У 40,0% детей с симптомом гематурии часто встречалась сопутствующая патология дыхательной системы: острые респираторные вирусные инфекции, хронический бронхит, пневмония, бронхиальная астма и др.

Заболевания мочевыделительной системы чаще отмечались у мальчиков, по сравнению с девочками (60,0% и 48,0% соответственно; p>0,05). Среди заболеваний наиболее часто отмечались: кисты почек (30,0%), хронический пиелонефрит (26,0%), острый цистит (15,0%) и др. Более чем у половины обследованных детей (54,0%) причина гематурии не была установлена.

Выводы

1. Симптом гематурии в педиатрической практике представляет собой серьезную проблему, так как несвоевременная верификация диагноза не позволяет назначить адекватную терапию.
2. Достоверных гендерных особенностей симптома гематурии не выявлено.
3. Установлено, что гематурия у детей чаще диагностируется в возрасте от 2–5 лет.
4. У 60,0% выявлен отягощенный наследственный анамнез.
5. У 28,0% отмечен низкий индекс массы тела.

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UNDERSTANDING BRONCHIAL ASTHMA IN PEDIATRIC POPULATION: A FOCUS ON RISK FACTORS, SYMPTOMATOLOGY AND PREVALENACE

Introduction

Bronchial asthma is a widespread chronic respiratory condition that affects children globally, making it the most common chronic disease in the pediatric population. It is marked by chronic inflammation and hyperreactivity of the airways [1]. Asthma presents considerable health challenges posing a significant public health concern due to its impact on quality of life on affected children and their families, frequently resulting in missed school days and restrictions on physical activities [1–2]. Understanding the complexities of this condition involves examining the interplay of genetic and environmental factors that contribute to its onset and exacerbation. The development of asthma in children is influenced by varying prevalence rates across different demographics and regions that involves a combination of genetic predispositions-such as family history of allergies or asthma and environmental triggers, that encompasses exposure to tobacco smoke, including before and after birth, air pollution, food allergies or hay fever, also called allergic rhinitis, obesity, inflamed sinuses, gastroesophageal reflux disease (GERD),

being male child and respiratory infections during early life, which are said to be its major risk factors. These factors underscore the complexity of managing this condition in young patients with a further interplay with other conditions, such as gastroesophageal reflux disease (GERD), which complicates the clinical picture and management strategies [3][4]. Asthma in children usually shows up with symptoms that make it harder for them to breathe comfortably. Wheezing, a high-pitched sound when they breathe out, is one of the most common signs, especially during flare-ups. Coughing, particularly at night or in the morning, and struggling to catch their breath during activities are also typical symptoms. Many kids with asthma also feel tightness in their chest, which makes it tough to take a deep breath. These symptoms can be varying, some children may only have occasional flare-ups, while others experience them more often. Spotting these signs early is key to helping kids breathe easier and manage their asthma [5].

Goal

This study aims to enhance the understanding of how bronchial asthma is manifested in pediatric populations, focusing on triggering factors, prevalence rates, subtypes and variations in symptoms.

Material and methods of research

The statistical analysis of the studied data was carried out in pediatric department No. 3 of the Gomel regional children's clinical hospital from July 2024 – February 2025. A data of 98 medical records of inpatient were analyzed. When analyzing the patient's medical records, the classification, etiology, triggering factors, hereditary disposition, age-gender correlation, symptomatology was taken into consideration.

The results of research and their discussion

In children, asthma is one of the most common cause for emergency care and hospitalization. Out of 98 cases that was studied, 29 (30%) patients were admitted during complete remission period, 15 (15%) patients were admitted during incomplete remission period and 54 (55%) cases were admitted due to exacerbation during physical examination at the polyclinic.

Table 1 – Number of cases based on age and gender

Gender / Age	Boys	Girls
1–6 years	n=8	n=1
7–12 years	n=37	n=14
13–18 years	n=21	n=17
Total cases	n=66	n=32

Based on this data 66 cases were boys which is 67%, and 32 cases were girls which is 33%. According to the table 1.0, 8% (n=8) of cases were boys and 1% (n=1) were girls at the age between 1–6 years. 38% (n=37) of cases were boys and 14% (n=14) were girls between 7–12 years of age. 21% (n=21) of cases were boys while girls were 18% (n=17) who were between age 13–18 years old. Before the age of 12 (approximately before puberty) 46% (n=45) were boys and 15% (n=15) were girls which means, the prevalence is 3 times higher in boys than in girls. After puberty 21% (n=21) were boys and 18% (n=17) were girls which implies that during adolescence the prevalence gradually become equal among girls and boys.

Out of 98 cases ,71% (n=70) were Immunoglobulin E (IgE) mediated and 29% (n=28) were non-IgE mediated bronchial asthma.

As per phenotype, 33% (n=32) were allergen induced, 65% (n=64) were multi-triggered type and only 2% (n=2) of cases were virus induced bronchial asthma.

In accordance to the degree of severity 2% (n=2) were mild intermittent, 47% (n=46) were mild persistent, 43% (n=42) were moderate persistent type and finally 8% (n=8) of cases were severe persistent type of bronchial asthma.

On the bases of the degree of control, 57% (n=56) were well controlled, 39% (n=38) were partially controlled and 4% (n=4) of cases were uncontrolled type of bronchial asthma.

Bronchial asthma has a strong genetic predisposition as one of its prominent risk factors. However, this imposes a need to investigate hereditary anamnesis. Out of the 98 cases, 37% (n=36) of children have a positive test result in hereditary anamnesis for asthma or/and allergic rhinitis and atopic dermatitis.

96 of all persistent asthma patients have undergone allergy testing and 69% (n=68) of cases were confirmed with higher sensitivity to environmental allergens like pollen, house dust mites, pet fur and 2% (n=2) of children have food allergies. Recurrent exposure of allergens can cause severe asthma attacks.

There is a strong correlation between asthma, allergic rhinitis and atopic dermatitis in childhood and this phenomenon is known as Atopic Triad. Our study shows 59% (n=58) have allergic rhinitis, 4% (n=4) have atopic dermatitis and 27% (n=26) of cases have both allergic rhinitis and atopic dermatitis and 10% (n=10) of children have none.

In relation to other risk factors, 51% (n=50) of children have diagnosed with Gastroesophageal reflux disease (GERD). 29% (n=28) of cases were found with either over weight or obesity which can be associated with persistence and severity of asthma. From the 98 cases, 27% (n=26) of children were diagnosed with enlarged adenoids which indicate obstruction of the airways and exacerbate asthmatic symptoms. 53% (n=52) of cases have been dealing with recurrent acute respiratory infections throughout their childhood and this can be associated with development of asthma and triggers exacerbations.

Stemming from the symptomatology of bronchial asthma in children, 40% (n=39) of cases has wheezing, 46% (n=45) of children have dyspnea, 30% (n=29) have shortness of breath, 28% (n=27) have runny nose (mostly associated with allergic rhinitis), 40% (n=39) of cases suffered from nasal congestion with signs of sinusitis and finally 80% (n=79) of cases has spasmodic cough which can be present with wheezing.

Exacerbation frequency of 22% (n=12) of patients suffered from asthma attack 1–2 times a year, 59% (n=32) suffered from exacerbation 3–4 times a year and 19% (n=10) suffered from attacks more than 4 times a year. In all of these exacerbation cases, their symptoms (cough, wheeze, dyspnea) are more frequent in Autumn and Spring seasons due to cold air and more aggressive in morning or evening for patients with nocturnal symptoms and 65% (n=64) of cases were dealing with limitation of physical activity due to recurrent exacerbations.

Bronchial asthma can lead to several complications, if it is not well managed. In our study 8% (n=8) of severe cases were dealing with respiratory failure. 49% (n=48) of children have developed post inflammatory pneumofibrosis which occurs as a complication due to repeated episodes of inflammation and healing which results in scar tissue (fibrosis) formation in lungs.43% (n=42) of children didn’t have any specific complications.

Conclusion

Our study highlights those boys are disproportionately affected by asthma before puberty, with a prevalence significantly higher than that of girls; this disparity lessens after puberty. A considerable number of children were diagnosed with asthma early in life, primarily with IgE-mediated and multi-triggered asthma. Genetic predisposition was evident in a notable portion of cases, and there was a strong correlation with allergic rhinitis and atopic dermatitis, emphasizing the Atopic Triad. Other risk factors included GERD, obesity, and recurrent

respiratory infections. These findings underscore the need for early diagnosis, effective management, and further research into the genetic and environmental factors influencing childhood asthma. Overall, bronchial asthma in children remains a critical public health issue, necessitating continued research, comprehensive education, and a multifaceted approach to management that empowers both children and their families.

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TYPE 1 DIABETES MELLITUS AND ITS COMPLICATIONS IN CHILDREN: A STUDY FROM PUNJAB, PAKISTAN

Introduction

Diabetes in children is an important health issue globally, including in Pakistan. Type 1 diabetes is particularly common among children and is characterized by the body's inability to produce insulin, requiring lifelong management with insulin therapy. Type 1 diabetes mellitus (T1DM) is a long-lasting autoimmune disease primarily seen in children and adolescents. It is characterized by the destruction of insulin-producing beta cells in the pancreas, leading to hyperglycemia and a range of acute and chronic complications. The prevalence of T1DM has seen an alarming rise in recent years, particularly in developing countries like Pakistan. This increase is often attributed to genetic predisposition, environmental factors, and a lack of awareness about the disease. The complications associated with T1DM can lead to significant morbidity and mortality, particularly in pediatric populations [1] [4]. In recent years, Pakistan has seen a rise in the incidence of childhood diabetes. The reasons for this increase include genetic predisposition, environmental factors, and changes in lifestyle. Urbanization and dietary changes are contributing to the rise in obesity rates, which is a significant risk factor for type 2 diabetes, even among younger populations [2]. Efforts to address childhood diabetes in Pakistan include awareness campaigns, education for parents and children about managing the condition, and improving access to insulin and healthcare services. Organizations like the Changing Diabetes in Children partnership are working to provide support and resources to children living with diabetes in the country [3].

Goal

The goal of this study is to assess the frequency and severity of diabetic complications in children under the age of 18 years diagnosed with T1DM in Punjab, Pakistan. This study