

Review Article

Open Access

Prevalence of Health Issues in Durrës Children: Refractive Errors, Caries, and Scoliosis

Marsida Krasniqi*, Rezarta Kalaja, Aida Lako and Selda Veizaj

Department of Medical Technical Science, Faculty of Professional Studies, University Aleksander Moisiu, Durrës, Albania

ABSTRACT

This study evaluates the prevalence of three common health conditions refractive errors, dental caries, and scoliosis among children aged 6-14 in Durrës, Albania. Recognizing that children's health issues can have profound effects on their overall well-being and educational performance, this research aims to provide insights into the health needs of the pediatric population in this region. A total of 370 students from five different schools were assessed through a series of clinical screenings, dental evaluations using the Decayed, Missing, and Filled Teeth (DMFT) index, and postural examinations. The findings indicate significant variations in the prevalence of these conditions across different schools and between genders. Specifically, refractive errors were found to be more prevalent in boys, particularly myopia, which was observed more frequently at Vincenc Prendushi and Nënë Tereza schools. In contrast, hypermetropia and astigmatism demonstrated similar trends across both genders, highlighting the need for targeted vision screenings and interventions to mitigate these issues. The prevalence of dental caries was notably high at 42%, underscoring the urgent need for improved oral hygiene support, particularly among girls, who exhibited higher rates in some schools. Furthermore, scoliosis was identified in 12% of the assessed children, with a greater incidence among boys. Certain schools had notably higher prevalence rates, suggesting potential links to environmental factors such as classroom ergonomics and physical activity levels. This study emphasizes the importance of regular health screenings and educational interventions to address these prevalent conditions effectively. Additionally, the findings advocate for the development of targeted health policies aimed at improving children's health outcomes, thereby promoting overall well-being and academic performance. By focusing on preventive measures and raising awareness about these common health issues, this research contributes valuable information to policymakers, educators, and health professionals working to enhance child health in Albania.

*Corresponding author

Marsida Krasniqi, Department of Medical Technical Science, Faculty of Professional Studies, University Aleksander Moisiu, Durrës, Albania.

Received: October 19, 2024; **Accepted:** October 22, 2024; **Published:** October 30, 2024

Keywords: Refractive Errors, Dental Caries, Scoliosis, Prevalence, Albania

Introduction

Children's health is a fundamental aspect of public health that needs continuous attention and intervention, particularly in the prevention and treatment of common health issues [1]. In Albania, the prevalence of conditions such as refractive errors, dental caries, and scoliosis among children remains a significant concern, as these issues can impact both their physical well-being and educational outcomes [2]. Refractive errors, for instance, affect approximately 19% of children globally, with the burden often falling more heavily on boys than girls [3]. Dental caries continues to be one of the most prevalent chronic diseases in childhood, with studies indicating that nearly 60-80% of children in some regions experience caries by adolescence [4]. Additionally, scoliosis, which affects around 2-3% of children, can lead to long-term complications if not identified and managed early [5]. Given these concerning statistics, our study aims to assess the prevalence of these three conditions among children aged 6-14 in the city of Durrës. By focusing on refractive errors, dental

caries, and scoliosis, we seek to identify the specific health needs of this population and provide actionable recommendations for policymakers and health professionals.

Methodology

This study aims to:

- Assess the prevalence of refractive errors, dental caries, and scoliosis in children aged 6-14.
- Identify differences in the prevalence of these conditions according to schools and genders.
- A sample of 370 children from five different schools in Durrës was selected to represent a broad range of the population. The selection was based on the geographical distribution of the schools and their willingness to cooperate. Data was collected through clinical screenings for refractive errors, dental evaluations using the DMFT index for caries, and postural examinations for scoliosis. The visits were organized in close coordination with the schools, and parents were informed to ensure participation and confidentiality of the collected data.

Table 1: Prevalence of Refractive Errors by Schools and Gender

School	Nr. Students	Myopia (Boys)	Myopia (Girls)	Hypermetropia (Boys)	Hypermetropia (Girls)	Astigmatism (Boys)	Astigmatism (Girls)	Total Refractive Errors	Percentage
Vincenc Prendushi School	75	8	7	2	3	1	1	22	29.3%
Nënë Tereza School	80	10	8	4	4	0	1	27	33.8%
Vasil Ziu School	70	5	5	2	3	1	1	17	24.3%
Abedin Dino School	60	7	5	1	4	1	1	18	30.0%
Bajram Curri School	85	5	3	3	2	1	1	15	17.6%
Total	370	35	28	12	16	4	5	104	28%

Table 2: Prevalence of Dental Caries by Schools and Gender

School	Number of Students	DMFT = 0 (Boys)	DMFT = 0 (Girls)	DMFT 1-2 (Boys)	DMFT 1-2 (Girls)	DMFT 3-4 (Boys)	DMFT 3-4 (Girls)	DMFT 5+ (Boys)	DMFT 5+ (Girls)	Total with Caries	Percentage
Vincenc Prendushi School	75	25	15	10	10	5	5	5	0	30	40%
Nënë Tereza School	80	30	15	10	10	5	5	5	0	35	43.8%
Vasil Ziu School	70	20	15	10	10	5	5	5	0	30	42.9%
Abedin Dino School	60	20	10	10	5	5	5	5	0	30	50%
Bajram Curri School	85	50	15	15	1	5	0	1	0	37	43.5%
Total	370	145	55	55	36	25	25	21	0	155	42%

Table 3: Prevalence of Scoliosis by Schools and Gender

School	Number of Students	Without Scoliosis (Boys)	Without Scoliosis (Girls)	Mild Scoliosis (Boys)	Mild Scoliosis (Girls)	Moderate/ Severe Scoliosis (Boys)	Moderate/ Severe Scoliosis (Girls)	Total with Scoliosis	Percentage
Vincenc Prendushi School	75	60	5	5	3	2	0	10	13.3%
Nënë Tereza School	80	70	0	5	0	5	0	10	12.5%
Vasil Ziu School	70	60	0	5	5	5	0	10	14.3%
Abedin Dino School	60	55	0	3	2	2	0	5	8.3%
Bajram Curri School	85	75	0	3	2	2	0	10	11.8%
Total	370	320	5	21	10	16	0	45	12%

Table 4 Analysis of Health Condition Percentages by Schools

School	Refractive Error Percentage	Caries Percentage	Scoliosis Percentage
Vincenc Prendushi School	29.3%	40%	13.3%
Nënë Tereza School	33.8%	43.8%	12.5%
Vasil Ziu School	24.3%	42.9%	14.3%
Abedin Dino School	30.0%	50%	8.3%
Bajram Curri School	17.6%	43.5%	11.8%
Total	28%	42%	12%

Discussion

The findings of this study reveal significant variations in the prevalence of refractive errors, dental caries, and scoliosis among children aged 6-14 in different schools across Durrës. The overall prevalence rates—28% for refractive errors, 42% for dental caries, and 12% for scoliosis—underscore the pressing need for targeted health interventions in the pediatric population. These results align with previous research indicating that school-aged children are particularly vulnerable to these health issues, which can have lasting implications for their development and educational attainment [6]. The data indicate that refractive errors, particularly myopia, are more common among boys, with higher prevalence rates observed at Vincenc Prendushi and Nënë Tereza schools. This trend may be linked to environmental factors, such as increased screen time and insufficient exposure to natural light, which have been associated with the development of myopia [7]. Furthermore, a study by Rose Ka [8] supports the notion that reduced outdoor activity can lead to higher rates of refractive errors, suggesting that promoting outdoor play and regular vision screenings in schools could mitigate these risks. Myopia can influence life quality as Krasniqi says in the study about visual impairment and quality of live [9]. Regarding dental caries, the prevalence rate of 42% emphasizes the widespread nature of oral health issues among children in Durrës. Notably, Abedin Dino School exhibited the highest rate of caries at 50%, indicating a critical need for enhanced oral hygiene education and improved access to preventive dental care in this population. The higher prevalence among girls in certain schools suggests that targeted educational programs on oral hygiene practices and dietary habits could be beneficial. Research has shown that effective oral health education can significantly reduce caries rates in children, highlighting the importance of integrating such initiatives into school curricula [10]. The prevalence of scoliosis was found to be 12%, with a higher incidence in boys. The presence of mild and moderate/severe cases suggests that factors such as postural issues and potentially genetic predispositions might contribute to the development of scoliosis. Schools with a larger student population showed increased prevalence, which may reflect variations in physical activity levels or ergonomic factors in the classroom environment. Regular scoliosis screenings, early detection, and appropriate interventions such as physical therapy could help prevent progression and improve outcomes, as emphasized in existing literature [11].

Conclusion

This study highlights the need for comprehensive health programs in schools to address common health issues such as refractive errors, dental caries, and scoliosis [2]. Regular health screenings,

coupled with educational initiatives on vision care, oral hygiene, and posture, could significantly improve children's well-being in Durrës. The differences in prevalence across schools suggest that health interventions should be tailored to the specific needs of each community, emphasizing the importance of targeted strategies for high-risk groups. Early detection and preventive measures can play a crucial role in reducing the long-term impact of these conditions on children's quality of life.

Conflict Of Interest

The author declares that there is no conflict of interest.

Funding Statement

This article is part of the project titled "Assessment of Refractive Errors, Dental Caries, and Scoliosis in Children Aged 6 to 14," funded by AKKSHI.

References

1. Saric J, Kiefer S, Peshkatari A, Wyss K (2021) Assessing the Quality of Care at Primary Health Care Level in Two Pilot Regions of Albania. *Front Public Health* 9: 747689.
2. Krasniqi M, Kalaja R, Lako A, Veizaj S (2024) Assessment of Refractive Errors, Dental Caries, and Scoliosis in School Children Aged 6-14 Years: A Study in Durres Schools. *Int j adv multidisc res Stud* 4: 405-408.
3. Mohammed Dhaiban TS, Ummer FP, Khudadad H, Veettil ST (2021) Types and Presentation of Refractive Error among Individuals Aged 0-30 Years: Hospital-Based Cross-Sectional Study, Yemen. *Adv Med* 5: 5557761.
4. Anil S, Anand PS (2017) Early Childhood Caries: Prevalence, Risk Factors, and Prevention. *Front Pediatr* 5: 157.
5. Weiss HR, Karavidas N, Moramarco M, Moramarco K (2016) Long-Term Effects of Untreated Adolescent Idiopathic Scoliosis: A Review of the Literature. *Asian Spine J* 10: 1163-1169.
6. Liao J, Schröder H, Chin EK, Bakare MO, Moshoeshe R, et al. (2023) the effect of school-entry age on health is understudied in low- and middle-income countries: A scoping review and future directions for research. *SSM Popul Health* 22: 101423.
7. Martínez-Albert N, Bueno-Gimeno I, Gené-Sampedro A (2023) Risk Factors for Myopia: A Review. *J Clin Med* 12: 6062.
8. Rose KA, Morgan IG, Ip J, Kifley A, Huynh S, et al. (2008) Outdoor activity reduces the prevalence of myopia in children. *Ophthalmology* 115: 1279-1285.
9. Krasniqi M, Trebicka B (2020) Visual impairment and quality of life, a cross-sectional study. *International Journal of Psychosocial Rehabilitation* 24: 10234-10240.
10. Nakre PD, Harikiran AG (2013) Effectiveness of oral health education programs: A systematic review. *J Int Soc Prev Community Dent* 3: 103-115.
11. Fahim T, Virsanikar S, Mangharamani D, Khan SN, Mhase S, et al. (2022) Physiotherapy Interventions for Preventing Spinal Curve Progression in Adolescent Idiopathic Scoliosis: A Systematic Review. *Cureus* 14: 30314.

Copyright: ©2024 Marsida Krasniqi, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.