the student’s learning” (P4)

“The teacher is a mediator of knowledge in the children’s development and learning, in the relationship with families, as well as regarding their health [...]” (P7)

“The teacher must be attentive and sensible for a research on health, development, and learning” (P2)

We also observed that teachers see themselves as influencing the students’ health, and they consider that interferences in this area may cause learning problems. Regarding the impact of the continuing education, we observed it provided the participants an increased knowledge on the theme, contributing to their professional practice at the school:

“We can tell when there is something wrong with a child, but many things are confusing. When you address these issues, it becomes easier for us to imagine what it could be. Even though I will not tell the parents, it is easier to deal with this situation and to alert the parents to seek specialized care [...]” (P7)

“Training is a way to help us and to offer a better education to the children [...]” (P11)

Similarly, continuing education allowed them to express themselves in a safe, non-judgmental environment, and to exchange experiences, which is often impossible in their intense work routine:

“We had the opportunity to solve our doubts and tell our experiences; in our day-by-day we usually don’t have this chance” (P7)

“Group dynamics are very interesting because lectures are often tiresome. These activities held our attention and allowed us to speak our minds” (P11)

**DISCUSSION**

Relevant reflections arose from the previously mentioned results, which we will analyze based on each category.

Concerning the unit of meaning **Neurodevelopmental Disorders at school: lack of knowledge leading to insecurity**, we could observe that continuing education actions help teachers to take a more active position regarding school dynamics, to meet distinct learning rhythms, social, physical, and cognitive differences, and the diverse interests of students in the educational environment8,6.

Some factors are relevant for the teachers’ everyday practices: a) the lack of continuing education to help them cope with the school routine demands; b) the inadequate physical infrastructure of the school, which does not provide conditions to develop relevant practices regarding the experienced reality of the classroom; c) the lack of planning meetings and dialogue with the school’s pedagogic team; d) the lack of family involvement in the children’s school performance; and e) the professional devaluation to which teachers are subject in the Brazilian reality16.

Concerning the insecurity in working with children with Neurodevelopmental Disorders, Silva17 considers fundamental that the school must be committed with the inclusion of all students, promoting a pedagogic organization to deal with these children’s learning.

Therefore, the continuing teacher education performed in this study can be considered a powerful sensitizing strategy for a consistent work under the inclusive ideals, as it can provide teachers a space of knowledge, empowerment, and qualification, which tends to also provide confidence for working with students with Neurodevelopmental Disorders.

Concerning the category **Concepts of teachers about inclusive education**, some researchers emphasize the need for distinguishing the concepts involved in SETG educational processes, to overcoming an integrational perspective to achieve effective participation in the schooling routine18,17.
The shared concepts by teachers on inclusion will guide the way they plan and develop their practices, and this is the importance in reviewing and discussing these concepts – teachers can continuously reevaluate their understanding and actions. Continuing education opens space for dialogue and reflection, contributing to new notions of structural concepts in teaching practices as, for example, the concept of inclusion, which presupposes an active participation of all students in school activities and not only their physical presence in this environment.  

The health-education interaction contributes to expand the theoretical framework of students, and to improve teachers’ educational practices. Constant reflection and critical analysis are essential for inclusive processes. Continuing formation actions might strengthen the development and maintenance of such conducts by teachers, and are indispensable for inclusive practices that are consistent with Brazilian policies. Concerning Family and school: fundamental partnership for education and child development, both have historically social and educational functions, being the great responsible for the education of children, since they transmit the culturally organized knowledge and mediate learning and development processes.

Studies indicate the need for the school to promote strategies and spaces for a dialogue between family and educators. According to Glat and Nogueira, understanding the dynamics of family relations is essential for the school to develop successful pedagogic proposals, and parallel work with the families is also paramount.

Considering the results showed that continuing education actions were important to sensitize teacher on the relevance of seeing the family as an ally, we highlight the importance of both to promote children’s development and learning, with actions based on cooperation, dialogue, and partnership. We also highlight the impact of continuing education actions on the creation of strategies to approximate these two spheres.

The last category, Continuing education as a strategy for school inclusion: occupational therapy possibilities, introduces results that allow us to reflect on the central role of teachers in educational processes, which requires permanent construction, deconstruction, and reconstruction of contents and conduct. We believe that only continuing education processes allow the maintenance and expansion of the teachers’ critical and reflective capacity in adopting resolutions and actions that promote welfare, development, and learning to students with which they deal everyday.

Permanent actions of continuing education, if inserted in the school routine, can enhance the reflection, the connection between theory and practice, and the discussion and articulation of strategies to meet demands expressed in the everyday of inclusive schools.

Brazilian regulations determine, as a priority, the establishment of education environments that promote health, provide physical security to students, and guarantee rights and respect diversity. Considering this prerogative, occupational therapists can be allies in constructing such environments.

Given this reality, the occupational therapist is a support professional, which acts together with teachers in promoting the students’ participation in education. Continuing education actions are one of the forms to act on this scenario.

CONCLUSIONS

This research aimed to contribute for improving the quality of the education provided to children with Neurodevelopmental Disorders. To do so, teachers and assistants of an Early Childhood Education Institution were trained and sensitized for the work with these students.

Our main objective was to analyze the impacts of a continuing education proposal mediated by an occupational therapist on the school inclusion of children with disabilities.

The results showed the participants’ lack of knowledge on the topic, which hinders their professional action regarding these children and evidences the lack of educational actions in such a context.

We observed benefits for these teachers and assistants during the implementation of continuing education actions, since through the dynamics performed they could know the disorders and their main features, as well as report their experiences with students and families. Moreover, the participants could bring and clarify their doubts. The opportunity of a discussion space that provided listening and dialogue allowed the participants to feel comfortable in reporting their difficulties, assuming their weaknesses, and building new knowledge.

The research showed that the inclusion concept of teachers is important for orienting their practices, in a way that the problematization and expansion of the concept of inclusive education during the continuing formation actions tend to have a good impact, overcoming the mere presence of the SETG student at a so-called ‘inclusive’
classroom. It is necessary to have strategies to stimulate the full participation of these children in the proposed activities.

This article also demonstrated the occupational therapist can act in the teacher’s continuing education (early childhood schooling). The actions developed by such professional follows those advocated by official Brazilian regulations, hence his presence in the group can greatly benefits the school.

Authors’ contribution: Daniella Amorim de Carvalho: text conception, data collection, source and/or analyses organization, manuscript references formatting. Débora Ribeiro da Silva Campos Folha: Research orientation as from conception to work completion, writing and review of the final text, manuscript formatting.

REFERENCES


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