CLINICAL CASE OF A CHILD WITH ALGONEURODYSTROPHY

CASO CLÍNICO DE UNA NIÑA CON ALGONEURODISTROFIA

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This work was presented at the 14th International Congress of Clinical Psychology (https://es.clinicalpsychologycongress.com/) and was chosen by the scientific committee to be published in Revista de Psicoterapia.

Cómo referenciar este artículo/How to reference this article:

Santos, A. C., & Silva, C. M. (2021). Clinical case of a child with Algoneurodystrophy. *Revista de Psicoterapia, 32*(120), 221-229. https://doi.org/10.33898/rdp.v32i120.1075

Abstract

A clinical case of a 12-year-old female child with anxiety symptoms and a diagnosis of Algoneurodystrophy in the left hand is presented. The psychological assessment was carried out using the following instruments: observation, psychological interview, Wechsler Intelligence Scale for Children (WISC-III), State/Trait Anxiety Questionnaire for children, and Conners Scales for parents and teachers. The intervention aimed to reduce anxiety levels, promote self-esteem, and alleviate the child's grief. For this purpose, a cognitive-behavioral intervention was carried out with the child and their parents. Through education, the child's parents were alerted to the need to express the feeling of loss, providing an environment for the resolution of the grieving process of all family members. Furthermore, they were also warned about the maintenance factors of the child's anxiety symptoms, such as the issue of high parental demand. As a result, it can be concluded that good therapeutic gains were seen, translating into the resolution of the child's problems and, consequently, increasing their psychological well-being.

Keywords: *clinical case, generalized anxiety disorder, algoneurodystrophy, cognitive-behavioral intervention*

Resumen

Se presenta el caso clínico de una niña de 12 años con síntomas de ansiedad y diagnóstico de algoneurodistrofia en la mano izquierda. La evaluación psicológica se realizó mediante los siguientes instrumentos: observación, entrevista psicológica, Escala de Inteligencia Wechsler para Niños (WISC-III), Cuestionario de Ansiedad Estado/Rasgo para niños y Escalas de Conners para padres y profesores. La intervención tuvo como objetivo reducir los niveles de ansiedad, promover la autoestima y aliviar los sentimientos de dolor. Para ello, se realizó una intervención cognitivo-conductual con la niña y los padres. A través de la educación, los padres de la niña fueron alertados sobre la necesidad de expresar el sentimiento de pérdida, brindando un entorno para la resolución del proceso de duelo de todos los miembros de la familia. Además, también se les advirtió sobre los factores de mantenimiento de los síntomas de ansiedad de la niña, como el tema de la alta demanda de los padres. Como resultado, se puede concluir que se apreciaron buenos avances terapéuticos, que se tradujeron en la resolución de los problemas de la niña y, en consecuencia, en un aumento de su bienestar psicológico.

Palabras clave: *caso clínico, trastorno de ansiedad generalizada, algoneurodistrofia, intervención cognitivo-conductual*

Received v1: 09/29/2021. Received v2: 10/04/2021. Accepted: 10/11/2021.

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ISSN: 1130-5142 (Print) –2339-7950 (Online)

Algoneurodystrophy, also known as Complex Regional Pain Syndrome (CRPS), Sudeck's atrophy (or dystrophy), neurovascular reflex dystrophy, and Reflex Sympathetic Dystrophy (RSD), is characterized by changes in skin color, and swelling severe prolonged pain (Bruehl et al., 1999, Marinus et al., 2011, cit. in Eldufani et al., 2020). It affects children and adolescents aged 5 to 17 years, more frequently in females, with the peak incidence around 13 years (Barrett & Barnett, 2016; Rabin et al., 2017).

There is some controversy regarding the etiology, symptoms, labels of this diagnosis. However, the literature points to the possibility of fractures, surgical procedures, anxiety, somatization, and family and school problems (Vescio et al., 2020). Thus, it is visible that emotional issues and psychological disorders have been implicated in the pathogenesis of this condition (Feliu & Edwards, 2010).

Algoneurodystrophy has thus been associated with anxiety. Anxiety is a regular feature in children and adolescents that allows them to adapt to new and unexpected situations (Rosen & Schulkin, 1998). However, when very high, it can become dysfunctional from the point of view of socio-emotional development (Fonseca, 1998, cit. in Borges et al., 2008). Anxious children usually have an exaggerated fear of failure, heightened sensitivity to danger signs, fidgety and avoidance behaviors, physical symptoms such as nausea, pallor, tremors, increased heart rate, sweating, and several somatic complaints (Bernstein & Borchardt, 1991; Fonseca, 1998, cit in Borges et al., 2008). Specifically, generalized anxiety occurs more frequently in adolescence and manifests by excessive concerns, with irritability, concentration difficulties, and somatic complaints being the most frequent symptoms (Crujo & Marques, 2009). As risk factors for the development of this disorder, parental demand is highlighted or, on the contrary, excessive parental flexibility and permissiveness (Crujo & Marques, 2009).

According to the literature, cognitive behavioral therapy is the most effective for treating anxiety disorders, adaptable to different levels of education, age, and cultures (Beck, 2013; Castillo et al., 2000; Souza & Candido, 2010). It is structured psychotherapy that emphasizes the vital role of cognitions in feelings and behavior. It is a practical approach as it focuses on current events and difficulties. Furthermore, it is a collaborative therapy, where a child and the therapist collaborate, allowing a child to understand their challenges and learn new coping methods (Stallard, 2010).

Clinical Case

A rheumatologist referred a twelve-year-old female child with a diagnosis of Algoneurodystrophy. The doctor said that the diagnosis is associated with anxiety. The child, fictitious name Mary, is the eldest sister of a fraternal group of two. The mother is a nurse, 42 years old, and has a diagnosis of fibromyalgia, depression, and pathological grief, and the father is 45 years old and is a systems administrator. Mary's pregnancy was planned and monitored, and she was born at 41 weeks by natural birth, weighing 3.210 kg and 47.6 cm in length. According to her mother, in

the first months of her life, Mary slept well but had some difficulties in eating. She took her first steps around 15 months, and her first words were between 10 and 12 months. She acquired diurnal and nocturnal control of the sphincters at 14 months, having been nocturnal first and then daily. The mother mentions using a transitive object, a cloth diaper, but does not refer to the stranger's anguish.

Mary had low self-esteem, anxious symptoms and was a susceptible child. Mary reported feeling more nervous in the school context, especially in moments of evaluation. In assessment tests, he says that he already had mental blocks. About Algoneurodystrophy, she reports feeling pain and trembling. Mary's mother claims to have already noticed that the symptoms appear in periods of more significant anxiety, for example, the day before assessment tests. Mary has had some significant human losses over time, such as the death of her paternal grandfather, maternal grandfather, and paternal grandmother, with whom Mary had a very close relationship. These losses had a tremendous negative impact on the family, especially the mother, who developed depression and pathological grief.

Concerning Mary, she had not yet gone through her paternal grandmother's grief, causing her still a great deal of suffering. She mentioned that she didn't like to talk about her grandmother with her parents because she knew they would be sad and affected. Thus, it seems that Mary's grieving process was inhibited by a lack of communication and family openness.

About somatic complaints, Mary seems to have several antecedents. It all started in the second year of schooling when the paternal grandmother started to get sick. Mary began to experience severe stomach pains with no apparent physiological cause. Later, during the third year of schooling, Mary was bullied, and the stomach pains reappeared. Bullying was practiced by a classmate who sabotaged Mary's schoolwork and verbally attacked her. The situation eventually resolved itself, but Mary was significantly affected and began seeing a psychologist. Unfortunately, Mary did not identify with the psychologist and ended up abandoning the therapeutic process.

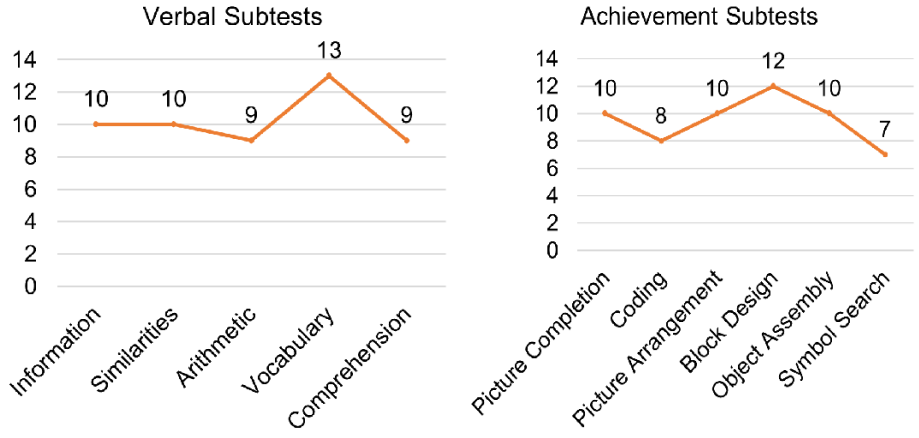
Mary's mother states that she is demanding about her daughter's school responsibilities. Regarding family dynamics, the parents seem to maintain a stable relationship, and Mary maintains a good relationship with her parents and brother, of whom she is very protective.

Psychological Assessment

After the anamnesis, a cognitive assessment was performed. The *Wechsler Intelligence Scale for Children* (WISC-III;Wechsler, 2003) was used. During the evaluation, Mary revealed difficulties saying that she did not understand, showing herself nervous when she could not answer. The results showed that Mary had an average intellectual functioning for her age on all scales. Verbal Comprehension and Perceptual Organization were at medium level and Processing Speed at a low-medium level. The weakest results were in the Coding and Symbol Search subtests,

associated with anxiety, impulsiveness, distraction, and difficulties working under pressure. The standardized results of each subtest can be seen in figure 1.

Figure 1
Profile of the Standardized Mary's Results on the WISC-III



Note: standardized results in ordinate axis.

Afterward, an anxiety assessment was performed using the *State-Trait Anxiety Inventory for Children* (STAIC; Spielberger & Edwards, 1973). She scored 29 on the State subscale and 47 on the Trait subscale, giving a total of 76 points on the scale. This score revealed high levels of anxiety.

Mary had complaints of inattention, having been assessed at the level of Hyperactivity Disorder and Attention Deficit as a form of screening. The assessment was carried out using *Conners Questionnaires* for parents and teachers. The results showed that Mary had some symptoms of inattention at home - not paying attention to details, making mistakes due to lack of awareness, being forgetful, and being easily distracted by things around her. However, it did not meet the necessary criteria for a diagnosis of attention deficit disorder. In addition, the parents' questionnaire reported that Mary tended to be worried, sensitive to criticism, shy, anxious about unfamiliar situations, and tend to withdraw and report physical signs of discomfort, such as stomach pain.

Psychological Intervention

The psychological intervention aimed to reduce anxiety levels, promote self-esteem, and resolve the grieving process. Due to the tremendous psychological suffering shown by Mary regarding grief, intervention in this area was prioritized. For this purpose, a space for emotional ventilation was provided, and some activities were carried out. First, she was asked to draw a picture of the best memory she had with his grandmother. The drawing depicted Mary in her grandmother's living

room, where she reported spending a lot of her time. While the grandmother watched television, she played with plasticine on the coffee table. While talking about the memory, she mentioned that she could not say goodbye to her grandmother, making her sad. As a farewell, she was asked to write a letter for his grandmother. Then, she was invited to do an activity from the book "*Quando alguém muito especial morre*" ("When Someone Very Special Dies") by Marge Heegaard (1998), making a portrait of her grandmother. And there was also a joint reading of the story "*Quando um dos avós morre: ser capaz de enfrentar o desgosto*" ("When a grandparent dies: being able to face heartbreak") written by Victoria Ryan (2010). At the end of this intervention, Mary said that she liked it and felt more relieved. She had enjoyed talking openly about her grandmother in a positive way.

Regarding anxiety, diaphragmatic breathing was explained and trained. Afterward, some sessions of the Coping Cat Program (Kendall & Hedtke, 2014) were implemented. The implemented sessions and respective objectives are presented below (table 1).

Table 1
Implemented Sessions of the Coping Cat Program and Respective Objectives (Kendall & Hedtke, 2014)

Session	Objectives
1 - Establishing the relationship and therapeutic guidance	1) Establish the relationship 2) Guide the child to the program 3) Encourage participation
2 - Identification of Anxiety Feelings	1) Establish the relationship 2) Introduce the concept that different feelings have different physical expressions 3) Normalize the experience of fear and anxiety
3 - Identification of Somatic Reactions to Anxiety	1) Discuss specific bodily reactions to anxiety 2) Practice identifying somatic reactions
5 - Relaxation training	1) Present the idea that many bodily sensations associated with anxiety involve muscle tension 2) Introduce relaxation and relaxation exercise practices 3) Promote in the child the awareness of when and how it can be helpful to relax 4) Practicing relaxation through acting and modeling
6 - Identifying anxious self-verbalizations and learning to change thoughts	1) Present the concept of thinking (self-verbalizations) 2) Discuss the role of self-verbalizations in anxiety-triggering situations 3) To differentiate anxious self-verbalizations from confrontational self-verbalizations 4) Practice self-verbalizations of confrontation
7 - Development of problem-solving skills	5) Introduce the concept of problem-solving 6) Practices problem-solving in anxious situations

At the same time, some self-esteem promotion activities were carried out. She

was asked to describe a situation in which she overcame a challenge, one when she made someone happy, one in which she learned something complicated, one in which she felt proud of herself, and one in which she felt pleased. As a way to face Mary's fear of failure, she was asked to carry out an activity that described a situation in which she had failed, referring to what she learned, what she would do differently, and the positive side of the failure. This activity aimed to normalize the act of making mistakes. At the end of the process, Mary received four colored cards, which she had to give to four crucial people to write a message. In addition, Mary was asked to write a letter to herself, explaining her reasons for liking herself.

The intervention was not only focused on the child, and there was an intervention with the parents. It was necessary to clarify any doubts and carry out psychoeducation about Mary's problems. They were alerted to maintenance factors and the consequent need to eliminate them to help the therapeutic process. In addition, parenting skills were also worked on and promoted to establish a positive climate necessary for therapeutic success.

Discussion/Conclusion

From the beginning, it was a challenging clinical case due to several factors. First, the controversy in the literature regarding the association of Algoneurodystrophy with anxiety made the diagnosis difficult to understand. Furthermore, in addition to the intervention in anxiety and somatization, Mary presented psychological distress resulting from the grieving process. Therefore, there were several areas in need of intervention. In addition, Mary's initial resistance to accepting the possibility of somatization and her mother's psychological problems were also considered very challenging points.

After defining the areas of intervention, intervention in the mourning process began. Despite being a short intervention, significant improvements were visible. Mary had been inhibiting the expression of grief feelings, so the simple emotional ventilation provided considerable relief. In addition, a positive memories-sharing environment was provided, which allowed Mary to view the topic of grief more positively and not associated with psychological distress.

Finally, the implementation of the Coping Cat Program allowed Mary to understand the thoughts, feelings, and behaviors associated with her anxiety, gaining a more adaptive way to deal with it. At the same time, promoting self-esteem reinforced her self-knowledge and, consequently, increased self-confidence and self-efficacy in her skills, feeling capable of facing her most significant difficulties. With this, it was possible to watch a reduction in stress, which translated into decreased complaints of discomfort and pain felt in hand.

Concerning family dynamics, improvements were also visible, which contributed to therapeutic success. Parents were sensitized to the maintenance factors of their daughter's problems, verifying greater family openness, which translated into relief from the suffering associated with human losses. In addition, there was

a decrease in parental demand, alleviating Mary's anxiety symptoms and fear of making mistakes. As for the mother's psychological problems, she seemed much more committed to solving them.

The inclusion of parents in the therapeutic process is fundamental. Intervention with children should be based on a contextual approach (Carr, 2014), so it is impossible to conduct child psychotherapy without working with their caregivers. The inclusion of parents is fundamental because children's problems most often occur outside the context of therapy, and to change the child's environment, the parents and the therapist must work together. In addition, parents provide information relevant to the process that would otherwise be difficult to access (Friedberg & McClure, 2007).

The work done with the parents will vary from case to case. With Mary's parents, work began with education, providing crucial information about their daughter's behavior and problems. Afterward, the therapeutic work began, starting with the management of parents' expectations. Parents often expect too much or too little from their children, creating conflict (Friedberg & McClure, 2007). In Mary's case, the parents seemed to demand too much of their daughter, presenting a tremendous parental demand, so it was essential, from the beginning, to establish more realistic expectations, avoiding the pressure that Mary was feeling. Subsequently, the process continued, intervening with parents whenever necessary, clarifying doubts, and promoting positive parenting practices.

It is important to emphasize that the inclusion of parents in the process must be done with caution. It is necessary to comply with ethical principles such as consent and confidentiality. Parents must be informed about the process but never forget that the patient is the child and not the parents. The child must be informed of all information transmitted to the parents and must consent. This is a particularly relevant issue because if the child feels that confidentiality is breached, the entire therapeutic process will be compromised. In Mary's case, this clarification had to exist with her parents from the start. There was perhaps an expectation of parents to acquire more information, and given the dissatisfaction with this expectation, some misunderstanding was generated. Thus, it was necessary to alert parents about the principles of confidentiality and why it is essential to comply with them.

In the form of a global assessment, it is a case of therapeutic success, achieving the resolution of the mourning process and associated feelings and reducing anxiety levels and complaints of the condition of Algoneurodystrophy.

It is a case that demonstrates, in practice, how the mind relates to the body. Physical health is not dissociated from mental health, and there is a constant interconnection. There needs to be this awareness, not leading to contempt for mental health, but rather to its investment.

As already mentioned, bibliographic resources are scarce regarding the relationship between Algoneurodystrophy and anxiety. Thus, the intervention was based on the conceptualization of a generalized anxiety disorder with psycho so-

matization. Authors, such as Neto (2003, cit. in Dias & Savarize, 2016), point out that there is no "prescription for the treatment" of psychosomatic diseases but claim that cognitive-behavioral intervention seems to be the most effective. The patient must be taught to use cognitive techniques to contain and modify their beliefs since thinking is one of the main influences of the biological system. Other authors, such as Borges et al. (2009), reinforce the same idea, stating that cognitive restructuring is essential for treating psychosomatic illnesses.

In addition to the cognitive restructuring, it is considered essential to teach and promote the adoption of more effective coping strategies since authors report that a psychosomatic disease consists of physiological manifestations, which aim to mark the inefficiency of the available psychological mechanisms to deal with stress situations (Dias & Savarize, 2016). Therefore, strategies such as progressive muscle relaxation and diaphragmatic breathing were used to reduce anxiety levels. Progressive muscle relaxation aims to achieve a state of deep muscle relaxation to reduce activation of the central part of the nervous system and the autonomic division of the nervous system (Horn, 1968 cit. in Rissardi & Goddy, 2007). On the other hand, diaphragmatic breathing consists of pausing breathing and contracting the abdomen to relax to induce a state of tranquility, as it avoids hyperventilation and reduces the symptoms of muscle tension (Ginsburg & Kingery, 2007).

References

Barrett, M. J., & Barnett, P. L. J. (2016). Complex regional pain type 1. *Pediatric Emergency Care*, *32*(3), 185-191. https://doi.org/10.1097/PEC.0000000000000731

Beck, J. S. (2013). *Terapia cognitivo-comportamental: teoria e prática* (2nd ed.) [*Cognitive-behavioral therapy: theory and practice*]. Artmed.

Bernstein, G., & Borchardt, C. (1991). Anxiety disorders of childhood and adolescence: a critical review. *Journal of the American Academy of Child and Adolescent Psychiatry*, *30*(4), 519–532. https://doi.org/10.1097/00004583-199107000-00001

Borges, C. S., Luiz, A. M. A. G., Aparecida, N., & Domingos, M. (2009). Intervenção cognitivo-comportamental em estresse e dor crônica [Cognitive-behavioral intervention in stress and chronic pain]. *Arquivos de Ciências da Saúde, 16*(4), 181-186.

Borges, A. I., Manso, D. S., Tomé, G., & Maros, M. G. (2008). Ansiedade e coping em crianças e adolescentes: Diferenças relacionadas com a idade e género [Anxiety and coping in children and adolescents: age and gender-related differences]. *Análise Psicológica*, *26*(4), 551–561. https://doi.org/10.14417/ap.514

Carr, A. (2014). *Manual de Psicologia Clínica da Criança e do Adolescente: Uma Abordagem Contextual* (1st ed.) [*Handbook of Clinical Psychology of Children and Adolescents: A Contextual Approach*]. Psiquilibrios.

Castillo, A. R., Recondo, R., Asbahr, Fernando, R., & Manfro, G. (2000). Transtornos de ansiedade [Anxiety Disorders]. *Revista brasileira de psiquiatria*, *22*(2), 20-23. https://doi.org/10.1590/S1516-44462000000600006

Crujo, M., & Marques, C. (2009). As perturbações emocionais – ansiedade e depressão na criança e no adolescente [Emotional disturbances - anxiety and depression in children and adolescents]. *Revista Portuguesa de Clinica Geral*, *25*, 576-582. https://doi.org/10.32385/rpmgf.v25i5.10675

Dias, P. S. B., & Zavarize, S. F. (2016). A doença psicossomática e o uso da terapia cognitivo comportamental como intervenção [Psychosomatic illness and the use of cognitive behavioral therapy as an intervention]. *Revista Científica Faculdades do Saber*, *1*(2), 108-120.

Eldufani, J., Elahmer, J., & Blaise, G. (2020). A medical mystery of complex regional pain syndrome. *Heliyon*, *6*(2), e3329. https://doi.org/10.1016/j.heliyon.2020.e03329

Feliu, M. H., & Edwards, C. L. (2010). Psychological factors in the development of complex regional pain syndrome: history, myth, and evidence. *The Clinical Journal of Pain*, *26*(3), 258-263. https://doi.org/10.1097/AJP.0b013e3181bff815.

Friedberg, R. D., & McClure, J. M. (2007). *A prática clínica de terapia cognitiva com crianças e adolescentes* [*The clinical practice of cognitive therapy with children and adolescents*]. Artmed.

Ginsburg, G. S., & Kingery, J. N. (2007). Evidence-based practice for childhood anxiety disorders. *Journal of Contemporary Psychotherapy*, *37*(3), 123–132. https://doi.org/10.1007/s10879-007-9047-z

Heegaard, M. (1998). *Quando alguém muito especial more* (1st ed.) [*When someone very special dies*]. Artmed.

Kendall, P., & Hedtke, K. (2014). *O livro do gato habilidoso - Manual do terapeuta: Terapia cognitivo-comportamental para crianças ansiosas* (1st ed.) [*The Skillful Cat's Book - Therapist's Handbook: Cognitive Behavioral Therapy for Anxious Children*]. Coisas de ler.

Rabin, J., Brown, M., & Alexander, S. (2017). Update in the treatment of chronic pain within pediatric patients. *Current Problems in Pediatric and Adolescent Health Care*, *47*(7), 167–172. https://doi.org/10.1016/j.cppeds.2017.06.006

Rissardi, G. G., & Godoy, M. (2007). Estudo da aplicação da técnica de relaxamento muscular progressivo de Jacobson modificada nas respostas das variáveis cardiovasculares e respiratórias de pacientes hansenianos [Study of the application of the modified Jacobson progressive muscle relaxation technique in the responses of cardiovascular and respiratory variables in leprosy patients]. *Arquivos de Ciências da Saúde*, *14*(3), 175–180.

Ryan, V. (2010). *Quando um dos avós morre: ser capaz de enfrentar o desgosto* (2nd ed.) [*When a grandparent dies: being able to face heartbreak*]. Paulinas Editora.

Rosen, J. B., & Schulkin, J. (1998). From normal fear to pathological anxiety. *Psychological Review*, *105*(2), 325–350. https://doi.org/10.1037/0033-295X.105.2.325

Souza, I. C. W., & Candido, C. F. G. (2010). Diagnóstico psicológico e a terapia cognitiva: considerações atuais [Psychological diagnosis and cognitive therapy: current considerations]. *Revista Brasileira de Terapias Cognitivas*, *5*(2), 82-92. https://doi.org/10.5935/1808-5687.20090017

Spielberger, C., & Edwards, C. D. (1973). *State-Trait Anxiety Inventory for Children: STAIC: how I feel questionnaire: professional manual*. Mind Garden.

Stallard, P. (2010). *Ansiedade: Terapia Cognitivo-Comportamental para crianças e jovens* [*Anxiety: Cognitive-Behavioral Therapy for Children and Youth*]. Artmed.

Vescio, A., Testa, G., Culmone, A., Sapienza, M., Valenti, F., Di Maria, F., & Pavone, V. (2020). Treatment of complex regional pain syndrome in children and adolescents: a structured literature scoping review. *Children*, *7*(11), 1–11. https://doi.org/10.3390/children7110245

Wechsler, D. (2003). *WISC III: Escala de Inteligência de Wechsler para Crianças. Manual* (3rd ed.) [*WISC III: Wechsler Intelligence Scale for Children. Manual*]. CEGOC TEA.