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CLINICAL- EPIDEMIOLOGICAL PROFILE OF CHILDREN TREATED AT A SCHOOL HEALTH CENTER IN PARÁ

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Abstract: A nation's care for its children is one of the indicators of development and quality of life. It is therefore necessary to provide a network of care and prevention for the child and adolescent population. The work of primary care is essential in identifying and managing diseases in this group, which require low-cost treatment and prevention, as well as being aggravated by environmental and behavioral conditions. Therefore, evaluating the clinical and epidemiological profile of pediatric patients seen at the Marco School Health Center is important in identifying the determinants that affect the health component, contributing to improved detection of the most prevalent pathologies and ensuring satisfactory diagnosis and treatment. This study assessed the profile of patients seen at the Marco School Health Center. This is a quantitative, cross-sectional, single-center study carried out at the Marco School Health Center, located in Belém-PA, Brazil. Medical records registered at the unit were included for analysis, with data referring to the year 2022 and in the 0-6 age group. A total of 3,576 records were analyzed, of which 2,785 were excluded, resulting in a sample of 790 records. During this period, the majority of complaints were related to UTIs and childcare, among others, such as ASD, which reflects the importance of a multi-professional care center on campus. In addition, the importance of applying guidelines with the aim of ensuring healthy development and growth was noted, as was the importance of protective factors and continued monitoring for the promotion of child and adolescent health. There were also shortcomings in the decentralization of paediatric services outside the metropolitan region, which reflected on the provision of primary care services and had a direct impact on the development and growth of children and adolescents.

Keywords: Primary Health Care; Health Profile; Pediatrics.

INTRODUCTION

A nation's care for its children is one of the indicators of development and quality of life, an aspect that is confirmed by the presence of infant mortality as one of the parameters for assessing the HDI (Human Development Index), in addition to its reduction being an important target of the Millennium Goals established by the UN (PEREIRA et al, 2021). In addition, support during childhood produces positive long-term results for a community or society, since the costs of prevention and early intervention are much lower than those channeled into the management of complications (SOUZA, VIEIRA & JUNIOR, 2019).

It is therefore necessary to provide a network of care, guidance and prevention for the child and adolescent population, as they are more vulnerable to social challenges that are reflected in the family, educational and health spheres. The quality of the latter is of paramount importance for promoting rights, quality of life and reducing morbidity and mortality among children and adolescents (SANTOS et al, 2018). In Brazil, the Unified Health System seeks to offer various health services, in a comprehensive and decentralized way, establishing closer contact with the population through Primary Care, whose attributions are capable of solving most of the population's demands (CAMELO & REHEM, 2019).

Such resolvability is only possible through the proper implementation of the guiding principles of primary care, such as accessibility, longitudinality and coordination, in addition to family and community orientation actions (SANTOS et al, 2018). This work is essential in identifying and managing diseases among the child population, such as respiratory and intestinal infections, diarrhea and malnutrition, which generally require low-cost treatment and prevention,

as well as being caused or aggravated by modifiable environmental and behavioral conditions (OLIMPIO et al, 2018). Therefore, the importance of the presence of quality primary services for the effective reduction of child morbidity and mortality at regional and national level is notorious (CAMELO & REHEM, 2019).

In addition, pediatric patients require effective monitoring in terms of neuropsychomotor development, which is an important aspect for primary care professionals to evaluate and manage. Correct identification and early intervention in potential neurodevelopmental disorders promote quality of life, autonomy and improved health conditions in the short and long term (SOUZA, VIEIRA E JUNIOR, 2019). It is also worth highlighting the importance of family guidance regarding the infant's diet, since nutritional aspects have a major effect on the clinical conditions of this population. Thus, close care is needed from exclusive breastfeeding until the last years of adolescence (CUNHA, LEITE & ALMEIDA, 2015).

Furthermore, the process of health and illness encompasses various aspects of the socio-economic context in which the actors are inserted. Environmental pediatrics deals with the impacts that certain environmental risks have on children's development. These environmental risks include basic sanitation, pollution, water quality, food contamination, climate change, as well as exposure to pesticides and radiation. The impact of these agents on the establishment of respiratory and gastrointestinal diseases, as well as the development and exacerbation of allergic processes, is notorious. It is therefore essential to track the possible environmental risks to which the pediatric population is exposed in order to promote effective intervention measures (SBP, 2019).

The epidemiological study of the diseases to which a community is exposed provides a profile of the model of care provided, reveals the effectiveness of public health policies, as well as the unmet demands. By analyzing the clinical and epidemiological profile of a service, we are able to externalize socioeconomic inequality, the difference in access to health services, in other words, the environmental risks to which society is exposed. Therefore, in order to overcome historically imposed barriers, it is necessary to go beyond hospital-centered medicine and intervene directly in the determinants of the health and disease process (SANTOS et al, 2020).

In this context, evaluating the clinical and epidemiological profile of the pediatric patients seen at the Marco School Health Center is necessary to identify the determinants that can affect health care, contributing to improving the identification of the most prevalent pathologies, as well as ensuring a more assertive diagnosis and satisfactory therapy.

OBJECTIVES

GENERAL OBJECTIVE

To evaluate the clinical and epidemiological profile of pediatric patients treated at a School Health Center in the Brazilian Amazon.

SPECIFIC OBJECTIVES

- Identify the prevalence of the main diseases in the pediatric age group;
- To describe the clinical and epidemiological profile of the patients seen at the general pediatrics outpatient clinic;
- To detect possible risk factors for the main pediatric disorders that are most frequent in primary care.

METHODOLOGY

ETHICAL ASPECTS

All the patients in this study were studied in accordance with the Declaration of Helsinki and the Nuremberg Code. The standards for research involving human beings (Res. 466/12 CNS) of the National Health Council were respected and the study took place after the research project had been approved by the Medicine Research and Extension Center, by the Research Ethics Committee (CEP) of the State University of Pará and by the head of the Marco School Health Center (add appendices).

After collection, the data was used only for the purpose of this study and will be kept for five years, in accordance with the law (Res. 466/12 CNS), after which time it will be deleted from the database, preventing any leakage of the study subjects' data. The authors undertake to keep the information collected confidential and are responsible for using it solely and exclusively for dissemination in the academic-scientific environment. The study in question was based on the principles of bioethics for those involved in the research and for the community, such as the principles of autonomy, non-maleficence, beneficence, justice and equity.

RESEARCH DESIGN

This is a descriptive, retrospective, quantitative, single-center study that evaluated the clinical and epidemiological profile of pediatric patients treated at the Marco School Health Center, carried out between October 2023 and June 2024, by reading patients' medical records.

SAMPLE

The sample is made up of 790 medical records of patients seen at CSE - Marco between January and December 2022, aged between 0 and 6 years, considering the individuals who met the inclusion criteria.

INCLUSION AND EXCLUSION CRITERIA

Inclusion criteria

All patients aged 0 to 6 regularly registered in the child growth and development monitoring program at the general pediatrics outpatient clinic of the Centro de Saúde Escola do Marco, seen between January and December 2022, whose medical records were complete and had legible data.

Exclusion criteria

Patients seen outside the stipulated period, as well as patients whose medical records are incomplete or illegible.

DATA COLLECTION

The medical records of the children regularly registered at the CSE - Marco were analyzed, focusing on the clinical and epidemiological profile of the children seen at the unit.

Data was collected by analyzing the medical records in the archives sector of the CSE - Marco. In the first stage, the number of medical records of children regularly enrolled in the child growth and development monitoring program was identified. In the second stage, the medical records were analyzed and the data collected using the collection instrument (see appendix) established by the researchers.

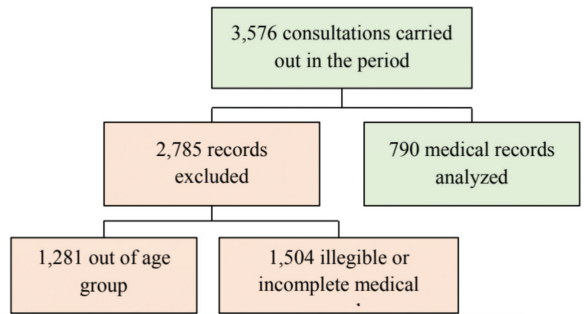
The sample consisted of all the medical records found that met the inclusion and exclusion criteria for this study, which were collected at the Marco School Health Center between September 2023 and November 2023.

DATA ANALYSIS

The data collected in the survey was entered into an Excel database containing the variables used to identify the clinical and epidemiological profile of the patients, such as gender, age, municipality of origin and reason for consultation. Microsoft Office, Excel and Word 2019 were used to format graphs, tables and texts. The results were statistically analyzed using Bioestat software version 5.3.

RESULTS

We obtained 3,576 medical records from appointments made between January and December 2022 from the Marco School Health Center's internal filing service. Of these, 2,785 records were excluded, of which 1,281 were for patients outside the age range proposed for the study (over 6 years old) and 1,504 were illegible or incomplete. A sample of 790 medical records was obtained for this study.



Flowchart 1 - Distribution of medical records

Table 1 describes the profile of the patients seen in terms of gender, age and city of residence. It can be seen that the sample is well distributed between females and males, with a slight predominance of males (53.4%). The analysis of age groups was divided into 2-year age groups, with the 0 to 2-year age group being subdivided into 0 to 6 months, 7 to 12 months and 1 to 2 years. The age group with the highest number of attendances in the period was 1 to 2 years (49.38%), and the sample had an average age of 30.96 months. Most of the sample was made up of patients from Belém (77.4%).

Variable	N (%)		Average, in months
Sex			
Male	422	(53,41)	
Female	368	(46,59)	
Age			30,96
0 to 2 years	390	(49,38)	
0 to 6 months	122	(15,44)	
7 to 12 months	99	(12,54)	
1 to 2 years	169	(21,40)	
2 to 4 years	223	(28,22)	
4 to 6 years	177	(22,40)	
Municipality of origin			
Bethlehem	613	(77,46)	
Ananindeua	79	(10,00)	
Irituia	32	(4,05)	
Marituba	6	(0,75)	
Others	24	(3,03)	
Not informed	36	(4,55)	

Table 1 - Characteristics of pediatric patients seen at the Marco School Health Center in 2022 in terms of gender, age and city of origin.

Source: Research protocol, Sep/2023.

Considering the sample as a whole, the main reasons for consultations were upper airway infections (UAI), which accounted for 27.8% of consultations. Childcare consultations accounted for 22.2% of consultations. The ten most common diagnoses and reasons for consultations given by patients are summarized in Table 2.

Reason for consultation	Quantity (%)	
IVAS	222	(27,84)
Childcare	176	(22,27)
Intestinal parasitosis	52	(6,58)
Autism spectrum disorder (ASD)	38	(4,81)
Scabies	33	(4,17)
Impetigo	28	(3,54)
Asthma	27	(3,41)
Delayed development	26	(3,29)
Pneumonia	23	(2,91)
Diarrhea	23	(2,91)

Table 2 - Most common reasons for consultations between January and December 2022 at the Marco School Health Center by children aged 0 to 6.

Source: Research protocol, Sep/2023.

The ten diagnoses listed above were evaluated separately in each age group, to determine the incidence of each one at different ages and to assess the trend of falling or rising diagnoses over time.

Among infants aged between 0 and 2 years, childcare appointments accounted for the majority (27.9%), followed by appointments where airway infections were diagnosed (25.8%). Other reasons for consultations are listed in Table 3.

Reason for consultation	Quantity (%)	
Childcare	109	(27,94)
IVAS	101	(25,89)
Scabies	17	(4,35)
Pneumonia	13	(3,33)
Intestinal parasites	13	(3,33)
Impetigo	12	(3,07)
TEA	10	(2,56)
Delayed development	8	(2,05)
Asthma	7	(1,79)
Diarrhea	6	(1,53)

Table 3 - Most common reasons for consultations with infants aged 0 to 2 between January and December 2022 at the Marco School Health Center.

Source: Research protocol, Sep/2023.

Within this age group, we decided to subdivide the results in order to analyze them separately for infants aged 0 to 6 months, 7 to 12 months and 1 to 2 years.

From 0 to 6 months, the majority of consultations were childcare consultations (40.98%). The main diagnoses in the other consultations were upper airway infections (UAI) (18.85%) and scabies (4.91%). Other diagnoses are shown in Table 4.

Reason for consultation	Quantity (%)	
Childcare	50	(40,98)
IVAS	23	(18,85)
Scabies	6	(4,91)
Pneumonia	2	(1,63)
Impetigo	1	(0,81)
Delayed development	1	(0,81)
Diarrhea	1	(0,81)

Table 4 - Most common reasons for consultations with infants aged 0 to 6 months between January and December 2022 at the Marco School Health Center.

Source: Research protocol, Sep/2023.

From 7 to 12 months, the most common reasons for consultations were upper airway infection (UAI) (37.3%), childcare (20.2%), scabies (7%) and impetigo (6%). Other diagnoses are organized in Table 5.

Reason for consultation	Quantity (%)	
IVAS	37	(37,37)
Childcare	20	(20,20)
Scabies	7	(7,07)
Diarrhea	7	(7,07)
Impetigo	6	(6,06)
Asthma	3	(3,03)
TEA	2	(2,02)
Pneumonia	2	(2,02)
Intestinal parasitosis	1	(1,01)
Delayed development	1	(1,01)

Table 5 - Most common reasons for consultations with infants aged 7 to 12 months between January and December 2022 at the Marco School Health Center.

Source: Research protocol, Sep/2023.

Among children aged between 1 and 2, the majority of consultations were for UTIs (24.26%), followed by childcare (23.07%), intestinal parasitosis (7.10%) and pneumonia (5.32%). The other reasons for consultation are shown in Table 6.

Reason for consultation	Quantity (%)	
IVAS	41	(24,26)
Childcare	39	(23,07)
Intestinal parasitosis	12	(7,10)
Pneumonia	9	(5,32)
TEA	8	(4,73)
Delayed development	6	(3,55)
Diarrhea	5	(2,95)
Impetigo	5	(2,95)
Asthma	4	(2,36)
Scabies	4	(2,36)

Table 6 - Most common reasons for consultations with infants aged 1 to 2 between January and December 2022 at the Marco School Health Center.

Source: Research protocol, Sep/2023.

In the 2 to 4 age group, the majority of consultations were for SARS, accounting for 31.39% of consultations. Other reasons are shown in Table 7.

Reason for consultation	Quantity (%)	
IVAS	70	(31,39)
Childcare	38	(17,04)
TEA	21	(9,41)
Intestinal parasitosis	19	(8,52)
Delayed development	11	(4,93)
Asthma	10	(4,48)
Scabies	9	(4,03)
Impetigo	9	(4,03)
Diarrhea	7	(3,13)
Pneumonia	6	(2,69)

Table 7 - Most common reasons for consultations with children aged 2 to 4 between January and December 2022 at the Marco School Health Center.

Source: Research protocol, Sep/2023.

Among children between 4 and 6 years old, there was a tendency for demand to be higher among those whose complaint was UTIs (31.4%), followed by childcare (17%) and intestinal parasites (8.5%). The other reasons for consultation in this age group are shown in Table 8.

Reason for consultation	Quantity (%)	
IVAS	51	(28,81)
Childcare	33	(18,64)
Intestinal parasitosis	21	(11,86)
Asthma	10	(5,64)
TEA	8	(4,51)
Impetigo	8	(4,51)
Delayed development	7	(3,95)
Scabies	7	(3,95)
Pneumonia	4	(2,25)
Diarrhea	3	(1,69)

Table 8 - Most common reasons for consultations with children aged 4 to 6 between January and December 2022 at the Marco School Health Center.

Source: Research protocol, Sep/2023.

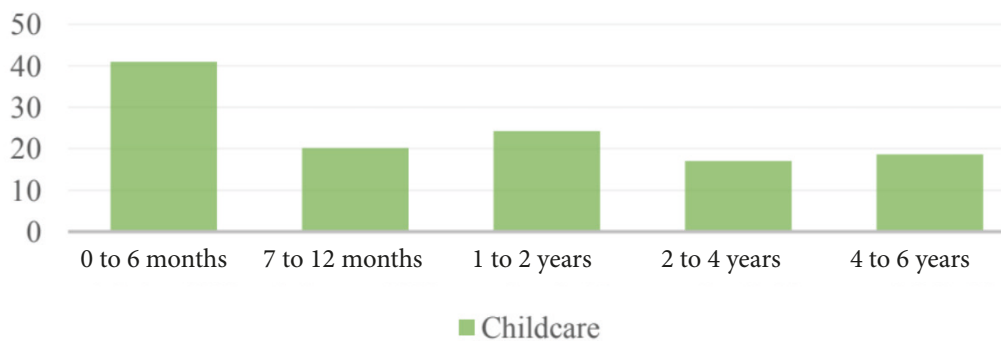
Analyzing the general panorama of consultations carried out from January to December 2022 at the Marco School Health Center, it was noted that the number of childcare consultations was higher in the first 6 months of life, with a significant drop in childcare follow-up in patients aged 7 to 12 months. This perception is illustrated in Graph 1.

After 7 months, the main reason for consultations was specific complaints, especially upper airway infections. Regarding the trend in the prevalence of each complaint in the different age groups, it was noted that airway infections were the most common diagnosis in all age groups (graph 2).

DISCUSSION

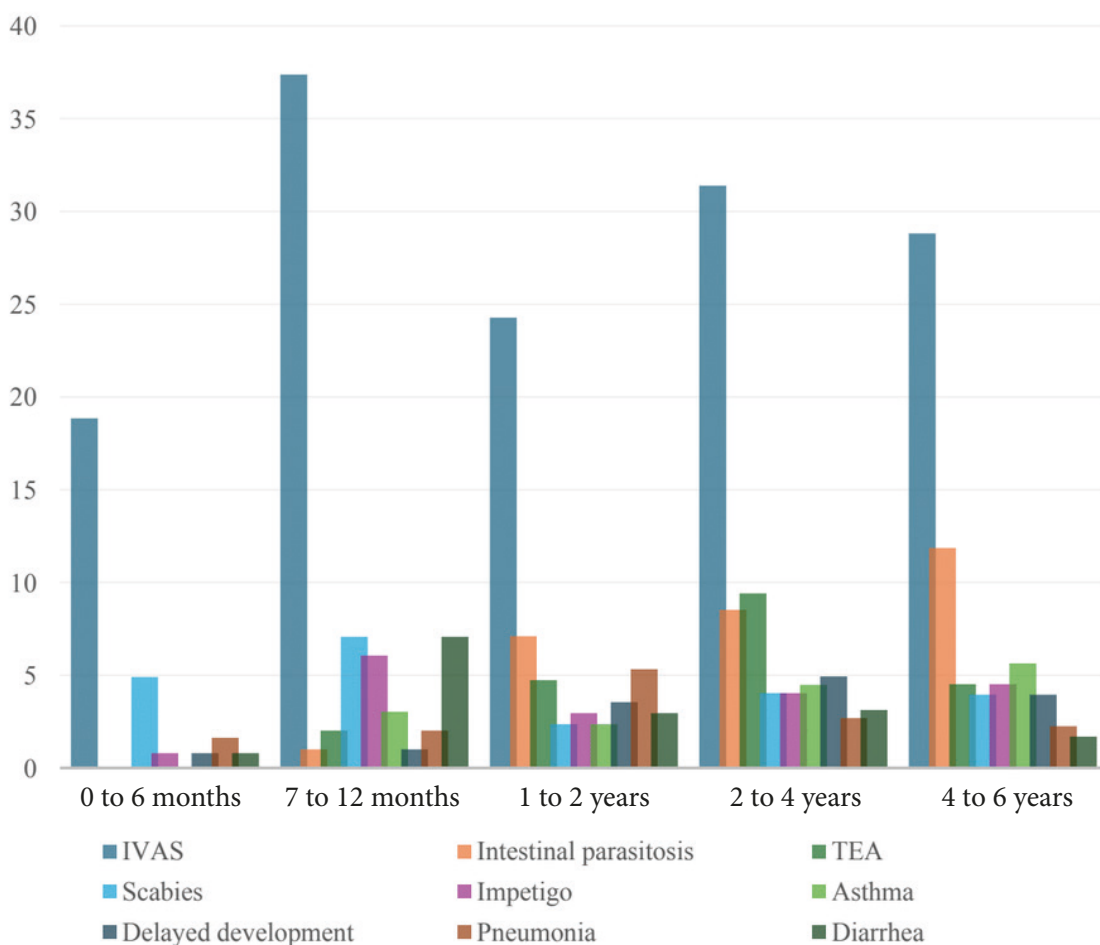
GENERAL CHARACTERISTICS OF THE SAMPLE

With regard to the characteristics of the sample, it was noted that there was a slight predominance of males, who made up 53.41% of the sample. This finding is similar to what was found in previous studies, such as that of Olímpio et al. (2018), who observed that 52.3% of the children admitted to a public hospital in Ceará were boys, and that of Santos Teixeira



Graph 1 - Percentage of childcare consultations carried out in each age group from January to December 2022 at the Marco School Health Center.

Source: Research protocol, Sep/2023.



Graph 2 - Prevalence of the main complaints in the different age groups, in percentages, from January to December 2022 at the Marco School Health Center.

Source: Research protocol, Sep/2023.

(2016), who showed that males prevailed with 61.3% of all admissions.

Although both sources present data on hospitalizations, the circumstances of which differ from those studied in the current study, the justification proposed for the prevalence of males in pediatric care extends to what was perceived in the sample of the present study: that girls are socially seen as more fragile and therefore receive greater family care, which encourages boys to carry out more activities that expose them to pathogens from childhood (Olimpio *et al.*, 2028; Botton *et al.*, 2015).

The average age of the children seen was approximately 2 years and 7 months, with the majority of the sample being children aged 0 to 2 years (49.38%). The large number of consultations in this age group is related to the fact that the Child Care Program recommends that there should be a greater number of regular consultations with a pediatrician during this period, in order to carry out regular and close monitoring of the child, focused on continuous assessment of their growth and development. Thus, consultations should be monthly until the 6th month of life, quarterly from the 6th to the 12th month, biannually from the 12th to the 24th month and annually from the 3rd to the 18th year of life (Albernaz; Couto, 2022; Paiva *et al.*, 2023).

It was also noted that most of the sample came from the municipality of Belém, where the Marco School Health Center (CSE-Marco) is located, with the Belém metropolitan region accounting for almost 90% of attendances. This shows that the public at CSE-Marco is mainly made up of children from Pará's 1st Regional Health Center (CRS). It is noteworthy, however, that the municipality of Irituia, located around 170 km from Belém, made up around 4% of the sample; this municipality is part of Pará's 3rd CRS, and the fact that there is a significant contingent of patients coming from this region to Belém may imply a failure

to decentralize services and primary pediatric health care in the 5th CRS (Pará State Health Secretariat, 2021).

OVERVIEW OF THE MOST COMMON REASONS FOR CONSULTATION IN 2022 AT THE MARCO SCHOOL HEALTH CENTER

In 2022, the Marco School Health Center provided 3,576 pediatric consultations. Of these, 790 were analyzed, of which the majority were for a complaint of upper airway infection (UAI), followed by childcare consultations, and other complaints such as intestinal parasites, autism spectrum disorder, scabies, impetigo, asthma, developmental delay, pneumonia and diarrhea.

Childcare appointments

Childcare appointments predominated in the 0-6 month age group, where they accounted for around 40% of appointments, reflecting the greater frequency with which these appointments are scheduled in the first 6 months of life, as mentioned above. In the 7 to 12 month period, there was a drop in the percentage to 20% of appointments, so there was an overlap in the diagnosis of airway infections, showing that in this age group, medical attention was sought more often because of a specific complaint than for regular follow-up appointments.

It is known that the first thousand days of life are the period between 270 days of pregnancy and 730 days of the following two years, considered an interval in which there is an important evolution of human growth and development of the nervous and immune systems. At this stage, good nutrition and healthy growth have benefits that last a lifetime (Bhutta *et al.*, 2008; Cunha; Leite; Almeida, 2015). In addition to prenatal care, pediatric consultations in the first two years of life are essential for healthy development,

with the role of identifying early damage to children's nutrition and general care, guiding parents and guardians and establishing curative, preventive and health-promoting interventions (Cunha; Leite; Almeida, 2015).

In this context, the Child Care Program emerges as a fundamental resource for monitoring the health of children in this age group, as it involves regular and close monitoring of the child, focused on the continuous assessment of their growth and development. Its guidelines include checking vaccination coverage, promoting breastfeeding, guidance on introducing complementary foods, as well as preventing the most common diseases during the first year of life, with the aim of ensuring that the child develops healthily and is prepared to face the physical transformations that occur during their growth (Albernaz; Couto, 2022; Paiva *et al.*, 2023).

Upper airway infections

A diagnosis of upper airway infections was the most common cause of consultation in all age groups, except 0-6 months. HAIs encompass a variety of acute illnesses, from common colds - usually mild, self-limiting catarrhal syndromes of the nasopharynx - to potentially serious conditions such as epiglottitis. Children can experience 7 to 10 episodes of these infections over the course of a year (Associação Brasileira de Otorrinolaringologia e Cirurgia Cérvico-Facial, 2023; Fracassi *et al.*, 2022).

Previous studies indicate that, in the post-neonatal age group (28 days to 1 year), the main causative agents of HAIs are rhinovirus and respiratory syncytial virus (RSV), found in approximately 30% of the children studied each, emphasizing the importance of paediatric care in the event of HAI complaints, due to the risk of complications such as bronchiolitis and pneumonia (Mouro *et al.*, 2010; Bellei *et al.*, 2007; Fracassi *et al.*, 2022). Although most UAIs are self-limiting, their complications,

such as bacterial infections of the paranasal sinuses and middle ear, are significant. Aspiration of secretions and infected cells can also predispose to lower respiratory tract infections (Fracassi *et al.*, 2022).

In this study, there was a higher incidence in the 0 to 2 year age group, with infants aged 7 to 12 months being the most affected, where these infections were the reason for 37.3% of consultations. This age group also had the highest incidence of HAIs in the sample. The lowest incidence was recorded in children aged 0 to 6 months, possibly due to the practice of exclusive breastfeeding (EBF), which offers immunological protection against these infections through the presence of Immunoglobulin A in the milk. This protein plays a crucial role in binding to microorganisms and macromolecules, preventing them from adhering to mucosal surfaces and reducing contact with pathogens (Nadal *et al.*, 2017). A limitation found in the study was the lack of information on infant feeding in most of the medical records analyzed, which hinders a more detailed analysis of the correlation between EBF and low incidence of HAVI.

Intestinal parasites

The third most common reason for consultation and the second most common diagnosis were intestinal parasites, which affected 6.5% of the sample and represent a serious public health problem, especially in developing countries. In Brazil, they are widespread and have a high prevalence, mainly due to the precarious living conditions that favor infection by enteroparasites (Marques; Nunes-Gutjahr; Braga, 2021); in the context of the city of Belém, the high prevalence of intestinal parasites in the sample is a direct reflection of the population's low access to sewage services, which reach only 17.12% of the city's population (Associação Brasileira de Engenharia Sanitária e Ambiental, 2021).

The incidence of intestinal parasites in the sample showed a progressive increase, not being diagnosed in children aged 0 to 6 months and reaching its peak in the 4 to 6 age group. This finding is in line with other recent studies, such as that by Marques, Nunes-Gutjahr and Braga (2021), who also identified a higher prevalence of parasitosis in the 2 to 5 age group and a lower prevalence in the 0 to 2 age group. One of the main challenges associated with parasitosis in childhood is related to the immune system, since children do not yet have a fully developed immune system and therefore have limitations in their ability to fight parasites (Munareto *et al.*, 2021).

The lack of parasite diagnoses in infants aged 0 to 6 months can be attributed to exclusive breastfeeding, a finding similar to that of previous studies, which show that intestinal parasites are very rare in the first years of age, due to breastfeeding (Chaves *et al.*, 2021). This pattern is reinforced by the tendency for diagnoses of parasites to increase from the age of 7 months, when the child begins to be introduced to food and is more exposed to potentially contaminated water and unsanitized food.

Autistic Spectrum Disorder

Autism Spectrum Disorder (ASD) was diagnosed in 4.8% of the sample, a percentage considered high, given that previous epidemiological studies have shown that ASD affects around 1-2% of children (Christensen *et al.*, 2016). This high number of diagnoses may be a reflection of the greater recognition of ASD symptoms by the Marco CSE pediatric team.

In addition, CSE Marco is sought out by many family members of children with suspected autism, as it is located on the same campus and is the gateway to the Physiotherapy and Occupational Therapy Teaching and Assistance Unit (UEAFTO), located at the Center for Biological and Health

Sciences (CCBS) of the State University of Pará (UEPA). UEAFTO is qualified as a Type III Rehabilitation Center (CER III) and has an essential multi-professional team to treat some of the challenges associated with ASD, with medical consultations in psychiatry, neuropsychiatry and orthopedics, as well as various therapies, such as speech therapy, psychology, neuropsychology, physiotherapy, occupational therapy, sensory integration and social work (Maués, 2024).

In this study, the peak of diagnoses was between 2 and 4 years of age, an age range consistent with previous studies which show that diagnosis tends to be established around 3 to 4 years of age (Steffen *et al.*, 2020). Early diagnosis is very important in autism spectrum disorder, since the phase of most accelerated brain development spans from conception to three years of age, highlighting the importance of setting up child development stimulation programs during this period. Delays in diagnosis and in starting the necessary therapies can consolidate the symptoms, damaging the child's cognitive and psychosocial development. In addition, less favorable prognoses are directly associated with diagnosis after the age of three, as the child faces greater difficulty in adapting to establish better relationships with themselves and others (Steffen *et al.*, 2020; Canut *et al.*, 2014).

Furthermore, in the sample, the occurrence of ASD could still be identified in the 7 to 12 month age group, indicating that in the center studied, an early diagnosis was made in 2.02% of the children in this age group. The infant may show signs of autism from the first months of life, such as a delay in acquiring a social smile, lack of interest or little interest in the human face, absent or unsustained gaze, preference for sleeping alone in the crib and irritability when swaddled, as well as the absence of separation anxiety and indifference when parents are absent. These early signs

may indicate the need to assess the child's development. It is important to note that such delays may also reflect a deficiency in the child's socialization and stimulation. Therefore, the earlier the child receives adequate stimulation, the greater the chances of optimizing their developmental trajectory and improving results in long-term socioadaptive functioning (Sociedade Brasileira de Pediatria, 2017; Steffen *et al.*, 2020).

Scabies

Another common diagnosis in the sample was scabies, present in 4.3% of patients and with a higher prevalence among infants aged between 7 and 12 months, affecting 7% of the sample. These figures are similar to those found in another study carried out previously in Belém do Pará, which reported a prevalence of 7.9% among children (Coêlho *et al.*, 2011). In infants, the clinical presentation of scabies is more evident, which can facilitate early diagnosis of the condition (Sociedade Brasileira de Pediatria, 2019).

Scabies, also known as scabies, is a parasitic infection of the skin, highly contagious, intensely itchy, with a benign evolution and high global prevalence, caused by the mite *Sarcoptes scabiei var. hominis* (Cardoso *et al.*, 2020). It affects more than 300 million individuals annually, and is especially prevalent in children under the age of 2 (Hill; Cohen, 2017). Despite its worldwide distribution, scabies is particularly problematic in areas with poor sanitation conditions, household overcrowding and sharing of bedding and intimate belongings (Rosumek; Nast; Dressler, 2018; Gurgel, 2014).

Impetigo

Impetigo was identified in 3.5% of the sample, with a more significant incidence among infants aged 7 to 12 months, while it maintained a stable prevalence in children aged 1 to 6 years, affecting an average of 3.8% of them. This pattern of incidence contrasts with previous studies that often report a higher frequency of impetigo in children aged 2 to 5 years (Sociedade Brasileira de Pediatria, 2022; Clebak; Malone, 2018).

Impetigo is known to be the third most common skin infection in childhood, behind dermatitis and viral warts, and accounts for approximately 55% of all bacterial skin infections. The condition is especially prevalent during the warmer months and in regions with a tropical climate, such as the region studied. In addition to favorable climatic conditions, factors such as overcrowding, poor personal hygiene and the sharing of personal objects also contribute to the spread of impetigo in community environments. The practice of preventive measures, such as maintaining personal and environmental hygiene, is fundamental to reducing the incidence of this highly contagious skin infection (Sociedade Brasileira de Pediatria, 2022).

Asthma

Asthma was the seventh most common reason for consultation at the center studied in 2022, affecting 3.4% of the sample. The diagnosis occurred mainly in children aged between 4 and 6, where it was present in 5.6% of cases. This condition represents one of the main respiratory health problems in Brazil, affecting approximately 23.2% of the population (Ministry of Health, 2022). The pathophysiology of asthma involves chronic inflammation of the airways, leading to bronchial hyperreactivity and narrowing of the airways in response to various stimuli. In addition, genetic factors, early exposure

to allergens, environmental pollutants, viral respiratory infections and a family history of asthma are considered some of the main risk factors for developing asthma in childhood (Cagliari *et al.*, 2023).

The diagnosis of asthma in infants and preschoolers is complex and requires constant attention, which may explain the lower incidence in the sample compared to the Ministry of Health's estimate. Studies indicate that many children who wheeze before the age of two do not develop asthma, and around 40% of children wheeze at least once in the first three years of life (Pedroso; Cabreira; Dácia, 2018). Therefore, accurately diagnosing asthma in children up to the age of 5 can be challenging, as episodic respiratory symptoms such as wheezing and coughing are common even in children without asthma, especially in the 0-2 age group (Pedersen, 2007; Brand *et al.*, 2008).

Thus, to meet this demand, the diagnosis of asthma in young children is largely based on symptom patterns, combined with a careful clinical assessment of family history and physical findings, especially since pulmonary function tests such as spirometry are not usually used in this age group. A positive family history of allergic disorders, as well as the presence of atopy or allergic sensitization, provide additional predictive support. Early allergic sensitization increases the likelihood of a child with wheezing episodes developing chronic asthma (Pedroso; Cabreira; Dácia, 2018).

Developmental delay

Neuropsychomotor developmental delay was found as a diagnosis in 3.29% of the sample, with a relatively stable incidence between 1 and 6 years, with an average of 4.1% in this age group and a peak between 2 and 4 years, when it affected 4.9% of the patients. The medical records did not make it clear which de-

velopmental domain was affected- gross motor skills, fine motor skills, vision, social skills or hearing - but it is known that a delay in at least one domain affects around 5 to 10% of children (Bellman; Byrne; Sege, 2013).

A study carried out in Brazil by Brito *et al.* (2011) showed that the highest concentration of delays tends to occur in the area of language, followed by fine motor skills. In the United States, the study by Feldman (2019) showed a prevalence of up to 45% of language delay and 38% of social development delay in children aged 3 to 5.

With regard to child development, the Ministry of Health's guidelines for early stimulation for children aged zero to three with delayed neuropsychomotor development state that:

There is a consensus in the specialized literature that children's development depends not only on the maturation of the central nervous system (CNS), but also on various other factors: biological, relational, affective, symbolic, contextual and environmental. This plurality of factors and dimensions involved in child development is expressed in the experiences and behaviors of babies and children, in the ways they act, react and interact with objects, people, situations and environments. It can be said that the acquisition of developmental milestones by children depends on the functioning of the CNS and other dimensions of organic functioning, as well as the load and quality of the stimuli and relationships that the child experiences. Naturally, endogenous and exogenous factors that disrupt development can cause, to a greater or lesser extent, disturbances in this process (Ministry of Health, 2016).

Pneumonia

Community-acquired pneumonia (CAP) accounted for 2.9% of consultations in the period studied, with a peak incidence in the 1 to 2 year age group, where it affected 5.3% of the sample. Similarly, a previous study showed a higher number of cases between the ages of 1 and 4 (Guimarães *et al.*, 2023).

CAP is the leading infectious cause of death in children worldwide and one of the most prevalent diseases in childhood, standing out due to its potential severity and incidence rate among children (Aurilio; Sant'Anna; March, 2020; Soler; Bell; Batista, 2021).

It should be noted that CAP has a very high prevalence among children, especially those under 5 years of age (Soler; Bell; Batista, 2021), and the relatively low prevalence in the current study may be a reflection of the fact that, in general, those responsible for a child with the disease tend to take them to emergency services rather than outpatient services, such as the place where the study was carried out. The study by Guimarães *et al.* (2023), for example, shows that of all the children with pneumonia, only 0.38% were treated electively. Therefore, the importance of early diagnosis through the identification of signs and symptoms in children is highlighted, in order to reduce emergency admissions and, consequently, the mortality rates related to this condition. In this sense, it is essential to implement public policies that promote the improvement of early diagnosis and the adoption of preventive measures in the community.

Diarrhea

Diarrhea was a complaint responsible for 2.9% of the visits in the sample, with a lower incidence in infants aged 0 to 6 months (0.8%) and a higher incidence in those aged 7 to 12 months (7%). Similarly to what was seen in the analysis of the incidence of upper

respiratory infections and intestinal parasites in the sample, there was a low incidence in infants under 6 months of age, who therefore tend to be exclusively breastfed.

This result was similar to that found by Boccolini and Boccolini (2011), who showed that children who were exclusively breastfed for up to 6 months and breastfed for up to 12 months had the lowest rates of hospitalization for diarrheal disease in hospitals belonging to the Unified Health System. Therefore, the protection that breastfeeding and exclusive breastfeeding provide against diarrhea in children under 6 months of age is indisputable.

In addition, diarrhea is considered a serious public health problem and is the second leading cause of hospital admissions in children - second only to respiratory infections (Brazil, 2009). Previous studies have shown that some of the risk factors for diarrhea, in addition to the absence of breastfeeding, are adverse socioeconomic factors, such as the lack of basic sanitation; as seen above, the center studied is located in a region with low access to basic sanitation (Associação Brasileira de Engenharia Sanitária e Ambiental, 021).

CONCLUSION

By analyzing 790 medical records from the period January to December 2022 at the Marco School Health Center, data was obtained on the clinical epidemiological profile of patients aged 0 to 6 seen at the health unit. It was noted that the sample was well distributed between males and females, with a slight predominance of males (53.4%). The age group with the highest number of attendances in the period was 1 to 2 years (49.38%), and the sample had an average age of 30.96 months. The majority of patients (77.4%) lived in the municipality of Belém.

The main complaints were upper airway infections (UAI), followed by childcare visits and other conditions such as intestinal parasites, autism spectrum disorder (ASD),

scabies, impetigo, asthma, developmental delay, pneumonia and diarrhea. Childcare consultations were more frequent in the 0-6 month age group, where they accounted for around 40% of consultations, falling to 20% in the 7-12 month period, when there was an increase in consultations for UTIs, showing that in this age group, medical attention was sought more often for a specific complaint than for regular follow-up consultations.

UTIs were the most common diagnosis in all age groups, but were less frequent in children aged 0-6 months, possibly due to the protection offered by exclusive breastfeeding. Similarly, the lowest incidences of intestinal parasites and diarrhea occurred in the 0-6 month age group, reiterating the protective factor of exclusive breastfeeding.

Autism spectrum disorder was diagnosed in 4.8% of the sample, a high percentage compared to previous epidemiological studies, which reflects greater recognition of ASD

symptoms by the Marco CSE pediatric team and greater demand for the unit by family members of children with suspected ASD.

As for dermatological complaints, scabies affected 4.3% of the patients and was more common in children aged between 7 and 12 months, while impetigo affected 3.5% of the sample, also with a higher incidence in infants aged between 7 and 12 months.

Asthma was diagnosed in 3.4% of consultations, predominantly in children aged 4 to 6. Neuropsychomotor developmental delay was identified in 3.29% of the sample, with a higher prevalence between the ages of 2 and 4. Pneumonia, which accounted for 2.9% of consultations, was more common in the 1 to 2 age group, although the incidence was lower than in previous studies, which may be explained by the fact that the guardians of a child with the disease tend to take them to emergency services rather than outpatient services, such as the place where the study was carried out.

REFERENCES

- ALBERNAZ, A.L.G.; COUTO, M.C.V. A puericultura no SUS: o cuidado da criança na perspectiva da atenção integral à saúde. **Saúde em Debate**. Rio de Janeiro, v.46, n. 5, p. 236-248, dez, 2022.
- ANTUNES, R. S. et al. Parasitoses intestinais: prevalência e aspectos epidemiológicos em moradores de rua. **RBAC**, v. 52, n. 1, p. 87-92, 2020.
- ASSOCIAÇÃO BRASILEIRA DE ENGENHARIA SANITÁRIA E AMBIENTAL (ABES). **Municípios e Saneamento: Belém**, PA. 2021. Disponível em: <https://www.aguaesaneamento.org.br/municipios-e-saneamento/pa/belem>. Acesso em: 17 jun. 2024.
- ASSOCIAÇÃO BRASILEIRA DE OTORRINOLARINGOLOGIA E CIRURGIA CÉRVICO-FACIAL (ABORL-CCF). **Guidelines de Prática Clínica em Otorrinolaringologia**. Guideline IVAS: Infecções das Vias Aéreas Superiores. 2023. Disponível em: https://aborlccf.org.br/wp-content/uploads/2023/01/guidelines_completo_07.pdf. Acesso em: 16 jun. 2024.
- AURILIO, R. B.; SANT'ANNA, C. C; MARCH, M. F. B. P. Perfil clínico de crianças com e sem comorbidades hospitalizadas com pneumonia adquirida na comunidade. **Revista Paulista de Pediatria**, v. 38, e. 2018333, 2020.
- BELLEI, N.; CARRARO, E.; PEROSA, A.; GRANATO, C. Patterns of influenza infections among different risk groups in Brazil. **Brazilian Journal of Infectious Diseases**, v. 11, n. 4, p. 399-402, 2007.
- BELLMAN, M.; BYRNE, O.; SEGE, R. Developmental assessment of children. **British Medical Journal**, v. 346, n. 15, e8687, 2013.
- BHUTTA, Z. A. et al. What works? Interventions for maternal and child undernutrition and survival. **Lancet**, v. 371, p. 417-440, 2008.
- BOCCOLINI, C. S.; BOCCOLINI, P. M. Relação entre aleitamento materno e internações por doenças diarreicas nas crianças com menos de um ano de vida nas capitais brasileiras e Distrito Federal, 2008. **Epidemiologia e Serviços de Saúde**, v. 20, n. 1, p. 19-26, 2011.

BOTTON, A.; CÚNICO, S. D.; BARCINSKI, M.; STREY, M. N. Os papéis parentais nas famílias: analisando aspectos transgeracionais e de gênero. **Pensando Família**, v. 19, n. 2, p. 43-56, 2015.

BRAND, P. L. et al. Classification and pharmacological treatment of preschool wheezing: changes since 2008. **Eur Respir J**, v. 43, p. 1172-1177, 2014.

BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. **Saúde da criança: nutrição infantil: aleitamento materno e alimentação complementar**. Brasília, DF: Ministério da Saúde, 2009. (Série A. Normas e Manuais Técnicos. Cadernos de Atenção Básica, n. 23).

BRITO, C. M. L. et al. Desenvolvimento neuropsicomotor de pré-escolares. **Cad. Saúde Pública**, Rio de Janeiro, v. 27, n. 7, p. 1403-1414, jul. 2011.

CAGLIARI, L. L. et al. Asma infantil - uma revisão abrangente sobre a etiologia e fisiopatologia, fatores de risco, manifestações clínicas, diagnóstico, tratamento, plano de gerenciamento, nutrição e estilo de vida, prevenção e perspectivas futuras. **Brazilian Journal of Health Review**, v. 6, n. 5, p. 20252-20268, 2023.

CAMELO, M. S.; REHEM, T. C. M. S. B. Internações por condições sensíveis à atenção primária em pediatria no Distrito Federal: um estudo ecológico exploratório. **Rev Min Enferm. Minas Gerais**, v. 23, n. 1269, 2019.

CANUT, A. C. A.; YOSHIMOTO, D. M. R.; SILVA, G. S.; CARRIJO, P. V.; GONÇALVES, A. S.; SILVA, D. O. F. Diagnóstico Precoce do Autismo: Relato de Caso. **Rev Med Saúde Brasília**, v. 3, n. 1, p. 31-37, 2014.

CARDOSO, A. E. C. et al. **Atualização em dermatoses parasitárias**. 2020. Disponível em: <https://www.anaisdedermatologia.org.br/pt-Atualizacao-em-dermatoses-parasitarias-articulo-S2666275220300515>. Acesso em: 08 ago. 2024.

CHAVES, J. N. et al. Parasitoses intestinais e fatores de risco associados em crianças em um município do Nordeste Brasileiro. **Revista de Ciências Médicas e Biológicas**, Salvador, v. 20, n. 2, p. 286-295, mai/ago. 2021.

CHRISTENSEN, D. L. et al. Prevalence and characteristics of autism spectrum disorder among children aged 8 years - Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2012. **MMWR Surveillance Summaries**, v. 65, n. 3, p. 1-23, 2016.

CLEBAK, K. T.; MALONE, M. A. Skin Infections. **Primary Care**, v. 45, n. 3, p. 433-454, 2018.

CUNHA, A. J. L. A.; LEITE, A. J. M.; ALMEIDA, I. S. The pediatrician's role in the first thousand days of the child: the pursuit of healthy nutrition and development. **J Pediatr. Rio de Janeiro**, v. 91, n. 6, suppl 1, p. 44-51, 2015.

FELDMAN, H. M. How young children learn language and speech. **Pediatrics Review**, v. 40, n. 8, p. 398-411, 2019.

FRACASSI, B. et al. Infecção de vias aéreas superiores em crianças: atualização de tratamento. **Revista REVOLUA**, v. 1, n. 2, p. 185-208, out.-dez. 2022.

GUIMARÃES, E. G. et al. Perfil epidemiológico das crianças com pneumonia no Espírito Santo entre 2018 e 2023. **Brazilian Journal of Implantology and Health Sciences**, v. 5, n. 5, p. 6104-6112, 2023.

GURGEL, Márcio Miranda Teixeira. **Avaliação do impacto da capacitação de profissionais de saúde sobre o diagnóstico precoce do transtorno do espectro autista no estado de Mato Grosso**. 2014. Trabalho de Conclusão de Curso (Especialização em Saúde da Família) - Universidade Aberta do SUS, Brasília. Disponível em: https://ares.unasus.gov.br/acervo/html/ARES/20142/1/MARCIO_MIRANDA_TEIXEIRA_GURGEL.pdf. Acesso em: 16 jun. 2024.

HILL, T. A.; COHEN, B. Scabies in babies. **Pediatric Dermatology**, v. 34, n. 6, p. 690-694, 2017.

MINISTÉRIO DA SAÚDE. Secretaria de Atenção à Saúde. **Diretrizes de estimulação precoce: crianças de zero a 3 anos com atraso no desenvolvimento neuropsicomotor**. Brasília: Ministério da Saúde, 2016. 184 p.

MINISTÉRIO DA SAÚDE. Em 2021, **SUS registrou 1,3 milhão de atendimentos a pacientes com asma na Atenção Primária à Saúde**. Brasília, 2022. Disponível em: <https://www.gov.br/saude/pt-br/assuntos/noticias/2022/maio/em-2021-sus-registrou-1-3-milhao-de-atendimentos-a-pacientes-com-asma-na-atencao-primaria-a-saude-1>. Acesso em: 17 jun. 2024.

MOURÃO, A. et al. Prevalência das infecções de vias aéreas superiores em um hospital terciário na cidade de São Paulo. **Einstein**, v. 8, n. 2 Pt 1, p. 197-199, 2010.

MUNARETO, Danilo da Silva; LIMA, Ana Paula Sokolowski de; ZARDETO-SABEC, Giuliana; VIEIRA, Suellen Laís Vicentino. Parasitoses em crianças na fase pré-escolar no Brasil: revisão bibliográfica. **Research, Society and Development**, v. 10, n. 1, e1910111195, 2021.

OLÍMPIO, A. C. S.; OLIVEIRA, B. S. B.; COSTA, J. B. C.; JOVENTINO, E. S. Perfil clínico-epidemiológico de internamentos na unidade pediátrica de um hospital público cearense. **Revista Mineira de Enfermagem**, v. 22, 2018, e.1114.

NADAL, L. F. et al. Investigação das práticas maternas sobre aleitamento materno e sua relação com a infecção de vias aéreas superiores e otite média. **Revista CEFAC**, v. 19, n. 3, p. 387-394, maio-jun. 2017.

PAIVA, S. M. P. et al. Avaliação do Impacto da Puericultura para a Saúde da Criança no Âmbito da Atenção Básica: uma revisão integrativa. **Revista da Faculdade de Ciências Médicas da Paraíba**, v. 01, n. 01, p. 17-24, 2023.

PEDERSEN, S. Preschool asthma - not so easy to diagnose. **Prim Care Respir J**, v. 16, p. 4-6, 2007.

PEDROSO, C. F. P.; CABREIRA, P. M.; DÁCIA, M. F. Diagnóstico da asma em crianças com até cinco anos: Global Initiative for Asthma 2018. **Revista Científica Multidisciplinar Núcleo do Conhecimento**, v. 5, n. 10, p. 17-32, outubro de 2018.

PEREIRA F.Z. et al. Mortalidade Infantil e sua relação com as políticas públicas em saúde sob o olhar dos Objetivos de Desenvolvimento do Milênio e Objetivos de Desenvolvimento Sustentável no Estado de Goiás. **Brazilian Journal of Health Review**, v.4, n. 1, p. 3331-3348, jan/fev, 2021.

ROSUMECK, S.; NAST, A.; DRESSLER, C. Ivermectin and permethrin for treating scabies. **Cochrane Database of Systematic Reviews**, v. 4, Apr. 2018.

SANTOS, N. C. C. B. et al. Presença e extensão dos atributos de atenção primária à saúde da criança em distintos modelos de cuidado. **Cad. Saúde Pública**. Campina Grande, v. 34, n. 01, p. 1-12, 2018.

SECRETARIA DE ESTADO DE SAÚDE DO PARÁ. **Regionais de Saúde**. Disponível em: <http://www.saude.pa.gov.br/a-secretaria/regionais-de-saude/>. 2021. Acesso em: 16 jun. 2024.

SMELTZER, S. C.; BARE, B. G.; HINKLE, J. L.; CHEEVER, K. H. **Tratado de enfermagem médico-cirúrgico**. 11a ed. Rio de Janeiro: Guanabara Koogan, 2009.

SOCIEDADE BRASILEIRA DE PEDIATRIA. **Diretrizes para diagnóstico de transtorno do espectro autista (TEA)**. Rio de Janeiro: SBP, 2017. Disponível em: https://www.sbp.com.br/fileadmin/user_upload/2017/04/19464b-DocCient-Autismo.pdf. Acesso em: 17 jun. 2024.

SOCIEDADE BRASILEIRA DE PEDIATRIA. **Infecções Cutâneas Parasitárias**. Rio de Janeiro: SBP, 2019. Disponível em: https://www.sbp.com.br/fileadmin/user_upload/21933D_-_DC_-_Infeccoes_Cutaneas_Parasitarias.pdf. Acesso em: 17 jun. 2024.

SOCIEDADE BRASILEIRA DE PEDIATRIA. **Infecções Bacterianas Superficiais Cutâneas**. Rio de Janeiro: SBP, 2022. Disponível em: https://www.sbp.com.br/fileadmin/user_upload/23597c-DC_Infeccoes_Bacterianas_Superficiais_Cutaneas.pdf. Acesso em: 17 jun. 2024.

SOLER, M. T.; BELL, H. G.; BATISTA, L. Y. Pneumonia adquirida na comunidade em uma unidade de terapia intensiva pediátrica. **Revista Información Científica**, v. 100, n. 1, jan.-fev. 2021.

SOUZA, R.R.; VIEIRA, M.G.; JÚNIOR, C.J.F.L. A rede de atenção integral à saúde da criança no Distrito Federal, Brasil. **Ciênc. saúde colet. Rio de janeiro**, v. 24, n. 6, p. 2075-2084, 2019.

STEFFEN, B. F.; PAULA, I. F. de; MARTINS, V. M. F.; LÓPEZ, M. L. Diagnóstico precoce de autismo: uma revisão literária. **RSM – Revista Saúde Multidisciplinar**, v. 6, n. 2, 2020.

ZANON, R. B.; BACKES, B.; BOSA, C. A. Identificação dos primeiros sintomas do autismo pelos pais. **Psicologia: Teoria e Pesquisa**, v. 30, n. 1, p. 25-33, 2014.