

FREQUENCY OF DISEASES IN SCHOOL CHILDREN AND YOUTH TREATED IN HEALTH ORGANIZATIONS OF GENERAL MEDICINE

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Abstract

Adolescence is a key stage during human life and development, including a stage of reproductive, musculoskeletal, neurodevelopmental, endocrine, metabolic, immune, and cardio metabolic systems in adulthood.

The aim of the study was to determine the frequency of diseases through retrospective data from clinical examinations of school children and youth according to:

- gender
- the type of disease and
- age group

For this purpose, retrospective data were used for the period October 01, 2021 – December 31, 2021, for patients examined in the health organization "Dr. Sani" in Tetova where out of the total number of examined (217), 91 of them were males while 126 were females.

The obtained data were entered into patient records using the WHO modified human health assessment form, adapted, and modified to the nature of our study.

The results of graph 1 show that 68.67% of the treated patients belong to school children and youth, while 31.33% belong to the group of adult patients.

The results of graph 2 show a higher presence of diseases in females with 53.02% compared to males in 46.97%.

From the total number of pathologies that have affected our patients, according to the results of table 1, acute pharyngitis and tonsillitis dominate with 28.48% of cases.

Regarding age groups, the results of table 2 show the dominance of the age group 7-9 years with 51.0% of cases.

1. School children and youth are not immune to a variety of diseases and are affected by them without exception.
2. The higher percentage of female patients affected by these diseases is attributed to weaker immunity.
3. Timely, accurate and comprehensive assessment of diseases in children and adolescents provides information that is essential for health policy decision-making.
4. The difference in the percentage of the results of different authors regarding the diseases of school children and youth can be explained by the different standards that exist in different countries where the authors and studies come from.

Keywords: Diseases, frequency, school children, youth.

1. Introduction

Childhood and adolescence are vulnerable periods and a crucial window for adult health determination (Dicker *et al*, 2017), meanwhile, adolescence is a key phase of the life course and human development, including a phase of growth and maturation of the reproductive, musculoskeletal, neurodevelopmental, endocrine, metabolic, immune, and cardiometabolic systems into adulthood (Paton *et al*, 2028). The effects of acute and chronic human diseases set the stage for both individual prosperity and the future human capital of all societies (Victora *et al*, 208).

Over the last century, the primary burden of disease in children and young people has shifted from infectious diseases to chronic conditions (Burns *et al*, 2010). Improvements in neonatal and pediatric care for chronic conditions mean more children with previously lethal conditions are now surviving into

adulthood (Nelson *et al*, 2012, Stoll *et al*, 2010).

Illnesses caused by infectious diseases are common in children in schools and other childcare settings. Socioeconomic factors can increase the risk of outbreaks among children and adolescents in these settings. Some infectious diseases are communicable, i.e., can be transmitted from one person to another, for example, via droplets, air suspensions, faeces, urine, or skin contact (Czumbel *et al*, 2018).

Several studies have shown that people diagnose, treat, and care for sick people based on how they perceive the signs and symptoms of a particular disease, the importance given to these signs and symptoms, and the understanding of the cause and the expected outcome (WHO/TDR, 1995). In most communities, women are responsible for their health, and that of their children, husbands, and others (Nshakira *et al*, 2002, Ndyomugeny *et al*, 1999, Kengeya *et al*, 1994). Up to 90% of childhood illnesses are first perceived, defined, and treated at home mostly by the mothers — before being referred elsewhere for treatment (Spencer, N.J., 1984).

2. Aim

Our study aims to determine, through retrospective data obtained from clinical examinations of school children and youth, the frequency of diseases according to:

- Gender
- the type of disease and
- age group.

3. Material and method

For this purpose, retrospective data were used for the period 01.10.2021 - 31.12.2021 for patients examined in the health organization "Dr. Sani" - Tetovo where out of the total number of examinees (217), 41.93% of them were male patients, while 58.07% were female patients

Pathologies are defined based on the international classification of diseases and similar health problems, according to the tenth revision of the WHO from 1992.

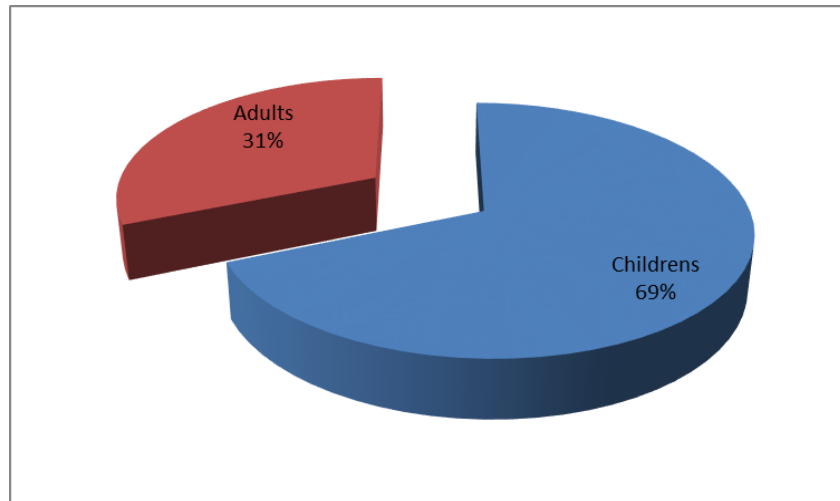
The data obtained were entered into patient records using the WHO-modified human health assessment form, adapted, and modified to the nature of our study.

The analysis of the results was done by means of descriptive statistical method, the distribution of data was shown by means of percentages through graphs and tables, while the comparison was done by means of T-test and the coefficient of probability(p).

4. Results

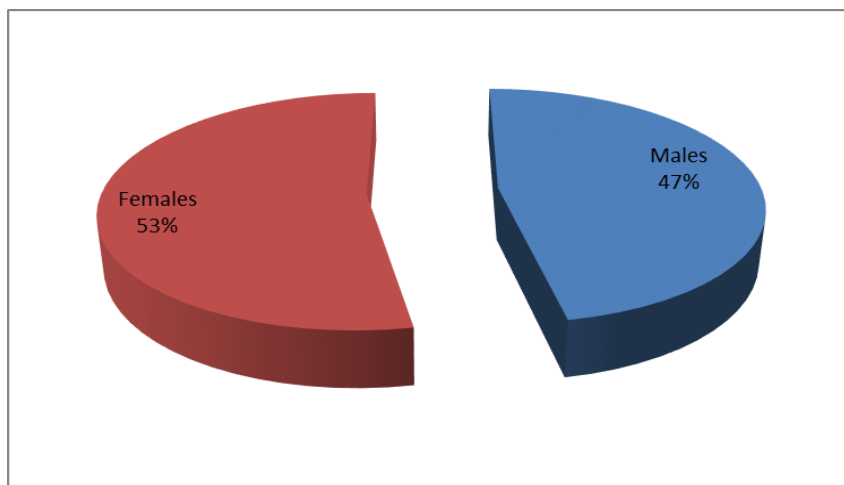
The results obtained after processing and compiling them, are presented through graphs and tables as follows:

The results of graph 1 show that 68.67% of the treated patients belong to school children, while 31.33% belong to the group of adult patients.



Graph 1. Percentage of treated patients, children, and adults

The results of graph 2 show a higher presence of diseases in females with 53.02% of cases compared to males in 46.97% of cases.



Graph 2. Patients examined by gender

From the total number of pathologies that have affected our patients, according to the results of table 1, individuals in contact with health services due to examination and control dominate with 24.83% of cases, followed by pharyngitis and acute tonsillitis with 23.48% of cases, and acute upper respiratory tract infections in 21.47% of cases. Regarding other pathologies, the results of table 1 show that these pathologies have diverse representation, even from 0% - 0.40%.

Table 1. Results by type of pathologies

Type of pathology	Male	Female	Total
Diarrhea, gastroenteritis of infectious origin	2	1	3
Viral disease, without chickenpox	1	/	1
Anemia due to iron deficiency	1	/	1
Thyroid gland diseases related to iodine deficiency	/	1	1
Other diseases of the thyroid gland	1	/	1
Mental disorders	/	1	1

Epilepsy	2	1	3
Cerebral palsy and other preclinical syndromes	1	/	1
Inflammation of the eyelid	1	/	1
Otitis media and other diseases of the middle ear and mastoid	/	1	1
Acute pharyngitis and tonsillitis	18	17	35
Other acute upper respiratory tract infections	15	17	32
Pneumonia	/	3	3
Acute bronchitis and bronchiolitis	1	4	5
Other diseases of the nose and nasal sinuses	1	5	6
Asthma	/	1	1
Dermatitis and eczema	/	2	2
Urticaria	1	/	1
Cystitis	1	4	5
Abdominal and pelvic pain	2	2	4
Other symptoms, signs and abnormalities clinically and laboratory unclassified	1	1	2
Intracranial injuries	1	/	1
Other injuries in marked, unmarked and multiple body regions	1	/	1
Individuals in contact with health services due to examination and control	19	18	37
Total number	70	79	149

Regarding the age group, the results of table 2 show that we have the highest percentage of pathologies in the age group 7-9 years with 51.0% of cases, followed by the age group 10-14 years with 34.22% and the age group 15-19 years old with 8.72% of cases, while a lower percentage table results show for the age group 20- 24 years with 6.04% of cases, and the age group up to 7 years with 0% of cases.

Based on the value of the T test, ($t = 7.4$) and the value of the coefficient of probability ($p < 0.05$), the statistical significance of the results of the table concerning the percentage present by age group is important and not by chance.

Table 2. Results by age group

Type of pathology	Male	Female	Upto7 year		7-9 year		10-14 year		15-19 year		20-24 year		T	
			m	f	m	f	m	f	m	f	m	f		
Diarrhea, gastroenteritis of infectious origin	2	1	0	0	1	1	1	0	0	0	0	0	0	3
Viral disease, without chickenpox	1	0	0	0	1	0	0	0	0	0	0	0	0	1
Anemia due to iron deficiency	1	0	0	0	1	0	0	0	0	0	0	0	0	1
Thyroid gland diseases related to iodine deficiency	0	1	0	0	0	0	0	0	0	0	0	1	1	1
Other diseases of the thyroid gland	1	0	0	0	0	0	0	0	1	0	0	0	0	1
Mental disorders	0	1	0	0	0	0	0	1	0	0	0	0	0	1

Epilepsy	2	1	0	0	0	1	2	0	0	0	0	3	
Cerebral palsy and other preclinical syndromes	1	0	0	0	0	0	1	0	0	0	0	1	
Inflammation of the eyelid	1	0	0	0	1	0	0	0	0	0	0	1	
Otitis media and other diseases of the middle ear and mastoid	0	1	0	0	0	0	0	1	0	0	0	1	
Acute pharyngitis and tonsillitis	18	17	0	0	9	8	6	8	3	1	0	35	
Other acute upper respiratory tract infections	15	17	0	0	10	9	3	7	1	1	1	32	
Pneumonia	0	3	0	0	0	1	0	2	0	0	0	3	
Acute bronchitis and bronchiolitis	1	4	0	0	1	1	0	3	0	0	0	5	
Other diseases of the nose and nasal sinuses	1	5	0	0	0	3	0	1	0	0	1	6	
Asthma	0	1	0	0	0	0	0	1	0	0	0	1	
Dermatitis and eczema	0	2	0	0	0	2	0	0	0	0	0	2	
Urticaria	1	0	0	0	0	0	0	0	0	0	1	1	
Cystitis	1	4	0	0	1	2	0	1	0	0	0	5	
Abdominal and pelvic pain	2	2	0	0	2	0	0	2	0	0	0	4	
Other symptoms, signs and abnormalities clinically and laboratory unclassified	1	1	0	0	0	0	1	1	0	0	0	2	
Intracranial injuries	1	0	0	0	0	0	0	0	1	0	0	1	
Other injuries in marked, unmarked and multiple body regions	1	0	0	0	0	0	0	0	1	0	0	1	
Individuals in contact with health services due to examination and control	19	18	0	0	10	11	5	4	4	0	0	37	
Total	70	70	0	0	37	39	19	32	11	2	3	6	149
t=7.4			0		76		51		13		9		
													p<0.05

5. Discussion

Timely, robust, and comprehensive assessment of disease burden among children and adolescents provides information that is essential to health policy decision-making in countries at all points along the spectrum of economic development. Understanding the burden of disease and how it is changing helps identify context-specific successes, unmet needs, and future challenges.

As we saw in graph 1, the results showed that 68.67% of the treated patients belong to school children and

youth, while 31.33% belong to the group of adult patients. These results speak to the fact that although today's living conditions are improved, the standard of living increased, and this category of patients remains the group with the highest risk for exposure to human diseases.

The results of graph 2 showed that we had the highest presence of diseases in females in 53.02% of cases versus males in 46.97% of cases, which is due to the weak immunity of female patients.

Of the total number of pathologies that have affected our patients, the results of table 1 showed the dominance of pathology individuals in contact with health services due to examination and control with 24.83% of cases, while the largest group of pathologies participated of 0% up to 0.40% of cases.

Various authors from their studies report different results, so the author's Barrio Cortes J *et al.*, (2020) point out that the most common diseases in their sample were asthma (38.8%), anemia (1.7%), thyroid gland diseases (1 %) and epilepsy (0.7%). Also, Carvajal-Uruena I *et al.*, (2005) from their study has concluded that asthma is more common in the pediatric population, with a prevalence of about 7% to 15% in Spain, while studies by The Global Asthma Report (2018) testify to a growing prevalence worldwide.

Regarding the age group, the results of table 2 showed that we have a higher percentage of pathologies in the age group 7-9 years with 51.0% of cases, while a lower percentage in the age group 20-24 years with 6.04% of cases and age group up to 7 years with 0% of cases.

Barrio Cortes J *et al.*, (2020) From their study reported that pneumonia was more common in children under 5 years of age (28.9%) compared to all other age groups (5-9, 9.3%; 10-14, 5.8%; 15-17, 0%).

Mbonye A.K., (2003) from his study states that, from a total of 323 children, the prevalence of diarrhea was highest among children aged 6–11 months, 49.5%, and those aged 12–23 months, 37.5%. Similarly, URTI (*upper respiratory tract infection*) was high among children 6–11 months, 46.2%, and those aged 12–23 months, 38.8%. Also, Kefalew Alemayehu *et al.*, (2021) in their study ascertain that the percentage of diarrhea was higher among children under five years old with 24%.

6. Conclusion

Based on the achieved results, their processing, and presentation we have reached the following conclusions:

1. Schoolchildren and youth are not immune to a variety of diseases and are affected by them without exception.
2. The higher percentage of female patients affected by these diseases is attributed to the weaker immunity they have.
3. Timely, accurate and comprehensive assessment of diseases in children and adolescents provides information that is essential for health policy decision-making.
4. The difference in the percentage of the results of different authors regarding the diseases of school students and youth can be explained by the volume of clinical material examined and the different standards that exist in different countries where the authors and studies come from.

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