



Research Article

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The prevalence of pulmonary diseases in the population of Shkodra in the years 2021-2023 and the influencing factors

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Abstract

Pulmonary diseases are ranked fourth for the high mortality rate, after those tumoral, cardiological or even strokes, which immediately lead to the fatal loss of life. Smoking is listed among the main causes of pulmonary diseases. In addition, another risk factor is air pollution. The main air pollutants are: Carbon monoxide, CO, Dioxide of carbon CO₂, Sulfur dioxide SO₂, Nitrogen dioxide NO₂, fine particles PM, Ozone level O₃, Volatile organic compounds (VOC, Lead (Pb)).

Pollution can irritate the lungs and lead to their destruction, so it is advisable to live in an environment away from dust and smoke. Other risk factors include chemicals and infections. In Albania, an increase in the number of women affected by smoking is observed. Referring to recent studies conducted on this issue, they show that about 30-40% of Albanians are allergic, while 3% of the population suffers because of asthma. Some of the symptoms of this disease are obstructions in breathing, tightness in the chest or even cough with secretions. Cancer can lie dormant for 20 years and afterwards it may appear. Environmental pollution, genetic transmission, lung infections and smoking are the most common causes of lung cancer. The main pulmonary diseases that affect the citizens of Shkodra are: TB, COPD, Pneumonia, Bronchopneumonia, Pleural effusion, Bronchial asthma, TEP thromboembolism, TU Pneumonia, Bilateral Bronchitis, Diffuse Bronchitis, Hemoptysis, Pulmonary Edema. The presence of green spaces promotes the connection with nature and it can therefore lead to better human well-being. The presence of greenery reduces stress, respiratory diseases, heart diseases as well as helps in connecting with nature. This study is carried out in the infectious disease department of the Regional Hospital of Shkodra from 2021-2023.

The results of this study serve as evidence that sheds light on the high prevalence of touch from pulmonary diseases in hospitalized patients in the district of Shkodra. External factors and internal factors must be evident in order for people to become aware of their health problems and to take care in order to prevent the occurrence of these very dangerous diseases.

Keywords: pulmonary diseases, factor air pollution, green spaces, ozone level, CO₂, sulfur dioxide SO₂, Pb irritation, allergic.

1. Introduction

Air quality in Albania has really decreased enormously with the possibility of people to be affected by serious, life-threatening diseases and therefore leading to a decrease in life expectancy. The heavy traffic, waste incineration, concentration of industry near residential centers are the main factors that cause premature death.

A recent report of 'The European Environment Agency' (EEA) ranks Albania, as one of the countries with the lowest air quality in Europe. All this air pollution has its impact on the occurrence of respiratory diseases. Those particles that do damage to the lungs of the residents of Albania's capital, and the main cities, are the small nano particles that citizens breathe every day through the air caused by vehicle fuel, old vehicles, dust or smoke from burning waste. The main air pollutants are: Carbon monoxide CO, Carbon dioxide CO₂, Sulfur Dioxide SO₂, Dioxide of nitrogen NO₂, Fine debris, PM, Ozone level O₃, Organ components, olative (VOC), Lead (Pb).

The most common diseases caused by air pollution are bronchial asthma, chronic bronchitis, bronchitis, allergic and until the appearance of cancer lung.

14 pulmonary diseases that are present in Shkodër:

1.Tbc (tuberculosis); 2. Chronic obstructive pulmonary disease; 3. Pneumonia; 4. (Inflammation of the lungs) Bronchopneumonia ;5. Pleural effusion; 6. Asthma; 7. Pulmonary embolism; 8. Bronchitis; 9. Bronchial cancer; 10. Lung cancer -Viral pneumonia; 11. Bloody sputum (Hemoptysis, cough with blood, Expectoration with blood); 12. Altitude sickness (Pulmonary edema); 13. Cancer of the larynx (Carcinoma of the larynx); 14. Pulmonary emphysema, infectiologist.

2. Materials and Methods

A "cross-sectional" study was carried out in the department of infectiology in the Regional Hospital of the district of Shkodra, during the period 2021-2023. The study included all patients hospitalized in this period from the age of 0 - over 65 years old, of both sexes and who were treated for at least one of pulmonary diseases. In the total number of respondents (2458), a considerable part lived in the city. The others were from the villages near Shkodra. In order to develop valid estimates of the future burden of disease, first the collection of information was done and then the consequences that come from the environment, the way of life, the level of health of each individual were examined carefully based on distribution methods. In addition, a correlation of these pulmonary diseases with age, sex and the region where these people lived is presented.

3. Results and Discussion

3.1 Statistics regarding 2021

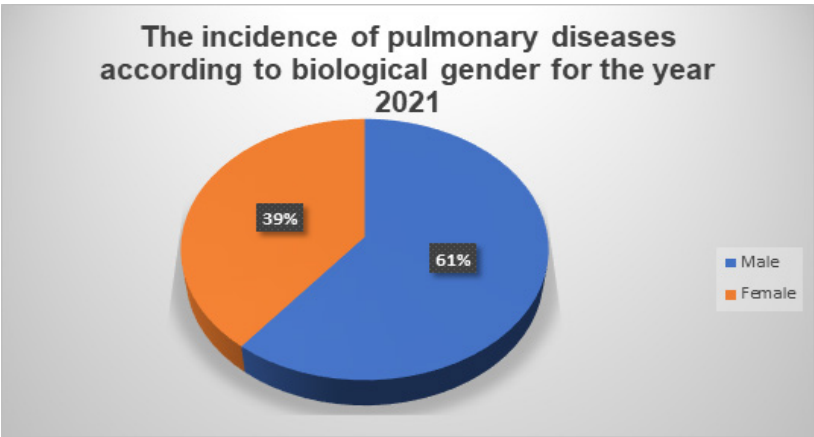
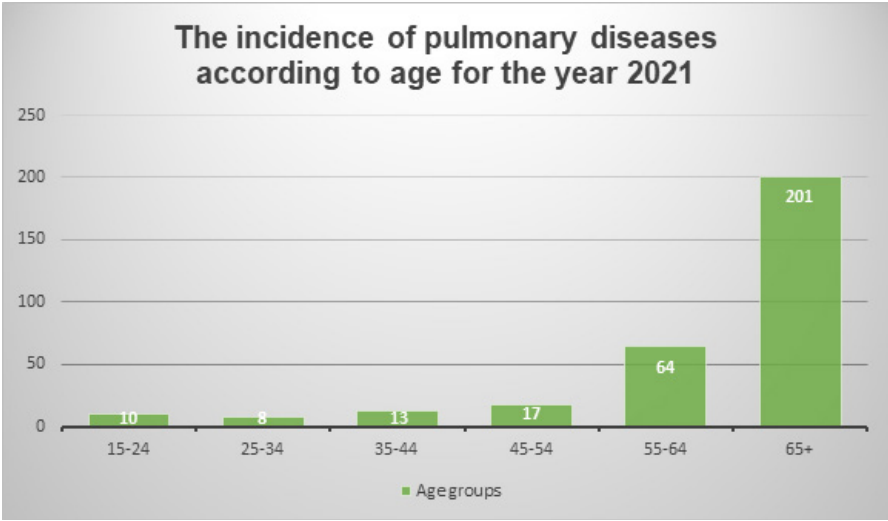
The results showed in the below table show that the disease that affects this age

group the most is Pneumonia (microorganism). These individuals are also affected by diseases such as Bronchopneumonia, Tuberculosis, Pleurisy, Hemoptysis.

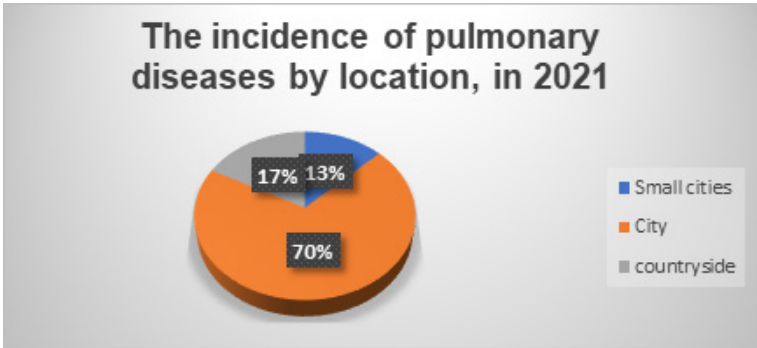
Year:2021	Age					
Diagnostic	15-24	25-34	35-44	45-54	55-64	65+
SPOK	0	1	1	6	24	116
Bronchopneumonia	2	1	8	3	14	19
Pneumonia (microorg.)	3	6	3	3	9	17
Tumor	0	0	0	2	7	15
Tuberculosis	2	0	0	0	1	3
Pneumonia (bacterial)	0	0	1	1	3	11
Trombone embolism	0	0	0	1	1	4
Pleurisy	2	0	0	1	3	11
Hemoptysis	1	0	0	0	2	2
Bronchial asthma	0	0	0	0	0	1
Pulmonary fibrosis	0	0	0	0	0	2
Sum	10	8	13	17	64	201

Usually, infants aged 0-1 years are not affected by pulmonary diseases. Small children from 2-4 years old are also not affected by pulmonary diseases. Children and adolescents from 5-14 years old are not affected by diseases pulmonary. Adolescents and young people aged 15-24 have a very small number of cases, which include 10 affected individuals. People aged 25-34 have a number of 8 affected individuals. The disease that mostly affects this age group is Pneumonia (microorganism). Then comes COPD and Bronchopneumonia. People aged 35-44 have a number of 13 affected individuals. The disease that mostly affects this age group is Bronchopneumonia. People from 45-54 years old include 17 affected. The disease that mostly affects people aged 45 to 54 is COPD. Then comes Bronchopneumonia, Pneumonia. These age groups are also affected by other pulmonary diseases such as: Malignant Tumor, Pneumonia (bacterial), Emboli Thrombosis, Tuberculosis, Hemoptysis, Pulmonary fibrosis and Bronchial asthma.

Babies are not immune to severe pulmonary disease, while children are not immune to pulmonary diseases. 3% of the affected persons are teenagers and young adults aged 15-24. Another 3% of affected persons include young people aged 25-35. 4% of affected persons are individuals aged between 35-44 years. 5% of affected persons are individuals aged between 45-54 years. 21% of affected persons are individuals aged 55-64. 64% of people affected by pulmonary diseases are individuals of the third age, over 65 years old.



Out of 313 patients, 190 are men and 123 are women. Therefore, 61% are men and 31% are women.



Out of 313 sick people, 219 are residents of the city of Shkodra. Therefore 69% of the sick individuals are in the city. Out of 313 sick people, 54 people live in the villages around Shkodra. In percentage, 18% of the sick individuals are in villages. Out of 313 sick people, 40 people are residents of the districts. Therefore, 13% of the sick individuals are located in the districts

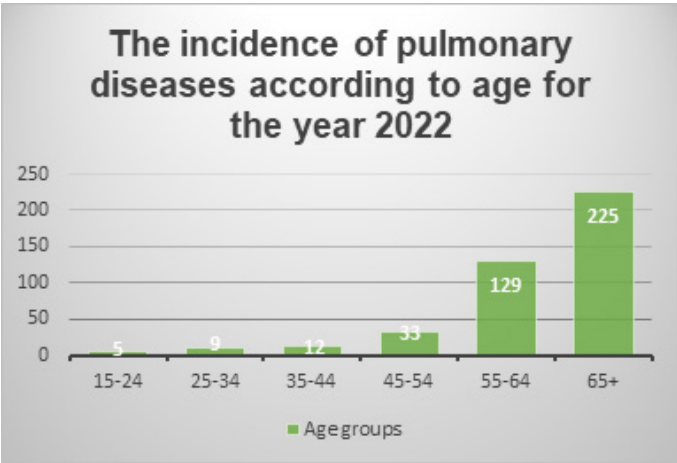
3.2 Statistics regarding year 2022

Year:2022	Age					
Diagnostic	15-24	25-34	35-44	45-54	55-64	65+
SPOK	0	0	2	7	34	80
Bronchopneumonia	0	1	1	1	2	8
Pneumonia (microorg.)	2	7	3	20	63	102
Tumor	0	0	2	2	11	7
Tuberculosis	1	0	1	0	2	1
Pneumonia (bacterial)	1	1	2	0	7	5
Trombone embolism	1	0	1	2	10	21
Pleurisy	0	0	0	0	0	0
Hemoptysis	0	0	0	0	0	0
Bronchial asthma	0	0	0	0	0	0
Pulmonary fibrosis	0	0	0	1	0	1
Sum	5	9	12	33	129	225

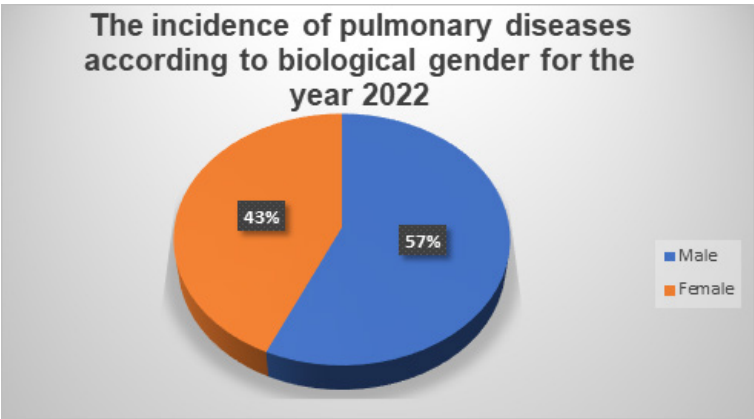
Usually, infants from 0-1 years old are not affected by pulmonary diseases. Small children from 2-4 years old are not affected by pulmonary diseases. Children and adolescents from 5-14 years old are not affected by pulmonary diseases. Young people aged 15-24 have a very small number of cases, with only 5 affected individuals. The disease that affects this age group is Pneumonia (microorganism). These individuals are also affected by diseases such as Tuberculosis, Pneumonia (bacterial), Embolism and Thrombosis. People aged 25-34 have a number of 9 affected individuals. The disease that mostly affects this age group is Pneumonia (microorganism). People aged 35-44 have a number of 12 affected individuals. The disease that mostly affects the ages between 35 and 44 is Pneumonia.

People aged 45-54 have a number of 33 affected people. The disease that mostly affects people aged 45 to 54 is Pneumonia (microorganism). After her comes SPOK. These age groups are also affected by other pulmonary diseases such as: Malignant Tumor, Thromboembolism, Bronchopneumonia, Pulmonary Fibrosis. People aged 55-64 have a number of 129 affected people. The disease that affects most individuals

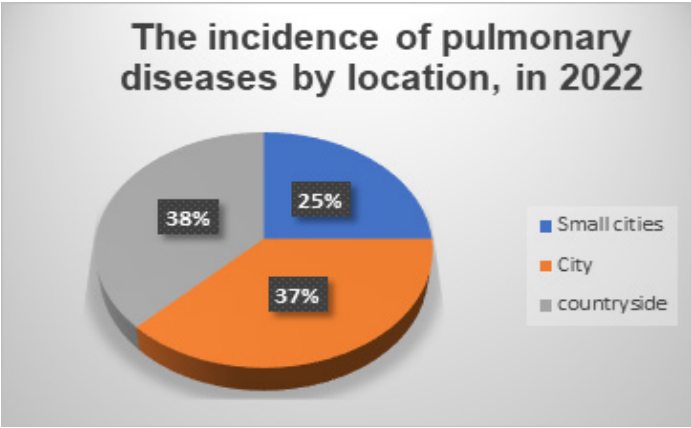
aged 55 to 64 is Pneumonia. The second in line is COPD, and after it comes Malignant Tumor and Emboli Thrombosis. These ages are also affected by Bacterial Pneumonia, Bronchopneumonia and Tuberculosis. People over the age of 65 are the individuals who suffer the most from these diseases, with a number of 225 affected individuals. The disease that affects this age group the most is Pneumonia (microorganism), followed by COPD, and Embolism. Diseases such as Bronchopneumonia, Malignant Tumor, Pneumonia (bacterial), Tuberculosis, Pulmonary Fibrosis, are present in this group.



Babies are not immune to severe pulmonary disease. Also, children are not unaffected by pulmonary diseases. 1% of affected persons are teenagers and young adults aged 15-24. 2% of affected persons are young people aged 25-35. 3% of affected persons are individuals aged between 35-44 years. 8% of affected persons are individuals aged 45-54 years. 31% of affected persons are individuals aged 55-64. 54% of people affected by pulmonary diseases are individuals of the third age, over 65 years.



Out of 414 patients, 235 are men and 179 are women. Therefore, 57% are men and 43% are women.

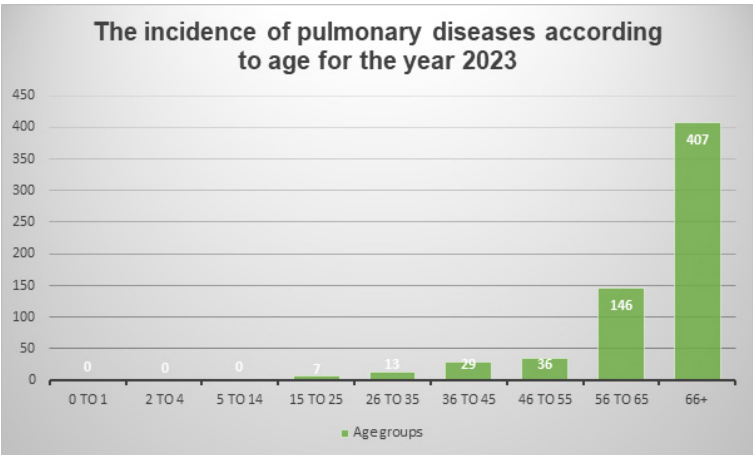


Out of 414 sick individuals, 153 are residents of the city of Shkodra. That means 37%. Out of 414 sick individuals, 159 people live in the villages around Shkodra. That means 38 %. Out of 414 sick individuals,102 people are residents of the districts. That means 25 %.

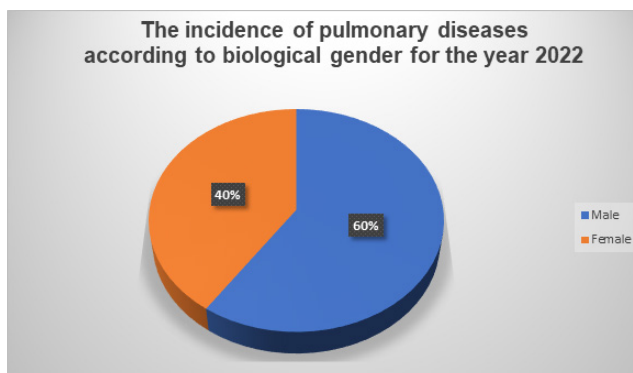
3.2 Statistics regarding year 2023

Year:2023	Age								
Diagnostic	0-1	2-4	5-14	15-24	26-35	36-45	46-55	56-65	66+
TBC	0	0	0	3	1	0	1	2	6
SPOK	0	0	0	0	2	7	8	57	172
Pneumonia	0	0	0	1	4	12	12	39	102
Bronchopneumonia	0	0	0	1	3	5	3	21	38
Pleural effusion	0	0	0	1	1	0	0	5	12
Bronchial asthma	0	0	0	0	0	0	1	1	0
Pulmonary embolism	0	0	0	0	0	0	2	4	12
TU pulmonary	0	0	0	0	2	3	4	8	34
Viral pneumonia	0	0	0	1	0	2	2	8	14
Bilateral bronchitis	0	0	0	0	0	0	2	0	4
Diffuse bronchitis	0	0	0	0	0	0	1	0	3
Hemoptysis	0	0	0	0	0	0	0	1	2
Pulmonary edema	0	0	0	0	0	0	0	0	3
CA larynx	0	0	0	0	0	0	0	0	1
Sum	0	0	0	7	13	29	36	146	407

Usually, infants aged 0-1 years are not affected by pulmonary diseases. Small children from 2-4 years old are not affected by pulmonary diseases. Children and adolescents from 5-14 years old are not affected by pulmonary diseases. Young people aged 15-25 have a very small number of cases, with 7 affected individuals. The disease that mostly affects this age group is TBC (Tuberculosis). This age group is also affected by Pneumonia, Bronchopneumonia, Pleural Versus and Pneumonia Viral. People aged 26-35 have a number of 13 affected individuals. The disease that mostly affects this age group is Pneumonia. People aged 36-45 years old have a number of 29 affected individuals. The disease that mostly affects the ages between 36 and 45 is Pneumonia. Then comes COPD disease, and Bronchopneumonia. This group of individuals is also affected by other diseases such as: Lung Tumor, Viral Pneumonia. People aged 46-55 have a number of 36 affected people. The disease that mostly affects the ages between 46 and 55 is Pneumonia. These age groups are also affected by other pulmonary diseases such as: Lung Tumor, Bronchopneumonia, Viral Pneumonia, Bilateral Bronchitis, Tuberculosis and Diffuse Bronchitis. People aged 56-65 have a number of 146 affected people. The disease that most affects individuals between the ages of 56 and 65 is COPD. This age is also affected from Lung Tumor, Viral Pneumonia, Pleural Versatility, Thromboembolism TEP, TBC (Tuberculosis), Asma bronchial and Hemoptysis. People over the age of 65 are the individuals who suffer the most from these diseases, with a number of 407 affected individuals. The disease that affects this age group the most is COPD, followed by Pneumonia, and Bronchopneumonia. Even diseases such as Lung Tumor, Viral Pneumonia, Pleural effusion, TEP Thromboembolism, are present in these age groups. Also, these age groups suffer from TBC (Tuberculosis), Bilateral Bronchitis, Diffuse Bronchitis, Edema Pulmonary, Hemoptysis and Pleural Versatility.



Out of 638 patients, 380 are men and 258 are women. In this sense 60% are men and 40% are women.



4. Conclusion

The results of this study served as evidence which sheds light on the high prevalence of pulmonary diseases in patients hospitalized in Shkodra district. The pulmonary diseases are closely related with the quality of the environment that surrounds as well as the lifestyle. Physical activity in the fresh air “maintains” and “cleanses” the lungs. Main pulmonary diseases that affect the citizens of Shkodra are: TB, COPD, Pneumonia, Bronchopneumonia, Pleural effusion, bronchial asthma, Thromboembolism, Viral Pneumonia, Bilateral Bronchitis, Hemoptysis, Pulmonary Edema, Therefore, the surrounding environment has a significant impact on the occurrence of pulmonary diseases. This fact was also reflected in this study, which showed that a large part of the patients were from the city, a considerable part from the villages and a very small part from surroundings. Specifically, 43% of the patients lived in the city, 33% in the countryside, while 24% were located in the district. This is explained by the fact that the environment in urban areas is much more polluted than in rural areas. The main air pollutants that are present in urban areas include Carbon monoxide CO, Carbon dioxide CO₂, sulfur dioxide SO₂, nitrogen dioxide NO₂, fine particulate matter PM, ozone level O₃, Volatile organic compounds (VOC). This study showed that men are more affected by pulmonary diseases than women. In terms of gender distribution based on the incidence of pulmonary diseases, it is observed that 57% were men and 43% included women.

Men are more predisposed to be affected by pulmonary diseases, due to the fact that they abuse regarding the use of tobacco and drugs as well as doing heavier work. Main causes come as a result of the quality of air, the way of live, low physical activity and abuse of harmful substances.

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