

Original research articles based on limited empirical data

Autism Spectrum Disorder in the clinical practice training of pediatric residents

Drielle Sauer Paparella¹ e Lúcia Pereira Leite¹

¹ Faculty of Sciences – UNESP, Department of Psychology, Graduate Program in Development and Learning Psychology, Bauru, São Paulo, Brazil

Received: October 15, 2024.

Accepted: June 12, 2025.

Section Editor: Carlo Schmidt.

Author Note

Drielle S. Paparella  <https://orcid.org/0000-0003-0699-2015>

Lúcia P. Leite  <https://orcid.org/0000-0003-2401-926X>

Correspondence concerning this article should be addressed to Drielle Sauer Paparella, Av. Eng. Luiz Edmundo Carrijo Coube, Vargem Limpa, Bauru-SP, Brazil. ZIP CODE: 17033-360 Email: drielle.spaparella@gmail.com

Conflict of Interest: None declared.

Abstract

Given the increase in the prevalence of Autism Spectrum Disorder (ASD), the demand for care for children with this condition in public and private health units is growing. Thus, there is a need to reflect on the training of pediatric residents with regard to ASD, since these professionals are often the first to care for these children. This study aims to analyze how ASD is approached in pediatric residency training, based on residents' perceptions. It investigated residents' knowledge of the signs of ASD and the challenges they face in caring for these children. This is a qualitative, descriptive-analytical study carried out through online semi-structured interviews with eight resident doctors from a public medical school. The analysis was carried out using units of meaning, based on Historical-Cultural Psychology, resulting in two nuclei of meaning: (1) The resident's training process on ASD: appropriations and meanings; and (2) Implications of training in medical residency: constitution of pediatric clinical practice. The data indicated that, although the residents have theoretical knowledge about ASD, their practical training was considered deficient, especially in the use of child development surveillance tools and ASD screening. Despite this, the residents consider it important to have guidance and practical experiences in the training process, which support the pediatrician's clinical practice.

Keywords: autism spectrum disorder, medical residency, pediatrics, professional training, social inclusion

O TRANSTORNO DO ESPECTRO AUTISTA NO PROCESSO DE FORMAÇÃO DA PRÁTICA CLÍNICA DO RESIDENTE EM PEDIATRIA

Resumo

Diante do aumento da prevalência do Transtorno do Espectro Autista (TEA), cresce a demanda pelo atendimento de crianças com essa condição nas unidades de saúde públicas e privadas. Assim, surge a necessidade de refletir sobre a formação dos residentes em pediatria no que tange ao TEA, já que esses profissionais frequentemente são os primeiros a atender essas crianças. Este estudo tem como objetivo analisar como o TEA é abordado na formação da residência em pediatria, a partir da percepção dos residentes. Foi investigado o conhecimento dos residentes sobre os sinais do TEA e os desafios enfrentados no atendimento a essas crianças. Trata-se de um estudo qualitativo, descritivo-analítico, realizado por meio de entrevistas semiestruturadas on-line com oito médicos residentes de uma faculdade pública de Medicina. A análise foi feita por unidades de significação, com base na Psicologia Histórico-Cultural, resultando em dois núcleos de significação: (1) O processo de formação do residente sobre o TEA: apropriações e significados; (2) Implicações da formação na residência médica: constituição da prática clínica pediátrica. Os dados indicaram que, embora os residentes possuam conhecimento teórico sobre o TEA, a formação prática foi considerada deficitária, especialmente no uso de instrumentos de vigilância do desenvolvimento infantil e triagem do TEA. Apesar disso, os residentes consideram importantes as orientações e vivências práticas no processo formativo, que sustentam a prática clínica do pediatra.

Palavras-chave: transtorno do espectro autista, residência médica, pediatria, formação profissional, inclusão social

EL TRASTORNO DEL ESPECTRO AUTISTA EN EL PROCESO DE FORMACIÓN DE LA PRÁCTICA CLÍNICA DEL RESIDENTE EN PEDIATRÍA

Resumen

Dado el aumento de la prevalencia del Trastorno del Espectro Autista (TEA), la demanda de atención a niños con esta patología en unidades sanitarias públicas y privadas es cada vez mayor. Por ello, es necesario reflexionar sobre la formación de los residentes de pediatría en relación con el TEA, ya que estos profesionales suelen ser los primeros en ver a estos niños. Este estudio pretende analizar cómo se aborda el TEA en la formación de residentes de pediatría, a partir de sus percepciones. Se investigaron los conocimientos de los residentes sobre los signos de TEA y los retos a los que se enfrentan al atender a estos niños. Se trata de un estudio cualitativo, descriptivo-analítico, realizado mediante entrevistas semiestructuradas online a ocho médicos residentes de una facultad de medicina pública. El análisis se realizó utilizando unidades de significado, basadas en la Psicología Histórico-Cultural, resultando en dos núcleos de significado: (1) El proceso de formación del residente en TEA: apropiaciones y significados; (2)

Implicaciones de la formación en la residencia médica: constitución de la práctica clínica pediátrica. Los datos indicaron que, aunque los residentes tienen conocimientos teóricos sobre el TEA, su formación práctica se consideró deficiente, especialmente en el uso de herramientas de vigilancia del desarrollo infantil y de cribado del TEA. A pesar de ello, los residentes consideran importante contar con orientación y experiencias prácticas en el proceso de formación, que apoyen la práctica clínica del pediatra.

Palabras-clave: trastorno del espectro autista, residencia médica, pediatría, inclusión social práctica, profesional

Since 2014, autism has been defined as Autism Spectrum Disorder (ASD), the overarching term used by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). ASD falls into the category of neurodevelopmental disorders for being a condition that occurs during the developmental period, with signs appearing very early, generally in the preschool period (American Psychiatric Association [APA], 2014). According to the DSM-5, the criteria for the diagnosis of ASD are deficits in communication and social interaction, restricted and repetitive patterns of behavior, and the presence of symptoms during the developmental period, which generally begins before 3 years of age. However, the symptoms “may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life” (APA, 2014, p.50). Regarding ASD prevalence, there are few studies and rare epidemiological data in Brazil (Paula et al., 2020). A report from the Pan American Health Organization (PAHO) and the World Health Organization (WHO), updated in 2017, shows the ASD prevalence as one in every 160 children worldwide (PAHO, 2017).

Since there is no biological marker that characterizes it, the ASD diagnosis is clinical and based on the DSM-5 criteria. The diagnostic evaluation is carried out by combining information from several sources, which include a complete anamnesis with parents and caregivers, clinical observation of the child's behavior, collection of information from other professionals who have contact with the child, such as education professionals, and the results of the evaluations made (Santos et al., 2024).

Before even talking about diagnosis, it is necessary to address the importance of monitoring child development to track and recognize warning signs of ASD. Monitoring child development involves actions aimed at promoting healthy development and early identification of possible difficulties in the context of primary health care for children (Saquetto et al., 2021). Monitoring is essential in order to detect signs that warn of a typical development deviation, considering developmental milestones (Brasil, 2014; Souza et al., 2020). National and American recommendations indicate that monitoring and screening to follow development should be carried out in childcare appointments, in addition to ASD-specific screening (Brazilian Society of Pediatrics (SBP), 2004; Hyman et al., 2020). Childcare is the area of pediatrics responsible for periodic and systematic medical appointments that have as their main focus prevention and health education. During childcare appointments, the pediatrician is responsible for identifying, among other issues, delays in growth and neuropsychomotor development. In addition, one of the pediatrician's role is to offer their patients' families advice, guidance, and support, and for this reason establishing a bond is essential (SBP, 2004).

However, regarding professional practice, the study by Mazurek et al. (2021) with primary care professionals – 79% pediatricians – indicates that general developmental screening and ASD-specific screening are not being carried out consistently in childcare appointments. According to Pitz, Gallina, and Schultz (2021), lack of screening causes ASD to remain unidentified and, consequently, children fail to receive some type of care. In fact, one of the screening benefits would be the early identification of ASD, which often goes unnoticed. Early identification is

essential, since it allows for early stimulation and support, helping prevent or reduce harm to the child's development, in addition to improving the prognosis and these patients' quality of life (SBP, 2019).

After confirming a developmental delay, pediatricians must follow a flowchart where, at first, they must provide parents with guidance on appropriate stimulation, and monitor the child and reassess them within a month to verify whether or not the child has reached the developmental milestones, given that the Brazilian Society of Pediatrics (SBP) points out that "delaying stimulation means missing the optimal period to stimulate the acquisition of each skill in the child" (SBP, 2019). If the child does not reach the milestones, the pediatrician must refer the child to a specialized interdisciplinary stimulation service; refer the child for evaluation with a physician specialized in ASD, and have posterior appointments with the child and parents for support and monitoring (SBP, 2019). In this sense, two important pediatrician' roles consist of monitoring development and early ASD screening. To this end, pediatricians must know about ASD and related characteristics, and also how to recognize the warning signs of ASD in order to adopt the necessary procedures and give referrals.

Nevertheless, national and international studies reveal a lack of knowledge and preparation on the part of physicians regarding ASD. An American study indicates that most pediatric residency programs do not offer residents adequate practical experiences in ASD-related care (Hine et al., 2021). According to Wallis et al. (2020), there is a lack of knowledge and preparation in pediatric training, contributing to pediatricians' feeling of insecurity regarding the identification of warning signs of ASD. A study conducted with pediatricians and pediatric residents in Turkey found that their knowledge and awareness of ASD were insufficient and some of them had misconceptions and outdated ideas about the ASD etiology, intervention, and prognosis (Çitil et al., 2021).

Furthermore, scientific literature indicates that this is not a specific reality in the field of medicine, but in the field of health in general. Moreover, a study found that the approach to ASD in psychology training is still very limited. Thus, the generalist training recommended by the Brazilian National Curricular Guidelines (DNC) does not guarantee a minimum level of ASD education for psychologists in the state of Minas Gerais (Silva et al., 2020). There are also gaps in the nursing training. Studies carried out with final-year nursing students and nurses who have already taken their degree indicate a lack of formal attribution for addressing ASD in academic training, revealing several gaps in knowledge of this topic and leaving it up to students and their professors to collect further in-depth information (Camelo et al., 2021; Cunha et al., 2021). A systematic review of studies published between 2001 and 2019, which included several countries (Saudi Arabia, Australia, Ghana, India, Iraq, Israel, Italy, Nepal, Nigeria, Pakistan, the United Kingdom, Singapore, and Turkey), found that health professionals (nursing, speech therapy, medicine, psychology, occupational therapy) report only moderate levels of knowledge of ASD and self-confidence, in addition to often lacking training (Corden, Brewer, & Cage, 2022).

Therefore, this study aims to continue and expand the range of research already carried out on pediatricians' knowledge of ASD, and also to contribute to the scientific field and the consolidation of the pediatric resident training process. In this way, it seeks to contribute to a pediatric practice that is sensitive to the particularities of children with ASD. In view of this, the following research question was formulated: "How is Autism Spectrum Disorder addressed in the process of training pediatric residents in clinical practice and to what extent does residency contribute to the preparation of pediatricians for recognizing and managing ASD?". To answer this question, this study aims to investigate how ASD is addressed in pediatric residency based on the residents' perception. Specifically, it sought to verify the pediatric residents' knowledge of signs of ASD and analyze the challenges faced by them in caring for children with ASD.

Based on the aforementioned studies, it can be inferred that practical experiences in pediatric residency are insufficient, contributing to outdated or mistaken conceptions of the ASD etiology and care and to the residents' insecurity about the ability to identify the warning signs of ASD and challenges in caring for this population.

Method

Design and Participants

This qualitative descriptive-analytical study sought to find explanations and interpretations about the phenomenon analyzed. According to González-Rey (2003) qualitative research favors the understanding of subjectivity processes and their dynamics, in which one seeks to explore and know the meanings attributed by the subjects to the studied phenomenon.

The study was performed at a public university in the state of São Paulo, and eight of the 17 third-year pediatric residents demonstrated interest and availability to participate.

The research focused on identifying and understanding, in one of the top colleges in the country, pediatric training in ASD. Third-year residents were chosen to participate in the research because they were completing the program and, therefore, had already completed two full years of general pediatrics and had had contact with the subject of social pediatrics and the different stages in pediatric specialties, in particular psychiatry and neurology. The exclusion criteria were: residents who did not accept to participate or did not sign the Informed Consent Form (ICF); residents who were not active during the data collection period, either by vacation, license, or because they were attending internship at another institution, and residents that were not completing the pediatric residency program.

For identification of subjects and confidentiality purposes, one chose fictitious names starting with R, referring to the term "resident."

Data collection

Data were collected by means of semi-structured interviews, following a guiding script prepared for this research, composed of 16 questions. The script questions were based on the following themes: a) knowledge of ASD; b) pediatric residency training; and c) healthcare for

children with ASD. The semi-structured interview was chosen for allowing the participant to comment and make detailed observations about their experiences through an interactive and fluid report (Oliveira, Guimarães, & Lima Ferreira, 2023).

The study was approved by the Research Ethics Committee of the proposing institution, UNESP-Bauru, under CAAE (*Certificação de Apresentação para Avaliação Ética*): 38204720.7.0000.5398, Opinion No. 4,327,915, and by the co-participating institution, UNESP-Botucatu, where data were collected, under CAAE: 38204720.7.3001.5411, Opinion No. 4,399,354). Additionally, the research was authorized by the Medical Residency Committee (COREME) under Opinion No. 090/2020-RM. The approach to the Pediatric Residency Program occurred in May 2020, when the Pediatrics Department Chair and the Pediatric Residency supervisors were contacted via email. There was agreement and interest in developing the research, and support, conditions, and authorization for its conduction were provided. The participant selection was by the convenience sampling method. After contact via institutional email and agreement to participate, participants signed the ICF (Informed Consent Form) in compliance with the ethical recommendations of Resolution 466/12 of the National Health Council (CNS), and the respective interviews were scheduled. Interviews, which lasted just over 30 minutes and were conducted individually, took place between January and April 2021 via the Google Meet platform and were recorded after the participants' consent to posterior transcription.

Analysis procedure

The analysis was based on the theoretical and methodological precepts from Historical-Cultural Psychology, which understand that the constitution of the phenomenon under study is marked by the dialectical relationship between the subject, society and history. In line with Zanella et al. (2007, p. 28), the analysis aimed “to understand the movements of the subject in the relationships that they establish and, at the same time, the conditions of these same relationships that allow the emergence of some possibilities for the subjects in a relationship.”

Considering the complexity of the phenomenon, in movement and under construction, it was chosen a method that analyzes the units to interpret the phenomenon in its greatest complexity, seeking to capture the relationship, the articulations, and the nexus between the various elements that compose it (Zanella et al., 2007). The method of analysis into units proposed by Vygotsky is pertinent since the units “[...] do not lose the inherent properties to the whole that must be the object of explanation, but rather contain in their simplest and most primary form such properties of the whole that have motivated the analysis” (Vygotsky, 1991, p. 288). The analysis into units is, therefore, mediated by abstractions and contains the properties of the whole and the multiple determinations.

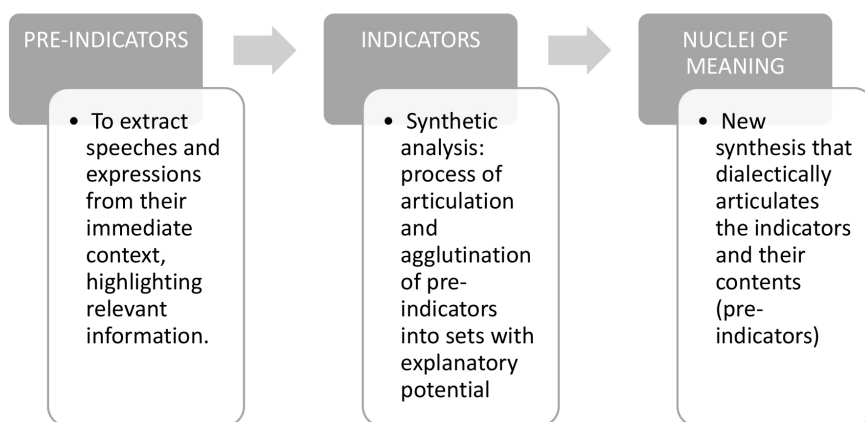
To carry out the analysis into units, one used the methodological proposal of nuclei of meaning, given that the signified word is considered a unit of verbal thought and intellectual speech, a unit constituted in the dialectical articulation between thought and language (Vygotsky, 1991). Nuclei of meaning are intended to provide the researcher with tools for the process of

understanding the meanings assigned by the subjects to the reality which they are inserted in (Aguiar, Aranha & Soares, 2021). First, the transcripts of the interviews were skimmed using Google Docs. The aim of this reading was not to find specific aspects or categorize them, but rather to familiarize oneself with the content and gain a deeper understanding of the material. The second reading was to highlight aspects that sparked interest due to their relationship with the research, frequency, repetition, emotional charge, veiled insinuations, or even the reflection quality.

From this, the analysis process began, which was structured into three stages: survey of pre-indicators, systematization of indicators, and systematization of the nuclei of meaning (Figure 1).

Figure 1

Systematization process of nuclei of meaning



Pre-indicators should reflect and express the materiality, the raw material, that is, the meanings attributed by the subjects, materialized through signs, specifically in words and their meanings. Furthermore, pre-indicators carry relevant information that can generate essential questions for analysis and understanding of the whole, which influences the process of giving meaning to reality (Aguiar, Aranha, & Soares, 2021). For the selection of pre-indicators, the frequency, importance, ambivalence, and insinuations present in the statements were considered. However, the basic criterion for gathering pre-indicators was that they would have to contribute to understanding the study objective.

In the second moment, the systematization of indicators was aimed at producing a new relationship of the meanings objectified by the subjects, adopting the criteria of similarity and complementarity. According to Aguiar et al. (2015, p. 68), the aim is to “understand the way in which the pre-indicators are articulated, constituting the forms of giving meaning to reality.” In this process, it is necessary to return to the material and look for excerpts that illustrate and

clarify the established indicators, since it is in the context that they have their meaning (Aguiar, Aranha, & Soares, 2021).

In this way, the pre-indicators that compose the exemplified indicator are not random constructions of the researcher, but they are part of the historically formed subjectivity of the subjects and manifested in the subjects' speech and language. Through an analytical and interpretative effort, these contents are highlighted and articulated in order to reveal the constitutive and explanatory elements of the meanings produced (Aguiar, Aranha & Soares, 2021).

This entire process culminated in the third moment, which focused on the elaboration of the nuclei of meaning, revealing the essence of the content expressed by the subject, thus approaching the realms of meaning. The researcher, based on an interpretative effort, is responsible for creating a title for the nuclei of meaning that expresses the synthesis achieved. The nuclei of meaning represent the essential aspects, since they reveal that the individual and society, thought and language, as well as affection, cognition and action, are interdependent and express a dialectical articulation (Aguiar, Aranha, & Soares, 2021).

Results and Discussion

The participants finished the medicine course between 2016 and 2017. Five residents studied at public universities and three at private institutions. All of them entered the residency program in 2018. The average age is 28 years old and there was a predominance of female residents (75%). The fictitious names created for the participants were: Raimunda, Roque, Rosália, Romilda, Rúbia, Rute, Reginaldo and Rita.

As we pointed out in the methodological trajectory, the nuclei of meaning were elaborated based on the articulation between pre-indicators and indicators. As a result, two nuclei were considered (Table 1).

Table 1
Indicators and nuclei of meaning

NUCLEI OF MEANING	INDICATORS
1. Nucleus I: The resident training process regarding ASD: knowledge acquisition and meanings	1. Knowledge of ASD 2. Theoretical ASD learning 3. Practical ASD learning 4. Pediatrician's role
2. Nucleus II: Implications of medi-cal residency training: structure of pediatric clinical practice	5. Preparation for care 6. Care for children with ASD 7. Difficulties in care 8. Factors that interfere with care

Source: Research data

Nucleus I: The resident training process regarding ASD: knowledge acquisition and meanings

The first nucleus sought to analyze the pediatric resident training in ASD, emphasizing the teaching and learning process. It was possible to identify that pediatric residents have theoretical knowledge of ASD, since they mention the characteristics of the disorder presented by the DSM-5, such as deficits in communication and social interaction, and restricted and repetitive patterns of behavior, interests, or activities. Among the characteristics presented, the most cited was social interaction, or rather, the difficulty in displaying and/or establishing social behaviors. Rosália pointed out that “dealing with society is not an easy thing.” Rute said that children with ASD like being touched, “the child doesn’t like you to be intrusive.” According to Corden et al. (2022), research indicates that knowledge of ASD characteristics is characterized by moderate and highly variable scores, suggesting that even among those with the highest levels of understanding, there remains a need for improvement. When asked about the acquisition of specific knowledge, two residents reported having acquired it during medical school, more specifically in the subjects of psychiatry and neurology. This partially corroborates other studies. According to Nogueira, Batista, Moulin, and da Silva (2022), the theoretical-methodological content of 29 medical courses in Minas Gerais was structured into two main areas: psychopathology/psychiatry and child health/pediatrics. Some acquired knowledge during residency, mainly in the social pediatrics and/or neuropsychiatry internship, but pointed out that learning was specific.

Only two participants spoke about the disorder levels. Roque pointed out that “there are very different levels of autism.” Reginaldo addresses the spectrum aspect by saying that “autism is not all or nothing, so it’s not like either the child is not autistic or is a severely autistic child, there is a middle ground and many times this is not understood as autism.” Residents highlighted the importance of understanding ASD due to the increase in the number of cases and the disorder heterogeneity. In particular, they mentioned the difficulty in identifying milder cases, which may go unnoticed or be confused with other disorders. Rosália’s report is in the same vein: “the first thing that changes in the care for these children is whether or not they are recognized [as autistic], because we have mild cases that are not recognizable, you know, and sometimes they are considered dyslexic.” Therefore, the need for more in-depth concepts for a differential diagnosis is evident. Duvall et al. (2022) highlight the importance of health professionals being able to effectively screen and/or diagnose ASD, even when its presentation is more subtle and/or when the symptoms are masked by the patient’s abilities, making the clinical presentation less evident. Considering that only two participants mentioned mild cases of the disorder and one of the participants pointed out the difficulty in recognizing the warning signs of these cases, the point here is how prepared pediatricians are to recognize them. It is known that mild cases go unnoticed in pediatric appointments, considering that pediatricians are not prepared and fail to recognize more subtle signs of the disorder (Siqueira, Prazeres, & Maia, 2022).

That being said, it is appropriate to address some reports that state the importance of pediatric residents’ knowledge of ASD. First, all participants affirmed that pediatricians must

have knowledge of ASD, so that they can identify the signs of the disorder early. Rosália, Rute and Romilda state that this can provide early stimulation and care. In Rosália's words, "the sooner it [this issue] is perceived, noted, supported and developed [sic], the better for the child" and she adds that "the earlier the recognition, the better the strategies to improve this development over time." Roque states that pediatricians "must at least know how to identify the warning signs." It is known that early care contributes to improving the clinical status of the patient with ASD, reducing the disorder's inherent complications and difficulties and promoting significant and lasting gains in cognitive, social, and emotional development (SBP, 2019). In addition, Raimunda says that pediatricians do not know how to deal with these patients. Considering that pediatricians are the first health professionals who care for this population, they must be familiar with child development and its possible complications. Another participant adds that general pediatricians need to know about the disorder: "we have to know at least how to initially work with an autistic child, as a general pediatrician" (Reginaldo). This is in line with studies that highlight how healthcare professionals play a fundamental role in identifying, guiding, communicating with, and supporting people with ASD and their families (Corden, Brewer, & Cage, 2022; Hine et al., 2021, Hyman et al., 2020).

Next, we discuss reports of the theoretical and practical learning process regarding ASD in medical residency to better understand the organization of subjects and the relationship between learning and knowledge acquisition.

The reports show that all residents have a weekly joint class at lunchtime, with topics chosen by the preceptor, but ASD was never addressed in these classes. Some mentioned that they learned about ASD in discussions that took place during their internships. All residents undergo the same training, with four-week practical internships, but at different times. Rute reported that during the social pediatrics internship there were discussions with the psychology team about diagnosis, multidisciplinary monitoring, and inclusion of children with ASD. However, not all residents report having participated in such debates: "to be quite honest, you know, in the neurology outpatient clinics that we work at there is almost no theoretical discussion. Yeah, it's sad." It is known that neuropsychiatry is the subspecialty responsible for the care and monitoring of children with ASD. Raimunda adds: "The neuropsychiatry staff is very closed off when it comes to offering classes. They never taught us, so that's the sad part." Reginaldo stated that there were no discussions when he attended the neuropsychiatry internship: "but to say that I sat down to discuss it, no, it didn't happen." Rosália explains that "there is a neurology outpatient clinic that is only for the autistic spectrum, but not all of us, homogeneously, worked at this outpatient clinic, some were more trained in epilepsy." Therefore, one noticed a lack of enthusiasm and motivation on the part of the pediatric residents to attend the neuropsychiatry internships. In addition, there was a criticism of the residency program due to the topic in question, considering that "general pediatrics doesn't discuss this with us, they share all this with neurology, so I think that this is also a flaw; if we as generalists need to know about this, we should discuss it as well" (Reginaldo). In fact, pediatric training aims to develop technical and clinical attributes that

involve the theoretical–practical relationship; however, one of the improvements indicated for this training corresponds to the theoretical content, which, if flawed, has an impact on practice (Costa, Austrilino, & Medeiros, 2021).

In this sense, it is relevant to discuss the compartmentalization of medicine, which can have negative repercussions from training to patient care, considering that its logic divides the human being and their care, which is separated into specialties and subspecialties. For example, in the case of ASD and children with neurodevelopmental delays, the pediatrician tends to leave medical evaluations to the neurologist and child psychiatrist. This compartmentalization may be related to two realities: firstly, the health professionals' generalist training and, secondly, a model based on specializations, leading to super-specialization valuation (Moura, Santos, & Silva, 2023). Therefore, the practice of general pediatrics and childcare may not be as attractive to pediatricians. Moreover, this compartmentalization hinders spaces for exchange and sharing about the patient's needs and possible care. In short, it is understood that this compartmentalization goes against the pillars of care offered by the Unified Health System (SUS), which should be provided by multidisciplinary teams. In this context, it is clear that teaching on this topic does not seem to be standardized. The neuropsychiatry internship – which is part of the residency program – is important for the improvement of the residents' knowledge of ASD, and it is worth noting that such internship was canceled due to the COVID-19 pandemic.

In relation to training, there was criticism of social pediatrics, a subject responsible for addressing childcare. It was highlighted that residents are trained with specialized knowledge, but they finish their pediatric residency without knowing many “basic things,” related to childcare, for example. Costa and Guarany (2021) emphasize that this lack prevents pediatricians from knowing about typical child neurodevelopment. Romilda affirmed that child development learning is unsatisfactory. She adds that: “normal child development learning is insufficient, so this is something we also end up failing at, because we don't have it [knowledge].” Therefore, one emphasizes the need for adaptation and improvement of pediatric training in the analysis and monitoring of child development, in view of the fact that it is during childcare appointments that pediatricians must carry out developmental monitoring and screening (SBP, 2004).

Finally, residents affirmed that the residency program has to offer theoretical classes in ASD for a better training. Regarding the teaching and learning process, participants observed that they learned little about the topic, as mentioned by Reginaldo: “we learned about autism in a very, very limited way,” with Romilda pointing out that it was superficial. Rosália stated: “I think it is a class that should be included in the curriculum, you know, in our class schedule.” Raimunda, concerned about training in ASD, affirmed that a better teaching process structuring is necessary. In this respect, knowledge is seen as a condition for pediatricians to be able to offer quality care to patients in childcare services and perform adequate assessments of child development (Costa & Guarany, 2021). The relationship between pediatricians' theoretical knowledge and clinical practice was identified in the residents' statements. Romilda said she did not feel prepared to care for patients with ASD “because we don't have the theoretical part, and

then we go to [work at] the outpatient clinic without theoretical knowledge, we feel really lost.” Rúbia raises specific concerns about the sensory aspect: “knowing how to deal with these patients also in the sensory aspect, knowing whether to touch them or not,” raising doubts about medical conduct. It is emphasized that the process of knowledge acquisition must understand, interpret, interact, and act in the studied reality.

However, there were statements about ASD practical learning. This content is relevant, since practical learning predominates in medical residency programs, with practical program content accounting for 80% to 90% of the workload. Romilda pointed out that “in pediatrics, we learn a lot by treating patients, because we treat them and then we discuss with the leader about the patient we treated, and then we end up learning.” It is worth remembering that medical residency is an in-service training and improvement program, through supervised patient care (Costa, Austrilino, & Medeiros, 2021).

From the reports, it was possible to understand that ASD practical learning occurred mostly indirectly, through residents’ monitoring and observation of subspecialties, particularly in neuropsychiatry. It is noted that the few contents learned were through observation. Romilda explained that she “saw them [neuropsychiatry residents] applying this questionnaire [CARS – Childhood Autism Rating Scale] and that it was when I acquired this knowledge, but nothing too in-depth, it was observing them applying this questionnaire.” She stressed that this reality is negative for the pediatricians’ training because it hinders practical learning, saying that “in neuropsychiatry we don’t provide care, we only observe the appointments, I think this is also a difficulty, it hinders our learning process.” In short, the residents pointed out that during their neuropsychiatry internships they did not provide care, they only observed, as highlighted in Rúbia’s statement: “there was no explanation, it was more about observing them providing care.” Studies corroborate those data, revealing the lack of direct contact and care for patients with ASD, emphasizing that the experience acquired in training is only through observation (Hine et al., 2021). However, it is worth mentioning that medical residency should provide and aggregate practical experiences, aiming at greater professional autonomy (Costa, Austrilino, & Medeiros, 2021).

In this respect, it is generally perceived that residents are offered few opportunities to approach this topic or patients with ASD, facts that should be reviewed in the residents’ opinion. Rosália said that she had a maximum of three contacts with patients with ASD during the three-year residency. Participants suggested that during residency pediatricians in training should have the opportunity to actively participate in outpatient clinics that monitor patients with ASD, and then they would learn through practice. Rute highlighted the importance of practice for medical conduct, stating that “the act of providing care cannot be replaced, practice is not replaceable, theory always is, so I think there should be more opportunities.”

Nucleus II: Implications of medical residency training: structure of pediatric clinical practice

Based on the contents of this nucleus, it was possible to analyze the meanings surrounding the challenges and concerns reported. The nucleus was established based on four indicators: preparation for care; difficulties and fears in pediatric clinical practice; care for children and adolescents with ASD: conduct and support; and factors that interfere with care. Indicators were analyzed jointly, since they were interconnected.

Regarding preparation for care, it is clear the extent to which training is related to clinical practice. The residents relate knowledge to preparation for care for children with ASD, emphasizing the need for adaptation in care. Reginaldo affirms that “we must have a different perspective.” Likewise, it is reported that the lack of knowledge affects practice: “I believe that precisely because I do not have in-depth knowledge of autism, knowing how to deal with the child in the office would be a great difficulty” (Romilda). Five residents highlighted that one of the factors that interfere with clinical practice is the lack of health professionals’ knowledge, including pediatricians, and the lack of pediatric neurology training during the pediatric residency. Rosália highlights that the first factor that interferes with the care for children with ASD is the lack of knowledge, which leads the professional to not perceive, not recognize or not suspect that the disease exists. She emphasizes that “the first thing we have to do before making the diagnosis is to think about it, right? If we don’t think about this diagnosis, we’ll never make it.” Studies stress that the lack of knowledge makes pediatricians feel insecure in identifying warning signs of ASD and in establishing the next steps to be taken (Hine et al., 2021; Belzer, Flake, & Kiger, 2023).

Some of the statements revealed a feeling of unpreparedness for care. One of the residents affirms: “I don’t feel prepared and I haven’t learned how to approach it [autism]” (Rúbia). According to Raimunda, she and the other residents in her class complain that they didn’t have the opportunity to learn about curricular content that addressed theoretical aspects that would support the ASD treatment, bearing in mind that one of the pediatrician’s roles is to identify the patient’s needs and then give a referral. It is known that pediatricians refer children to neurologists when they present signs of ASD. In this sense, Rita states that “[...] we provide care from the beginning, right? So it’s very important that we know how to recognize [the disorder] and refer [the child].” In fact, among their roles, pediatricians are responsible for referring patients for diagnosis and ongoing support, in relation to both ASD and concomitant conditions, and this is a complaint related to pediatric training (Clarke & Fung, 2022; Corden, Brewer, & Cage, 2022; Hine et al., 2021).

When analyzing the excerpts related to “referral,” some of the participants pointed out a very pertinent aspect of the reality of the public health system. Rute reports that “we give the referral, but then it is not possible to get it [doctor appointment] in the city of origin, it’s not possible,” and she adds “so, I realize that the biggest difficulty here [institution] is exactly to succeed, to refer the children and then they get the appointment, I think that this is one of the hardest parts; sometimes the recommendation is that they should go to the psychologist and

sometimes it's not possible to get an appointment in the service of origin; or we want them to go to the occupational therapist and it's not possible and it makes a big difference, you know; we notice that when they start being provided with care, they get the appointments, they make progress, but it's something difficult." Rúbia supports this statement by saying that "often the very difficult is to refer, you know, there are no neuropsychiatrists everywhere." However, a document from the Ministry of Education (MEC) states, in the section about knowledge and specific skills for the third-year residency, that pediatricians in training must recognize children with complex diseases and refer them correctly via the referral system available in the region (Brasil, 2016). In this sense, referrals should be to a service available closest to the patient's city of origin.

Regarding the operationalization of care, when providing care to these patients, they affirmed that they consider themselves prepared. One aspect present in some statements portrays a careful, humanized approach, respecting the limits of each patient, "respecting the limits of the child" (Rita). In addition, other statements highlight the importance of creating a bond with patients with ASD. The word *bond* appeared in the reports of six residents, who emphasized that in the first instance it is necessary to form a bond with the child and also with their caregiver: "I think that after developing a bond with both the mother and the child, we can do it." In order to create this bond, the follow-up at the UBS has to be carried out by the same pediatrician, since it allows the patient to see the professional as a reference. Thus, the bond would emerge as a factor that helps in appointments and allows the patient to feel more at ease. Myers et al. (2021) emphasize the importance of creating a bond with parents and especially with the patient. Considering possible difficulties in socialization in patients with ASD, the bond with the patient is essential to favor interaction and the provision of care, in a process of trust between the parties.

Furthermore, the analysis of this nucleus also allowed identifying concerns in the pediatric residents' statements. Roque states that "I would feel able to provide care, yes, but there is always that fear, right?" Romilda described the experience of caring for a patient with ASD as difficult and reports feeling insecure during care because she did not know how to approach or deal with children with ASD. Rúbia states that "it is more difficult to deal with (patients with ASD), because we don't have the experience with how to deal with them, you know, we have little contact." The lack of practical learning through care in outpatient clinics and internships is mentioned as a factor that hinders the pediatricians' training.

According to Romeu and Rossit (2022), training is essential to qualify health professionals and guide the planning of practices and procedures that meet this population's needs. In this regard, one understands the importance of training for acquiring knowledge of ASD so that pediatricians know what to do when faced with a patient with ASD. It can be said that without knowledge it is not possible to adopt appropriate procedures. We can see this expressed in Rita's statement, "what will be done with the conduct, you know; to be very honest, I don't know." Knowledge elaboration occurs from the process of acquisition, that is, of content assimilation

and internalization, and it is a process mediated by social relations and language. Thus, it can be said that, analyzing these statements, there was a failure in the mediation between knowledge and the residents, interfering in these subjects' sway of thinking and acting (Duarte, 2004). Nevertheless, it is worth highlighting that at the end of the training it is natural for them to have a feeling of insecurity and fear since they are finishing their medical pediatric residency. The feeling of fear, insecurity and even lack of preparation appears in recent graduates from various areas such as pedagogy and health, showing that it is, in a way, expected; it is common for these young professionals to have these feelings (Araújo et al., 2022), as exemplified in the highlighted statements.

Finally, it can be concluded that in the residents' perception, ASD and childcare training was unsatisfactory. However, upon recognizing this flaw, none of the participants indicated that they questioned or suggest to those responsible for the program the inclusion of classes covering these topics. The attempt to deepen this knowledge was not mentioned by the residents either. Through the statements, it was possible to identify that pediatric residents understand the importance of knowing about the topic and the role they must play as pediatricians, considering that the pediatrician is responsible for monitoring child development and identifying warning signs of developmental delays. Nevertheless, they do not feel prepared to use ASD screening and/or assessment tools. In the residents' perception, it was identified that they finish their residency program with specialized knowledge but with gaps in the general pediatrics basic knowledge, such as knowledge of the milestones of child development and its possible delays/deviations, which indicates a deficit in childcare training. Besides, pediatricians in training had little or no direct contact with patients with ASD, and they emphasize that pediatric training in childhood development and disorders has to be improved.

The lack of practical learning in pediatric residency was highlighted, as well as the need for residents in training to have opportunities that connect theory and practice. According to Feuerwerker (1998), practical learning in medical training allows the professional to gain clinical experience and have contact with patients, complementing theoretical and scientific training. For Historical-Cultural Psychology (Leontiev, 2021), practice, in its activity itself, is understood as the basis for thought, with study activity being understood as essential for the development of subjects, given that it is through their practice and actions that they transform the external world and also themselves.

In view of these findings, theoretical learning is considered important, but mainly practical guidance and experiences in the pediatrician's training process, taking into account the fact that acquired knowledge supports these professionals' clinical practice. In this regard, it is essential that medical residency programs evaluate and adapt curricular content, providing systematized training in order to favor and contribute to adequate training in childcare and neurodevelopmental disorders, such as ASD.

Nevertheless, even though pediatrics is a subspecialty of medicine, it is worth highlighting that this is the reality of training in Brazil for several areas of health, such as nursing and

psychology, it is generalist. As pointed out in the introduction, the reality is the same in several countries. Previous ASD education and training were associated with an increase in the performance of screening tools, showing the importance of more comprehensive training and dissemination of information about the screening implementation for pediatricians (Mazurek et al., 2021). Thus, as supported by Clarke and Fung (2022), the focus on this issue begins to be included in training programs for professionals who work directly with this population.

Final Considerations

By reviewing the data collected and the resulting analyses, it was possible to identify that the residents have ASD theoretical knowledge, which was acquired essentially through discussions during internships, outpatient activities, and from observation of clinical situations. Regarding clinical practice, it was observed that these residents have a careful approach and a humanized practice, adapting to the patients' needs, respecting their limits, and favoring the development of bonds. However, what emerged as deficient in training were some practical learning and in-service training, mainly regarding the use monitoring child development delays and ASD screening tools.

In this context, this research sought to contribute to facing existing challenges in pediatric practice related to ASD, addressing the delay in stimulating children who show signs of developmental delay, even before any diagnosis is made; the lack of clarification, information, guidance, and educational support for family members; the late diagnosis of ASD, and the numerous referrals that can lead to lack of access to specialized services in the public health network.

Although the results highlighted here cannot be generalized to all pediatric residency programs in Brazil, the study provides an overview of ASD training at a recognized institution and suggests further research on other residency programs to evaluate the training quality. It is important to note that the deficient points observed in pediatric training are not exclusive to the institution analyzed, but rather reflect the generalist pediatric training in the country. Finally, the recommendation is to expand continuing education about child development and signs of delay, highlighting that the need for updating is common to all professional areas and should always be aligned with new demands and scientific advances.

Acknowledgments:

This article is the result of the master's dissertation by the author Drielle Sauer Paparella.

References

- Aguiar, W. M. J. D., Aranha, E. M. G., & Soares, J. R. (2021). Núcleos de significação: Análise dialética das significações produzidas em grupo. *Cadernos de Pesquisa*, 51, e07305. <https://doi.org/10.1590/198053147305>
- Aguiar, W. M. J. de, Soares, J. R., & Machado, V. C. (2015). Núcleos de significação: Uma proposta histórico-dialética de apreensão das significações. *Cadernos de Pesquisa*, 45(155), 56–75. <https://doi.org/10.1590/198053142818>
- American Psychiatric Association. (2014). *Manual diagnóstico e estatístico de transtornos mentais – DSM-5* (5a ed.). Artmed.
- Araujo, A. G. R., Silva, M. A. D., & Zanon, R. B. (2023). Autismo, neurodiversidade e estigma: Perspectivas políticas e de inclusão. *Psicologia Escolar e Educacional*, 27, e247367. <https://doi.org/10.1590/2175-35392023-247367>
- Araújo, L. A. P. de, Souza, L. de J., Souza, J. L., Almeida, M. B. de, Caracas, D. R. S., Amaral, L. V. P. D., Miranda de Carvalho, N. C. B. V., Grehs, M. L., Santos, D. T. S., & Oliveira, V. K. C. (2022). Cuidados paliativos: A insegurança dos estudantes de medicina frente a pacientes em estágios terminais de vida. *Revista Eletrônica Acervo Saúde*, 15(5), e10269. <https://doi.org/10.25248/reas.e10269.2022>
- Brasil. (2015). *Lei n. 13.146, de 6 de julho de 2015. Institui a Lei Brasileira de Inclusão da Pessoa com Deficiência (Estatuto da Pessoa com Deficiência)*. http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2015/lei/l13146.htm
- Brasil. (2014). Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. *Diretrizes de Atenção à Reabilitação da Pessoa com Transtornos do Espectro do Autismo (TEA)*. Ministério da Saúde. https://bvms.saude.gov.br/bvs/publicacoes/diretrizes_atencao_reabilitacao_pessoa_autismo.pdf
- Brasil. (2016). Ministério da Saúde. Secretaria de Atenção à Saúde. *Diretrizes de estimulação precoce: Crianças de zero a 3 anos com atraso no desenvolvimento neuropsicomotor*. Ministério da Saúde. https://bvms.saude.gov.br/bvs/publicacoes/diretrizes_estimulacao_crianças_0a3anos_neuropsicomotor.pdf
- Brasil. (2020). Ministério da Saúde. Secretaria de Atenção à Saúde. *Passaporte da Cidadania. Caderneta da Criança*. Ministério da Saúde. https://bvms.saude.gov.br/bvs/publicacoes/caderneta_crianca_menina_5.ed.pdf
- Camelo, I. M., Neves, K. R. T., Camelo, E. C., & Aragão, G. F. (2021). Percepção dos acadêmicos de enfermagem sobre autismo. *Enfermagem em Foco*, 12(6). <https://doi.org/10.21675/2357-707X.2021.v12.n6.4890>
- Çitil, G., Çöp, E., Açikel, S. B., Sarı, E., Karacan, C. D., & Şenel, S. (2021). Assessment of the knowledge and awareness of pediatric residents and pediatricians about autism spectrum disorder at a single center in Turkey. *Journal of Community Psychology*, 49(7), 2264–2275. <https://doi.org/10.1002/jcop.22646>
- Clarke, L., & Fung, L. K. (2022). The impact of autism-related training programs on physician knowledge, self-efficacy, and practice behavior: A systematic review. *Autism*, 26(7), 1626–1640. <https://doi.org/10.1177/13623613221102016>
- Corden, K., Brewer, R., & Cage, E. (2022). A systematic review of healthcare professionals' knowledge, self-efficacy and attitudes towards working with autistic people. *Review Journal of Autism and Developmental Disorders*, 9(3), 386–399. <https://doi.org/10.1007/s40489-021-00263-w>
- Costa, J. B. R., Austrilino, L., & Medeiros, M. L. (2021). Percepções de médicos residentes sobre o programa de residência em Pediatria de um hospital universitário público. *Interface – Comunicação, Saúde, Educação*, 25, e210215. <https://doi.org/10.1590/interface.210215>
- Costa, C. S., & Guarany, N. R. (2021). O reconhecimento dos sinais de autismo por profissionais atuantes nos serviços de puericultura na atenção básica. *Revista Interinstitucional Brasileira de Terapia Ocupacional – REVISBRATO*, 5(1), 31–44. <https://doi.org/10.47222/2526-3544.rbt033841>
- Cunha, R. R., Alves, P. N., de Sousa, J. G., Freire, E. S., Feitosa, A. C. F., & da Silva, A. L. B. (2021). Abordagem sobre o autismo em disciplinas do curso de enfermagem. *Brazilian Journal of Health Review*, 4(1), 2–6. <https://doi.org/10.34119/bjhrv4n1-001>

- Duarte, N. (2004). Formação do indivíduo, consciência e alienação: O ser humano na psicologia de A. N. Leontiev. *Cadernos CEDES*, 24(62), 44–63. <https://doi.org/10.1590/S0101-32622004000100004>
- Duvall, S., Armstrong, K., Shahabuddin, A., Grantz, C., Fein, D., & Lord, C. (2022). A road map for identifying autism spectrum disorder: Recognizing and evaluating characteristics that should raise red or “pink” flags to guide accurate differential diagnosis. *The Clinical Neuropsychologist*, 36(5), 1172–1207. <https://doi.org/10.1080/13854046.2021.1921276>
- Feuerwerker, L. (1998). Mudanças na educação médica e residência médica no Brasil. *Interface – Comunicação, Saúde, Educação*, 2(3), 51–71. <https://doi.org/10.1590/S1414-32831998000200005>
- Gonzalez-Rey, F. L. (2003). *Subjetividade e sujeito: Uma aproximação histórico-cultural*. Thomson Learning.
- Hannigan, L. J., Askeland, R. B., Ask, H., Tesli, M., Corfield, E., Ayorech, Z., & Havdahl, A. (2023). Developmental milestones in early childhood and genetic liability to neurodevelopmental disorders. *Psychological Medicine*, 53(5), 1750–1758. <https://doi.org/10.1017/S0033291721003330>
- Hine, J. F., Wagner, L., Goode, R., Rodrigues, V., Taylor, J. L., Weitlauf, A., & Warren, Z. E. (2021). Enhancing developmental-behavioral pediatric rotations by teaching residents how to evaluate autism in primary care. *Autism: The International Journal of Research and Practice*, 25(5), 1492–1496. <https://doi.org/10.1177/1362361320984313>
- Hyman, S. L., Levy, S. E., Myers, S. M., Kuo, D. Z., Apkon, S., Davidson, L. F., ... & Bridgemohan, C. (2020). Identification, evaluation, and management of children with autism spectrum disorder. *Pediatrics*, 145(1). <https://doi.org/10.1542/peds.2019-3447>
- Leontiev, A. N. (2021). *Atividade. Consciência. Personalidade*. Mireveja.
- Mazurek, M. O., Kuhlthau, K., Parker, R. A., Chan, J., & Sohl, K. (2021). Autism and general developmental screening practices among primary care providers. *Journal of Developmental & Behavioral Pediatrics*, 42(5), 355–362. <https://doi.org/10.1097/DBP.0000000000000909>
- McCarty, P., & Frye, R. E. (2020). Early detection and diagnosis of autism spectrum disorder: Why is it so difficult? *Seminars in Pediatric Neurology*, 35, 100831. <https://doi.org/10.1016/j.spen.2020.100831>
- Moura, A. C. A. de, Santos, E. C. dos, & Silva, J. R. A. da. (2023). Estratégias de ensino-aprendizagem para formação humanista, crítica, reflexiva e ética na graduação médica: Revisão sistemática. *Revista Brasileira de Educação Médica*, 44(03), e076. <https://doi.org/10.1590/1981-5271v44.3-20190189>
- Myers, L., Karp, S. M., Dietrich, M. S., Looman, W. S., & Lutenbacher, M. (2021). Family-centered care: How close do we get when talking to parents of children undergoing diagnosis for autism spectrum disorders? *Journal of Autism and Developmental Disorders*, 51, 3073–3084. <https://doi.org/10.1007/s10803-020-04765-0>
- Nogueira, M. L. M., Batista, C. B., Moulin, M. S., & da Silva, J. S. (2022). Transtorno do espectro do autismo em Minas Gerais: Panorama da formação médica. *Revista Educação Especial*, 35, 1–21. <https://doi.org/10.5902/1984686X65388>
- Oliveira, S., Guimarães, O. M., & de Lima Ferreira, J. (2023). As entrevistas semiestruturadas na pesquisa qualitativa em educação. *Revista Linhas*, 24(55), 210–236. <https://doi.org/10.5965/1984723824552023210>
- Paula, C. S., Cukier, S., Cunha, G. R., Irrarázaval, M., Montiel-Nava, C., García, R., Rosoli, A., Valdez, D., Bordini, D., Shih, A., Garrido, G., & Rattazzi, A. (2020). Challenges, priorities, barriers to care, and stigma in families of people with autism: Similarities and differences among six Latin American countries. *Autism: The International Journal of Research and Practice*, 24(8), 2228–2242. <https://doi.org/10.1177/1362361320940073>
- Pitz, I. S. C., Gallina, F., & Schultz, L. F. (2021). Indicadores para triagem do transtorno do espectro autista e sua aplicabilidade na consulta de puericultura: Conhecimento das enfermeiras. *Revista de APS*, 24(2). <https://doi.org/10.34019/1809-8363.2021.v24.32438>
- Romeu, C. A., & Rossit, R. A. S. (2022). Trabalho em equipe interprofissional no atendimento à criança com transtorno do espectro do autismo. *Revista Brasileira de Educação Especial*, 28, e0114, 639–641. <https://doi.org/10.1590/1980-54702022v28e0114>

- Santos, C. L., Oliveira, M. C., Rodrigues, F. T., & Silva, A. R. (2024). Screening and diagnostic tools for autism spectrum disorder: Systematic review and meta-analysis. *Clinics*, 79(100323), 1–7. <https://doi.org/10.1016/j.clinsp.2023.100323>
- Saquetto, M. B., Lima, S. C. R., Carneiro, C. D. S., & Campos, A. A. (2021). Qualificação dos profissionais da atenção básica para fortalecimento da vigilância do desenvolvimento infantil e ações intersetoriais. *Revista Baiana de Saúde Pública*, 45(3), 110–120. https://doi.org/10.22278/2318-2660.2021.v45.nEspecial_3.a3540
- Silva, J. S. da, Batista, C. B., Nogueira, M. L. M., Eustáquio, J. C., & Carvalho, N. O. (2020). Panorama da formação em psicologia para transtorno do espectro do autismo em Minas Gerais. *Revista Educação Especial*, 36, 1–21. <http://dx.doi.org/10.5902/1984686X40092>
- Silva, S. A. da, Lohmann, P. M., Costa, A. E. K. da, & Marchese, C. (2019). Conhecimento da equipe interprofissional acerca do autismo infantil. *Research, Society and Development*, 8(9), e07891250. <https://doi.org/10.33448/rsd-v8i9.1250>
- Siqueira, B. N. L., Prazeres, Á. C. L. F., & Maia, A. M. L. R. (2022). Os desafios do transtorno do espectro autista: Da suspeita ao diagnóstico. *Residência Pediátrica*, 12 (2), 1–6. <https://doi.org/10.25060/residpediatr-2022.v12n2-339>
- Sociedade Brasileira de Pediatria. (2004). Resgate do pediatra geral. Documento científico Pediatria-ambulatório. https://www.sbp.com.br/fileadmin/user_upload/img/documentos/doc_pediatria_ambulatorio.pdf
- Sociedade Brasileira de Pediatria. (2019). *Transtorno do Espectro Autista. Manual de Orientação*. Departamento Científico de Pediatria do Desenvolvimento e Comportamento. https://www.sbp.com.br/fileadmin/user_upload/21775c-MO_-_Transtorno_do_Espectro_do_Autismo.pdf
- Souza, N. E., Raslan, I. R., Filho, A. R. I., & Oliveira, B. C. R. C. (2020). O papel do pediatra no reconhecimento precoce dos sinais e sintomas do transtorno do espectro autista: Revisão de literatura. *Residência Pediátrica*, 0(234). <https://doi.org/10.25060/residpediatr-2021.v11n3-234>
- Tamanaha, A. C., Martins, A. C. P., Maia, A. K., Paula, C. S. de, Bordini, D., Giorgi, F. C., ... & Ribeiro, T. C. (2013). *Protocolo do Estado de São Paulo de Diagnóstico Tratamento e Encaminhamento de Pacientes com Transtorno do Espectro Autista (TEA)*. São Paulo, SP: SEDPcD.
- Vígotksi, L. S. (1991). *Pensamento e linguagem* (3a ed.). Martins Fontes.
- Wallis, K., Guthrie, W., Bennett, A., Caprice, C., Coccia, M., Monteiro, S. A., ... & Zuckerman, K. E. (2020). Adherence to screening and referral guidelines for autism spectrum disorder in toddlers in pediatric primary care. *PLOS ONE*, 15(5), 1–17. <https://doi.org/10.1371/journal.pone.0232335>
- Zanella, A. V., Reis, A. C. dos, Titon, A. P., Urnau, L. C., & Dassoler, T. R. (2007). Questões de método em textos de Vygotski: Contribuições à pesquisa em psicologia. *Psicologia & Sociedade*, 19(2), 25–33. <https://doi.org/10.1590/S0102-71822007000200004>

Contribution of each author to the work:

Drielle Sauer Paparella: Conceptualization, Methodology, Investigation, Project Administration, Formal Analysis, Writing – Original Draft.

Lúcia Pereira Leite: Conceptualization, Formal Analysis, Writing – Review & Editing, Supervision.

EDITORIAL BOARD**Editor-in-chief**

Alexandre Luiz de Oliveira Serpa

Associated editors

Alessandra Gotuzo Seabra
Ana Alexandra Caldas Osório
Cristiane Silvestre de Paula
Luiz Renato Rodrigues Carreiro
Maria Cristina Triguero Veloz Teixeira

Section editors**"Psychological Assessment"**

André Luiz de Carvalho Braule Pinto
Danielle de Souza Costa
Lisandra Borges Vieira Lima
Luiz Renato Rodrigues Carreiro
Natália Becker
Thatiana Helena de Lima

"Psychology and Education"

Alessandra Gotuzo Seabra
Carlo Schmidt

**"Social Psychology and
Population's Health"**

Fernanda Maria Munhoz Salgado
Gabriel Gaudencio do Rêgo
João Gabriel Maracci Cardoso
Marina Xavier Carpena

"Clinical Psychology"

Cândida Helena Lopes Alves
Julia Garcia Durand
Vinicius Pereira de Sousa

"Human Development"

Ana Alexandra Caldas Osório
Cristiane Silvestre de Paula
João Rodrigo Maciel Portes

Review Articles

Jessica Mayumi Maruyama

Technical support

Maria Gabriela Maglão
Davi Mendes

EDITORIAL PRODUCTION**Publishing Coordination**

Surane Chiliani Vellenich

Editorial Intern

Isabelle Callegari Lopes

Language Editor

Daniel Leão

Layout Designer

Acqua Estúdio Gráfico