

## Children Exposed to Contaminated Environment



### Environment and Health

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Gezim Bara

Faculty of Natural Sciences. University of Tirana, Albania.

### Abstract

Environmental pollution is a global problem today, even more for Albania. The environment is the set of interactions of biotic and abiotic components that stimulate and feed the life on earth, including biophysical environment, natural air, land and water. The environment is an interaction of natural and social factors. These factors directly affect human life. Any action on the environment can damage the environment and human health, too. Albania currently represents the highest level of pollution. Especially in urban areas, where we have contamination of air, water and soil. Factors that have caused pollution are numerous. But we particularly enumerate: Exploitation of natural resources. Recent major demographic movements. Inappropriate damaging of buildings and green parts. The spread of toxic substances in soil, water and air. Developing industry without criteria and as well as gas production of pollutants from car engines. Children are more susceptible to this pollution and affected when accompanied by the emergence of these diseases: Respiratory diseases such as asthma, allergies. Disorders of the nervous system. Childhood tumors. Endocrine disorders. From research studies it results that higher mortality have children aged 0-1 years and 1-4 years, this has appeared in these last 10 years. More affected are by respiratory, cardiovascular, gastrodestrinale system. Children are exposed to toxins from water, air, food because they drink more water, consume more food and get more air. For example: An adult absorbs 10% of the dust in foods, while the child absorbs 40% of it. At ages 0-14 the largest number of deaths are caused by respiratory system, about 25% of overall deaths in the last 10 years..

### Introduction

The most important factors that affect health and development of children are food and water purity, air quality, safe environment at school and home. Childhood exposure to toxic environments, may not only cause immediate illness, but also increases the risk of chronic problems for a long time. According to statistics of sectoral statistics and information technology (Ministry of Health), it is reflected the serious environmental and health situation in our country. For this reason, health experts have been studying with decades the environmental impact of toxic substances, air, water, food, working conditions and housing, surrounding climate of our bodies, etc. One of the main priorities initiated by the European Commission in June 2003 is a strategy for reducing disease associated with environmental factors.

### Children - the most vulnerable group of environmental pollution

One of the main focuses of this strategy is that on children, as the most vulnerable group of environmental pollution, while the strategy is based on five key elements. According to studies, 157 million children in Europe are exposed to polluted environment, most of whom live in urban areas. For this reason are specified four priorities on health effects in childhood age.

- Children's respiratory diseases (asthma, allergies),
- Mental developmental disorders,
- Childhood tumors,
- Endocrine disorders

The population in our country is relatively young; with 33% belonging to the age under 15 years, while the action of many environmental factors makes children become the most vulnerable group of the population.

### The health of children in years...

The transition period in our country brought major demographic movements within its territory, causing overcrowding in urban centers, increasing environmental pollution and changes in personal habits that have led to changing the structure of morbidity and mortality in all ages, especially in infant and childhood ages. Causes of death come from many group diseases which for many years provide the highest mortality in Albania. (Table 1)

Deaths per 100 thousand inhabitants (1995-2002)

Code	Causes of deaths	Number of deaths in 100 thousand inhabitants							
		1995	1996	1997	1998	1999	2000	2001	2002
ICD-9									
001-139	infectious and parasitic diseases	4.4	4.5	3.4	3.0	2.2	2.0	3.00	3.10
140-239	tumor	67.0	75.8	69.5	73.5	75.5	78.3	82.80	86.90
240-279	endocrine and nutritional	4.9	4.9	5.5	4.1	3.8	4.5	5.50	5.70
280-289	blood and its organs	2.4	2.0	1.7	1.6	1.1	1.2	1.70	1.70
290-319	mental disorders	2.0	1.9	1.9	2.6	1.9	1.9	3.70	2.60
320-389	nervous system	15.0	15.4	11.6	13.5	8.8	11.1	13.80	12.90
390-459	circulation apparatus	206.9	224.4	202.4	222.2	204.7	231.2	262.40	260.70
460-519	breathing apparatus	62.0	55.3	40.8	38.8	31.3	33.5	28.90	29.70
520-579	digestive tract	16.6	14.7	11.5	11.2	10.1	10.1	11.40	10.00
580-629	genitourinary system	9.9	8.1	8.1	7.8	7.4	8.4	11.00	9.00
630-676	pregnancy/birth complications	0.3	0.2	0.2	0.2	0.1	0.3	0.20	0.20
680-709	skin and tissue	0.4	0.2	0.1	0.3	0.1	0.2	0.30	0.20
710-739	bones and muscles	0.9	0.8	0.9	1.2	0.7	0.8	1.10	1.30
740-759	born malformation	4.3	3.8	4.3	3.6	3.1	2.2	2.00	1.50
760-779	perinatal	8.2	7.2	6.2	5.6	8.0	7.2	5.50	3.30
780-799	unspecified symptoms	44.3	44.6	36.2	42.2	43.4	48.2	46.50	55.40
800-899	trauma, poisoning and accidents	44.1	44.1	82.8	58.0	51.4	41.6	44.80	40.30
Total		493.5	508.4	486.8	489.2	453.5	482.6	524.6	524.5

If we analyze the patterns of mortality by specific age group, it can be seen that age group 0-1 years and 1-4 years have higher mortality in regulation of respiratory diseases, gastrointestinal diseases and infectious diseases. Major impacts on this group of breast disease have the ways of feeding, hygiene conditions, factors of

industrialization, geophysical factors, etc. Increased levels of environmental pollution and changes in personal habits have led to the change of morbidity, which is accompanied by a change in mortality in these last 10 years.

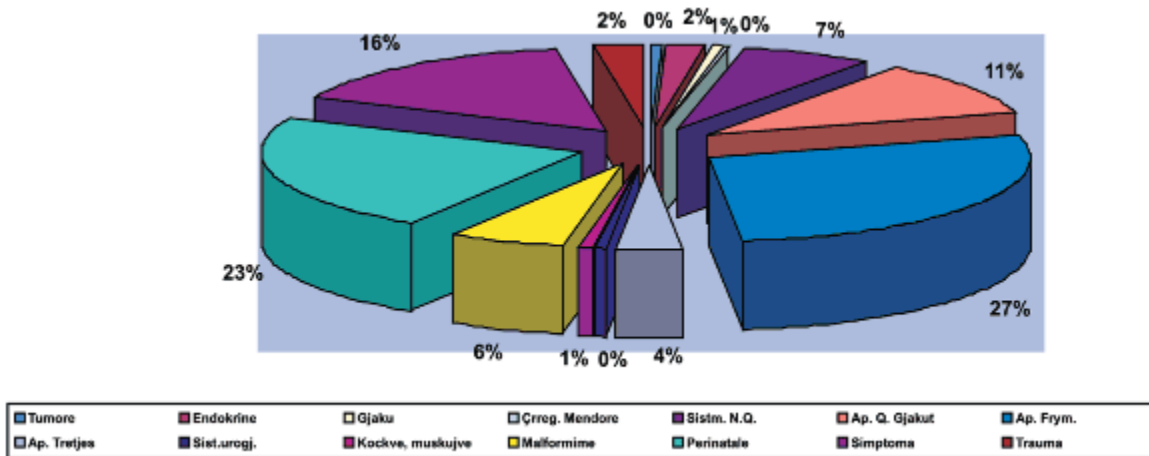
According to data released by the Institute of Statistics (INSTAT), noted that infant mortality is higher in rural areas - 59%, which are areas that are thought to have climate, pollution and geo-parasites problems. In terms of pathology for this age group, can be separated respiratory diseases, which account for 27% of deaths in total.

Diseases of the respiratory tract are followed by perinatal age, symptomatic disease, diseases of the blood circulatory apparatus, central nervous system infections, infectious diseases, etc. For this problem real researches need to be done on the impact of environmental factors on children's health and especially in the most vulnerable age groups (0-1 years and under 5 years).

Some cities and counties have higher infant mortality rate than the national average, such as in Elbasan city infant and childhood mortality are at high levels that require studies of environmental factors in the most vulnerable age groups in this area. According to studies in Europe, a disease that affects the respiratory system in children is asthma - 10% of children. Asthma and other acute and chronic respiratory diseases are primary causes for treatment and hospitalization of children.

These diseases in our country, also constitute an important group that provide a high mortality in this age group, because children are the most vulnerable group to environmental pollution and that they should not be considered as "small adults". They are particularly exposed to toxins in food, water and air, because they drink more water, eat more food and get more air than adults in relation to the body volume. They absorb more from the receiving subjects. An adult absorbs 10% of lead in food; the child absorbs 40% of it.

Distribution of causes of deaths at the age of 0-1 years, since 2002



The number of deaths caused by respiratory system at the age of 0-14 account with 25% of deaths in general. The main part of the disease, 82.4%, represent cases of pneumonia and bronchopneumonia group, while in second place are chronic diseases and asthma, with 9.3%.

Also, if you look at the causes of deaths in the last ten years, tumor diseases cause 86.9 deaths per 100 thousand inhabitants, where the age group from 0-14 years old occupies 1.4%. Although at first glance it does not seem high percentage in distribution analysis by region and sex, it will be noted that 78% of deaths are in rural areas and 22% are urban.

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