Bulletin

of the Institute of Public Health

INSTITUTE OF PUBLIC HEALTH
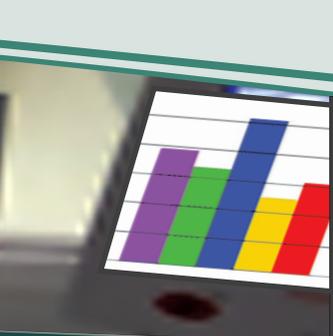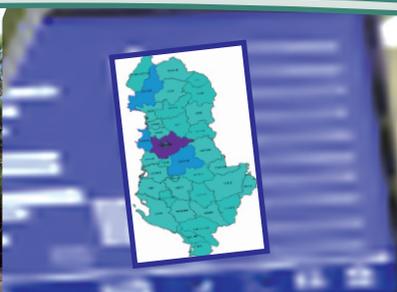
No. 2 - 2014

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INSTITUTE OF PUBLIC HEALTH BULLETIN: 2-2014

Influenza in Albania, 2013 – 2014

Artan Simaku, Iris Habibi, Alma Dude, Jonilda Sulo, Eugena Erindi, Silva Bino

Influenza is an acute viral infectious disease that spreads through air route, mainly from coughing or sneezing, and contact of contaminated surfaces with respiratory secretions. Flu symptoms usually include: high fever, runny nasal secretions, sore throat, dry cough, headache, myalgia, and asthenia. Severe symptoms typically last only a few days, but rhinorrhea and sore throat can last longer. Some people can be infected with the flu virus but have no symptoms or only mild symptoms. Usually, the flu complicates health condition of the affected; it needs a week or more to fully recovery. The incubation time for influenza ranges from 1 to 5 days, and the average is 2 days. Influenza viruses are divided into three types: A, B and C, of which the first two types are perturbing, especially type A virus, because they cause more severe disease. In some cases the disease becomes more severe due to complications with bacterial infections such as pneumonia, which can be fatal. Seasonal influenza is a disease that annually affects Europe and the rest of the northern hemisphere during the winter season, with major or scarce epidemics. Clinical presentation of the disease can range from very mild to very severe symptoms. Deaths from influenza are present each year all over Europe. Although usually the most compromised are young children, the elderly and those with other chronic diseases such as heart disease, chronic lung disease, diabetes, obesity, people with immune compromise, pregnant women and disease and deaths occur each year in healthy adults and young and middle aged people. For this reason it is recommended vaccination of the population groups of risk and of the health care providers at the beginning of autumn. Because flu viruses that circulate every year are usually similar to those of previous year, it is possible to produce a vaccine for the upcoming flu season likely higher defense.

The World Health Organization (WHO) has determined that seasonal flu season starts in October and ends in late May of the following year between weeks 40 to 20.

Like all other infectious diseases, reporting and surveillance of influenza is required by law in Albania. Also, the Institute of Public Health (IPH) reports each week on the situation of respiratory infections and flu to European Influenza Centre of the WHO, as Albania participates in European network of surveillance and monitoring of influenza. European bulletin "EuroFlu" is published every week, reporting influenza activity in the European continent.

Three systems exist in national flu surveillance in Albania. Those are: universal surveillance of the upper and lower respiratory infections (ARI) which are reported in syndromic surveillance "ALERT" across the country, sentinel surveillance of influenza-like illness (ILI) in Tirana city and sentinel surveillance of severe acute respiratory diseases (SRRA) which is performed in regional hospitals across the country, the University Hospital Center "Mother Teresa" (UHC) and University Hospital of Lung Disease (UHLD) Tirana. The data are collected throughout the year and during flu season, (40-20 weeks) with a weekly frequency of reporting by health care providers.

Respiratory samples are collected from patients who indulge the case definition, associated with the individual card for ILI reporting and SRRA. Card contains socio - demographics data of the patient, epidemiological data, clinical signs and symptoms, vaccination status, concomitant diseases and risk factors, use of antiviral therapy and patient outcome. All collected samples are tested in the respiratory national influenza laboratory at the Institute of Public Health by the method of RT - PCR-TaqMan-CDC protocol. Epidemiology sector in IPH issues each week a weekly bulletin "Alert" on the epidemiological situation of influenza in the country.

Figure 1. Number of samples and laboratory results by week
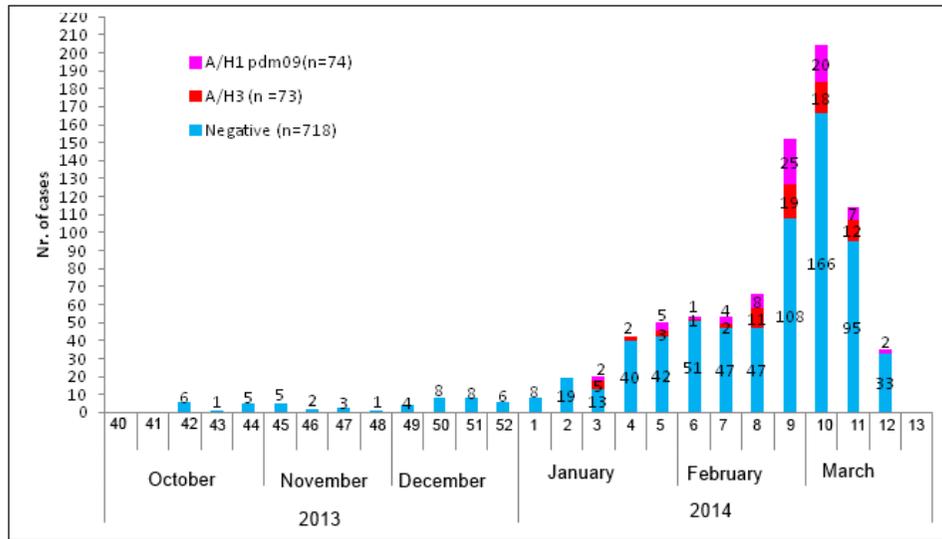
From the 3rd week of the month October 2013 until 24th March 2014, 865 samples came to IPH from flu suspected people. The number of samples increased in February, 324 (37.5%) of the total, and also their positivity.

Figure 2. Weekly epidemic curve and respiratory infections (ARI Cases/100.000) up to the 13th week (30 March 2014)
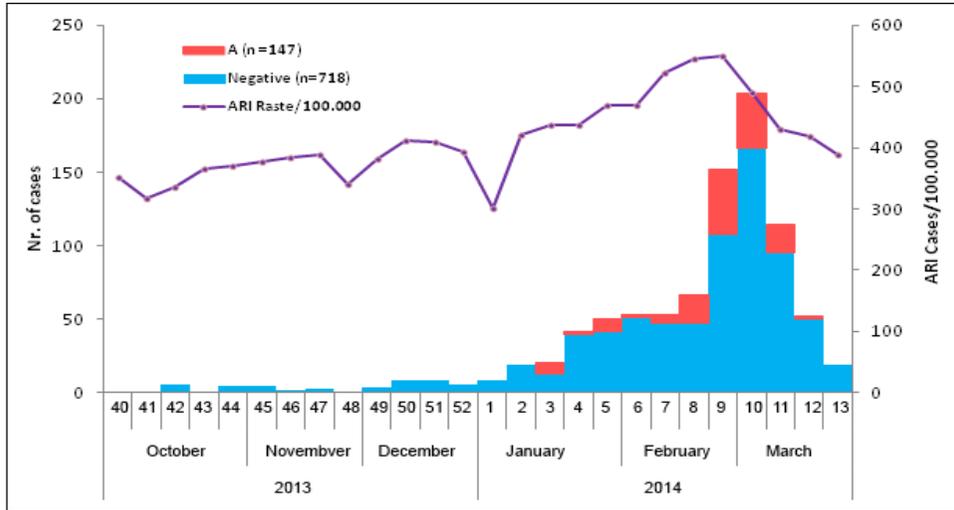
As seen from the above, acute respiratory infections curve follows the increasing number of cases of suspected or confirmed influenza

Figure 3. Comparison of activity " upper and lower respiratory infections " according to seasons (weeks 40-20) and Epidemic threshold.Cases/100.000
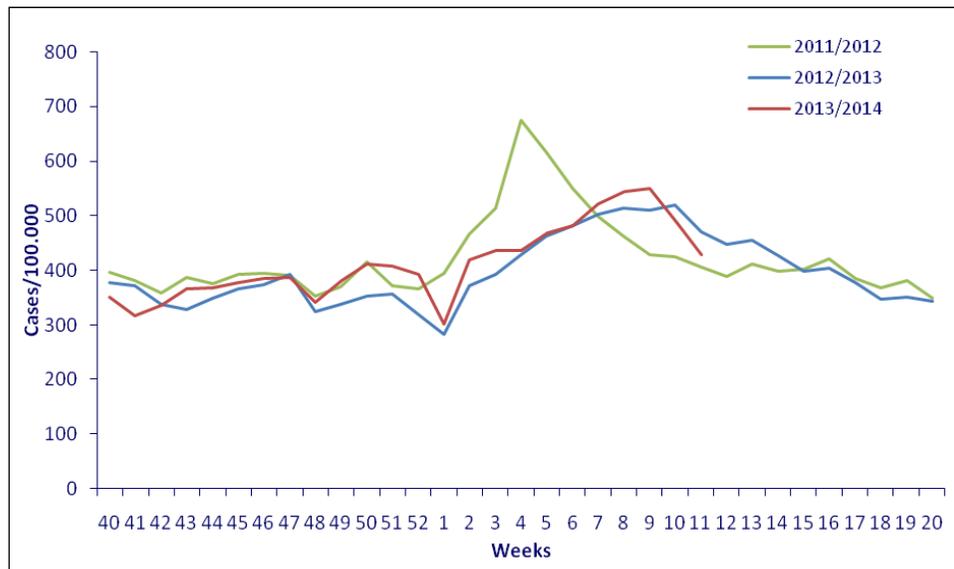
The number of respiratory infections (upper and lower) level is at normal seasonal activity.

Figure 4. Distribution of cases by age - group
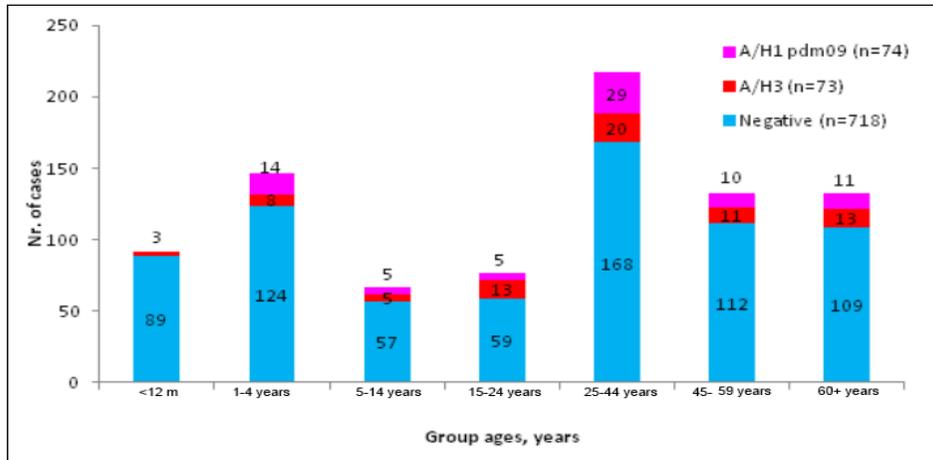
Note the largest number of samples was taken in group-age of 1-4 years 146 (17%), and in group-age 25 to 44 years 217 (25%).

The most affected age groups were 15 to 24 years with 18 (23%) positive samples and 25 to 44 years with 49 (23%) and group-age 60+ years with 24 (18%) positive samples of the total respective group-ages.

Figure 5. Severe acute respiratory illness, SRRA
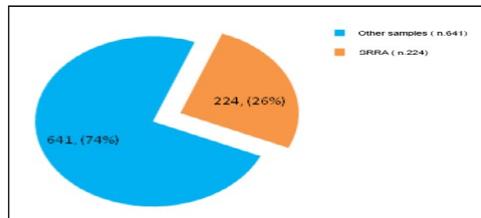
224 (26%) of patients suspected to have shown flu complications (SRRA).

Figure 6. Laboratory results of SRRA samples
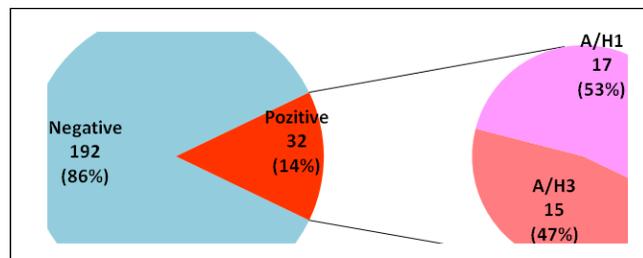
SRRA: 32 of 224 total samples (14%) were positive for influenza viruses.

15 (47%) of virus A/H3 positive samples

17 (53%) virus A/H1 pdm09 positive samples

Figure 7. Place sampling of patients with SRRA
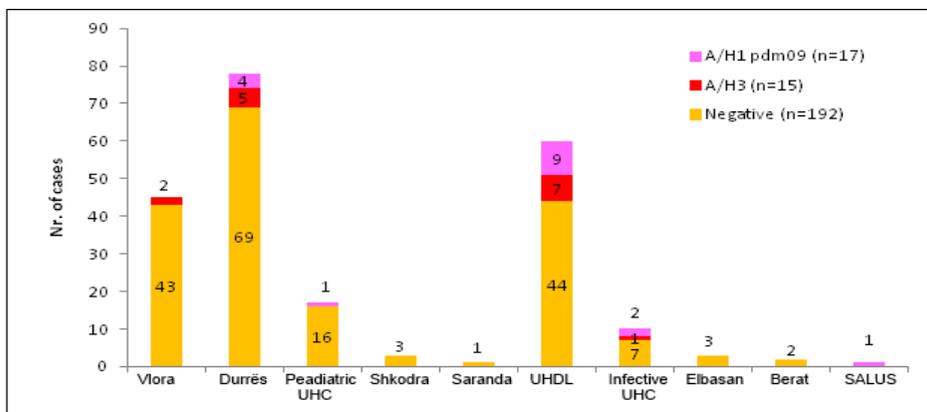
Note most of the samples of SRRA were taken Durrës Regional Hospital with 78 (35%), (UHLD) with 60 (27%) samples and Vlora Regional Hospital with 45 (20%) samples.

Figure 8. SRRA distribution of cases by age - group
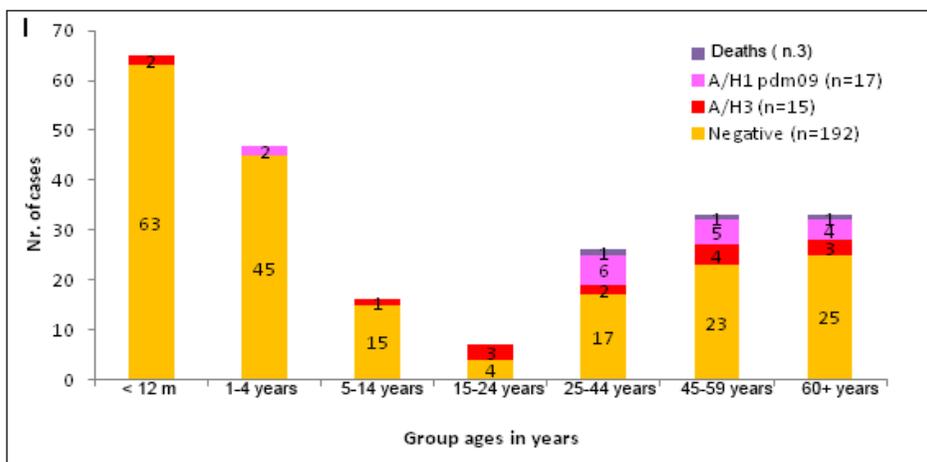
Note 128 (57%) cases of SRRA cases belong to paediatric group age 0-14 years, with their dominance in the group-age <12 months with 65 samples or 29%, followed by the group – ages of 1-4 years with 47 samples= 21% of total samples SRRA.

- 2 (3%) of the samples taken in the group-age <12months
- 2 (4%) in the sample group-age 1-4 years
- 1 (6%) in the sample group-age 5-14 years
- 3 (43%) samples in the group-age 15-24 years
- 8 (32%) samples in the group-age 25-44 years
- 9 (28%) samples in the group-age 45-59 years
- 7 (22%) samples in the group-age 60+ years have resulted positive for influenza virus A

Figure 9. Total samples and laboratory results by country of sampling.
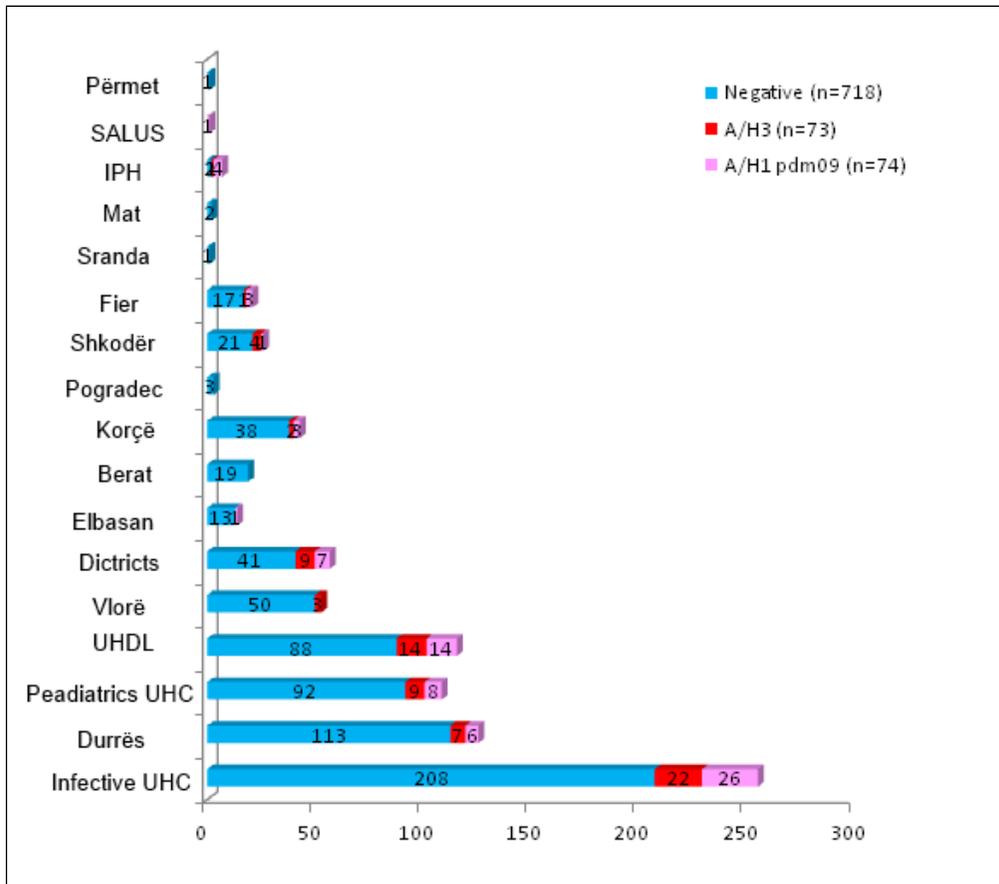
Note that most of the samples, 256 (30%) have come from the Infectious diseases hospital of the UHC, followed by Regional Hospital Durrës with 126 (15%) samples, Paediatric Hospital at UHC with 109 (12.6%) samples and (UHLD) with 116 (13%) samples.

Samples that resulted positive for the Influenza A virus:

- 48 (19%) of the samples taken in Infectious disease hospital UHC
- 17 (16%) of the samples taken in Pediatric hospital UHC
- 13 (10%) of samples taken at Durrës Regional Hospital
- 28 (24%) of the samples taken in (UHLD)
- 16 (28%) of the samples taken in Tirana districts polyclinics
- 4 (19%) of samples taken at Fier regional hospital
- 5 (19%) of samples taken at Shkodra regional hospital
- 5 (12%) of samples taken at Korça regional hospital

Discussion

Flu pandemic occurs regularly during winter in many European countries exceeding the normal seasonal activity. Intensity and influenza activity varies from year to year even in our country. Although for most people the flu illness is just an unpleasant experience, the disease has another important impact on public health causing death. European Centre for Disease Control (ECDC) has estimated that up to 40,000 people die each year from influenza in the European Union. There are also significant costs for European health care for the affected from the flu, and it has a significant economic impact from the large number of patients with mild and moderate symptoms who become unable to attend their jobs, with subsequent production decrease. As mentioned above, the key factor for disease prevention is vaccination. Sick people must be visited by the physician, they must stay at home and must not go to work or school, and also must avoid crowded areas or the so-called social distancing. Personal and collective hygiene have a very significant impact. All hospitals and polyclinics in all districts of our country are equipped with the drug Oseltamivir (Tamiflu), which is the main drug in use for treating people with the flu symptoms.

Brucellosis, the number of reported cases and incidence (cases per 100,000 population) for the period 2010-2013.

Luljeta Alla, Silva Bino

Brucellosis is an endemic disease, and one of the most widespread and problematic zoonoses in terms of impact on public health and economic disadvantages caused in the affected animals. Brucellosis occupies about 87.7 % of total reported zoonoses cases in the last decade. Free and uncontrolled movement of people and animals have brought frequent changes in the epidemiological situation of zoonotic diseases in general and especially for brucellosis.

Brucella melitensis is responsible for the disease in ruminants and humans. Brucellosis surveillance based on SMBs (Major System Based on Disease). The data are analyzed in Epi Info statistical program. For the period 2010-2013 we have a total of 1,573 reported cases of brucellosis in humans. The annual incidence in our country is nearly 12.7 (cases / 100,000 population) in 2010, versus 9.9 (cases / 100,000 inhabitants in 2013). 2013 showed a slight decrease of the frequency of incidence of brucellosis in our country.

**Table 1. Total cases of brucellosis, (cases / 100,000 population)
from 2010 to 2013.**

Years	Cases	Incidence rate / 100.000 population
2010	390	12,7
2011	440	14,3
2012	442	14,5
2013	301	9,9

Figure 1. Brucellosis in years 2010-2013 (total number of cases).
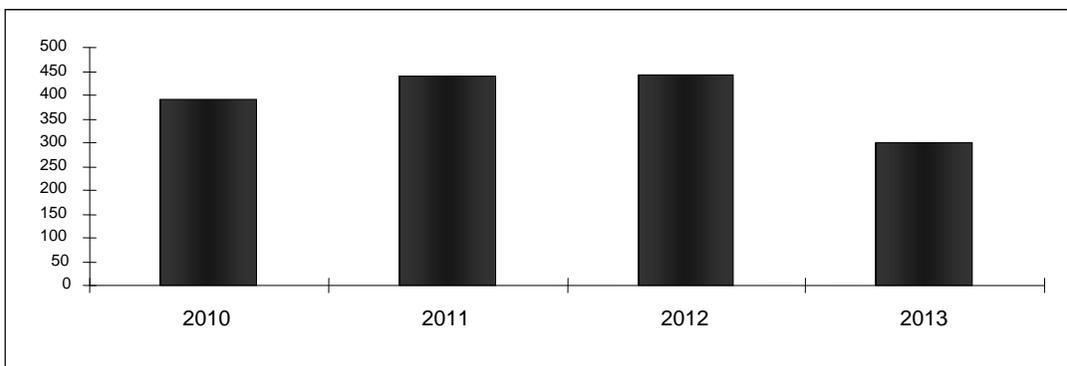
Areas traditionally affected with brucellosis are prevalently those of southern areas, and respectively: Korça, Saranda, Vlora, Gjirokastra, Tepelena, where the number of cases and incidence are the highest compared with other areas of the country. It is worth noting that in recent years there has been an increase in the number of cases of brucellosis in districts like: Bulqiza, Mallakastra, Berat, Përmet, Fier, where the weight of previously reported cases in years results relatively low compared with other districts. Rural areas result most affected compared to urban areas.

Figure 2. Distribution of brucellosis by group - age in 2013
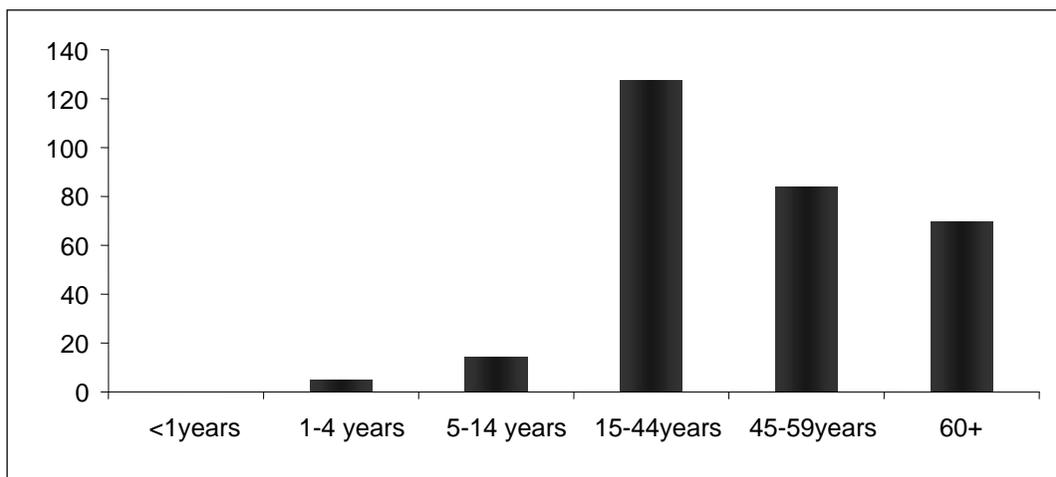
Frequency of incidence of brucellosis by age-groups results: most affected group-age is 15-44 years followed by 45-59 years with (26.7% of cases). The public health concern is that cases of brucellosis in pediatric ages 6-14 years are increasing. Laboratory-confirmed cases represent about 65% of reported cases. 89.7% of cases are reported with individual cards.

Figure 3. Distribution of brucellosis by profession (in %)
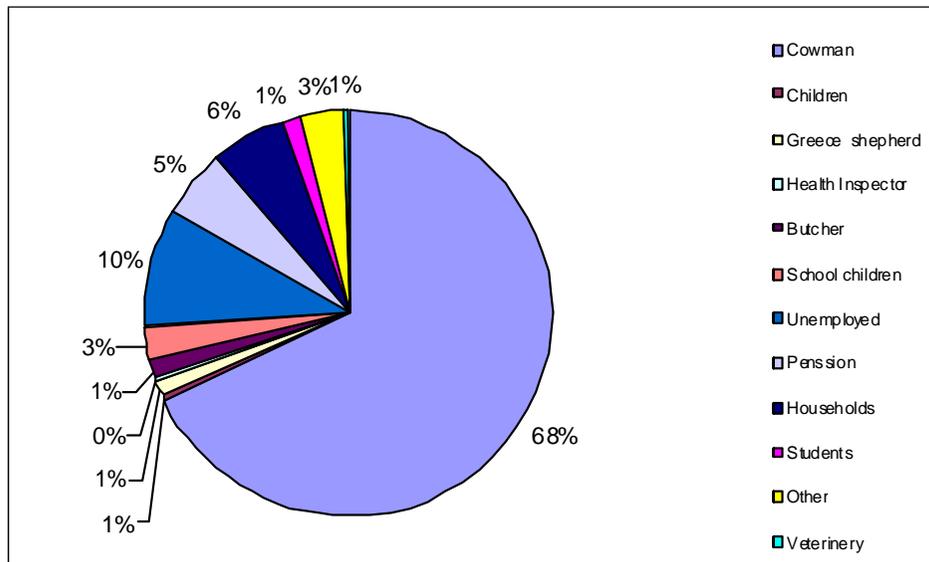
Farmers, butchers, veterinarians and those who manipulate with diseased animals and their products, are the most at risk categories to be affected by brucellosis. Data reported by the individual cards shows that about 68 % of cases belong to farmers and cowmen category, because of the occupational risk of sickness in people.

Refinement practices of milk and by-products (cheese, butter, curd), and direct contact with infected animals constitute the main way of infection in people.

According season, the most affected periods resulted in months of April till August, but regardless of seasonal nature, brucellosis infection appears all year long.

Prevention in animals

Primary prevention (vaccination)

Secondary prevention (brucellinization)

Early elimination of brucellosis positive animals.

Prevention in people

Individual protection, the use of protective tools (gloves) by the persons who manipulate with affected animals.

Health awareness of the population in general and specially of persons who manipulate with infected animals regarding hygiene and sanitation of milk by-products.

Surveillance strengthening about reporting of the case in time for a much more efficient monitoring.

Expert Technical Report on Noise Levels for the period January-March 2014

Arta Ago, Agim Shehi, Keli Mustafaraj

Noise in internal and external environments represents one of the main indicators of Health and Environment, and is eminently present in contemporary urban areas.

The main sources of external ambient noise include: air traffic, road traffic, rail traffic, industrial activities, construction, and public works. The main sources of internal ambient noise are ventilation systems, office equipment, household appliances, etc.

All people are exposed, during their regular activities while working or resting, to various noise levels, which can be disturbing, or even further, harmful to health. For that reason, the Institute of Public Health (IPH), based on the quality of service as a reference center (Law nr. 9774, dated July 12, 2007) and on its 40 years of experience, performs expert evaluations of noise levels to which professionals and the public are exposed.

The purpose of measuring noise levels is to know noise pollution levels in internal and external neighborhood of a subject (entity) and residents, to enable the evaluation of the exposure to noise for employees of an entity and people living near that entity.

The equipment used to measure noise levels is a Sound Level Meter EXTECH 407764 RS-23/ Datalogger with a correction of ±1.5 dB (A).

Measurements were performed under the right conditions to exclude the effect of fog and precipitation of rain or snow, with wind speed not higher than 5 m/s (16 ft/s), and the microphone protected from the wind. The measurement sequence was in accordance with the weather conditions during the measurement period and with the norms of CEI 29-10 and EN 60804/1994.

The expert evaluations of noise levels in entertainment subjects were performed during the night, after 23^{00} (11:00 PM), while in industrial subjects the measurements were taken during the work shift. The measurements are integral and differential every 1 second, during the various activities conducted, in the external and internal environs of a subject, as well as in the residences closest to the subject, near or above the subject.

During the measurement procedures all noise-producing machinery was kept continuously active and working to ensure accurate evaluation of their influence on the external environs of industrial subjects.

After the expert measurements and obtaining the data, the noise levels are compared to the standard levels from the Table of Government Health Norms.

During the period January-March 2014, PHI conducted 17 expert measurements of noise levels at the premises of entertainment subjects (**SA** initials in Albanian) and 5 measurements at industrial subjects (**SI** initials in Albanian).

Table 1: Noise measurements for entertainment subjects (entities)
for the period January-March 2014

Entertainment Subject	Location	Date	Time	Base* dB(A)	LA_{eq}** dB(A)
SA-1	Tiranë	06/01/2014	22^{00}-24^{00}	67.7	64
SA-2	Tiranë	07/01/2014	23^{00}-01^{00}	51.5	50
SA-3	Tiranë	08/01/2014	22^{00}-01^{00}	54.9	53.5
SA-4	Tiranë	10/01/2014	22^{00}-01^{00}	50	49.8
SA-5	Tiranë	11/01/2014	23^{00}-02^{00}	64.6	56.5
SA-6	Tiranë	13/01/2014	23^{00}-01^{00}	59	59
SA-7	Tiranë	15/01/2014	22^{00}-02^{00}	62.2	60
SA-8	Tiranë	17/02/2014	23^{00}-02^{00}	58.8	58
SA-9	Tiranë	27/02/2014	23^{00}-01^{00}	55.7	53
SA-10	Tiranë	02/03/2014	22^{00}-01^{00}	46.2	44
SA-11	Tiranë	03/03/2014	23^{00}-02^{00}	56.1	54
SA-12	Tiranë	04/03/2014	23^{00}-02^{00}	54.3	54
SA-13	Tiranë	05/03/2014	22^{00}-01^{00}	62.3	60
SA-14	Tiranë	16/03/2014	22^{00}-01^{00}	44.4	41
SA-15	Tiranë	11/03/2014	23^{00}-02^{00}	61.7	56.6
SA-16	Tiranë	13/03/2014	23^{00}-02^{00}	55.1	54
SA-17	Tiranë	26/03/2014	23^{00}-01^{00}	65.8	62

Base is the base noise level in the external environs of a subject (urban and human activity, etc.), without the noise caused by the activities of that subject.

**LA_{eq} is the continuous, A-weighted, equivalent acoustic pressure level, produced by all noise sources in a given place in a given time-interval.

Table 1 shows that without the music activity of the entertainment subjects, the base noise levels from urban activity near the subjects are higher than the levels of noise produced by the music activities of the subjects. Thus, the music activities do not influence the base noise level near the residences in close proximity with the subjects. As a result, these subjects do not create disturbances for residents around them at any time during the night.

While for subjects SA-4, SA-6, SA-8, and SA-12 the base noise level of urban activity is almost equal to the noise level produced by the music activity of the subject. These subjects should be very careful regarding the sound levels measured inside, to avoid a negative impact on the health of residents living near them.

Table 2: Noise measurements for industrial subjects (entities) for the period January-March 2014

Industrial Subject	Location	Date	LA$_{eq\ /indoor}$ dB(A)	LA$_{eq/\ outdoor}$ dB(A)
SI-1	Vaqarr	09/01/2014	91	46.5
SI-2	Kavajë	14/01/2014	66	62.5
SI-3	Elbasan	17/01/2014	91.4	62.2
SI-4	Durrës	18/03/2014	75	59.7
SI-5	Tiranë	23/03/2014	64.6	64.4

Noise levels from industrial activities, shown in Table 2, have no impact on the environs outside the subjects. The level of the noise emitted by them into the external environment has been recorded within the norms of the standard **LA$_{eq}$ 70 dB (A)**.

The noise levels inside the premises of subjects SI-1 and SI-3 exceed the value of **85 dB (A)** allowed by Government Health Norms for industrial activities, which damage the health of employees working for these subjects.

The legal framework for noise levels (Law Nr. 9774 dated July 12, 2007; and Guideline Nr. 8 dated November 27, 2007 "On Noise Level Limits in Certain Environments", appendix 1,Table 3) and the designation of a location are used to compare measured noise levels with those permitted.

Table 3: Noise Level Limits in Certain Environments

Location Type	Critical Health Effect	LA$_{eq}$ (dBA)	Time (hours)	LAmax
Outside residence	Serious annoyance (disturbance) during the day and evening.	55	16	-
	Moderate annoyance (disturbance) during the day and evening.	50	16	-
Inside residence	Conversational understanding and moderate disturbance during day and evening	35	16	-
Inside bedroom				
	Sleep disturbance at night	30	8	-
Outside bedroom	Sleep disturbance, open window (outside value)	45	8	-
Areas of Socio-Economic Activity				
Industrial, commercial, and transportation areas (internal and external environment)	Hearing damage	**70**	24	110

In conclusion, the following must be emphasized:

- Entertainment entities that currently do not disturb the residents living nearby should respect the music volume inside the subject, should not replace the speakers with more powerful ones, should not tamper with the sound isolation, and should keep their doors closed.
- Entertainment entities that are a cause of annoyance or disturbance for residents living nearby should undertake immediate measures for sound isolation with sound-proof materials, should use equipment that limits the power output of their speakers, and should keep their doors closed.
- For industrial entities in which the noise levels exceed those permitted by government health norms for occupational exposure, the most effective solutions are technical measures (isolation of the noise source). Where these measures are not possible, personal protection (mandatory use of protective headphones during the entire work shift) and organizational measures (changing the length of work periods) are paramount for the prevention of adverse effects on employee health.
- For employees who are exposed to noise levels above the allowed norms, audiometric examinations are recommended. Those are to be conducted as part of regular doctor appointments with a pre-determined schedule.

Air Pollution in the City of Tirana (Monitoring of air quality during the period of January-December 2013)

Elida Mataj, Agim Shehi, Genci Dervishi, Agron Deliu, Ilir Dume.

Air is a gas mixture that makes up the earth's atmosphere, or its covering layer. Its components at the sea level are made of: nitrogen 78%, oxygen 21%, argon 0.9% and carbon dioxide 0.03%.

Today's natural atmospheric mixture of the earth has changed several times during the evolution of millions of years in the life of our planet. The evolution of life has caused the change of the chemical components of the atmosphere, as a result of the cycle of carbon and nitrogen, through which the atmosphere is renewed and continues its existence. The atmosphere consists normally of vapors, water, dust or pollen. Dust small particles are in dimensions of 2.5 and 10 nanometers up to several micrometers that are known as aerosols, and are the core of the condensation processes of water that cause rain. These normal substances are kept in the atmosphere in different concentrations varying from one area to another or from season to season.

In general, we accept that the air pollution is related with the increase or decrease of the atmospheric components compared to the value of its content, if human activity did not exist. Air pollution is the presence of the substances in the atmosphere that are created from human activity or natural processes that cause harmful effects on humans and environment.

In our country during the last decade, as a result of the free movement of the people, progress and growth of industrial activity, increase in the number of automotives, etc: an increase of air pollution indicators has been recorded, that has influenced in the respiratory morbidity growth and cardiovascular diseases (this is referred from the reporting of World Health Organization-WHO).

Methodology

Air quality data are taken from two automatic stations that have been installed in two locations: one in the Institute of Public Health (IPH) and Central Policlinic. Those are the only stations in ownership of IPH.

Monitoring in these two stations has been continuous (24 hours). The time of monitoring and data collection has started from 01/01/2013-13/12/2013. The data that we have obtained are the indicators below: the average of dust respired with the dimension of smaller particles less than 2.5 micrometer

(PM 2.5), the average of dust respired with particle dimensions smaller than 10 micrometer (PM 10) and the average of gazes such as Nitrogen dioxide NO_2 and ozone O_3.

Table 1. Monitored values in the city of Tirana.

Values	Tirana Center O3 ppb	Tirana Center NO2 ppb	Tirana Center PM10 µg/m3	Tirana Center PM2 5 µg/m3	Tirana IPH O3 ppb	Tirana IPH NO2 ppb	Tirana IPH PM10 µg/m3	Tirana IPH PM2 5 µg/m3
average	24,78	21,94	31,87	15,69	23,69	2,10	29,75	14,13
maximum	50,68	40,91	103,72	60,59	50,89	7,56	129,91	53,88
norm EU	60	21	40	20	60	21	40	20
Days measured	244	301	302	302	245	274	208	205

The presentation in a table according to the monitored values of O_3, NO_2, PM10 and PM2.5, in 2 stations of monitoring in the center and IPH, the number of days monitored, maximum value and average as well as norm values recommended by European Union (EU).

The values taken by the monitoring process are also presented in the figure below.

Figure 1. Distribution of pollutant levels.
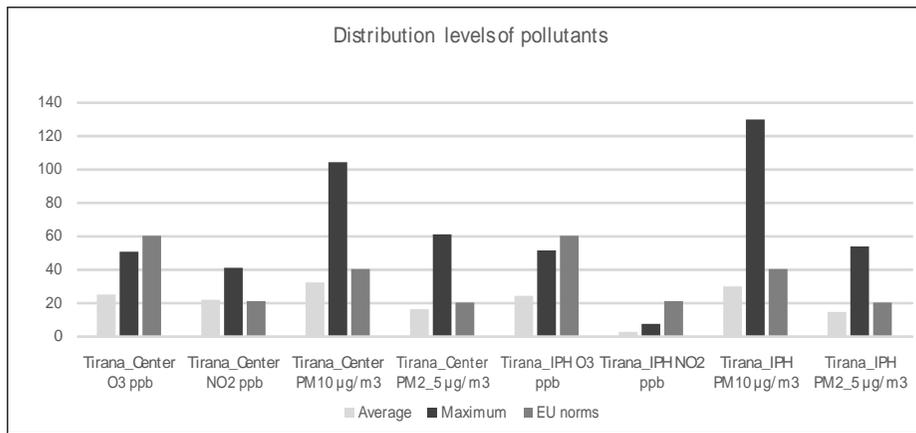
Based on the monitoring process, it resulted that the maximum values for dust particles with diameter smaller than 10 and 2.5 micron, surpass the recommended EU norms. We can say that the average values for all pollutants in total do not surpass the norm values recommended by EU. From the measurements we can see a slight surpassing over the average norms of NO_2 as defined by EU norm. With regards to the maximum values of PM10, they result in somewhat higher values. From the comparison of average values of PM10, we do not note any great change, in the values of this indicator in 2 stations that these measuring were carried out. Also, are observed not to have any changes the levels of O_3 between the monitoring stations.

Recommendations

1. Research on the causes that influence on higher values of PM10 in IPH station, which is considered a clean air area.

2. Research on the causes that bring the increase of pollutants levels over the norms that are recommended by EU.
3. Evaluation of the impact on health of these pollutants in bases of morbidity as defined by WHO (morbidity impact from air pollutants indicators).
4. Calibration of equipment in 2 stations, in order for the data to as real as possible.
5. Continuous maintenance of these stations, in order that the received data can be validated.
6. The increase of the number of automatic stations and monitoring points in the city, in a way that a more accurate evaluation of the quality of air can be achieved in Tirana.

Principles of the Guidelines on Prevention of Cardiovascular Diseases in Primary Healthcare Services

Sonela Xinxo, Alban Ylli, Jeta Lakrori

Background

Today all of the healthcare experts believe that cardiovascular diseases can be prevented, and thus a considerable number of premature deaths can be avoided. The measures undertaken to ensure a healthy living by avoiding the exposure of health risk factor (partial nutrition, smoking, alcohol high consumption, sedentary life, etc); would give more sustainable and long-term effects regarding the prevention of cardiovascular diseases. However, an important contribution in decreasing or keeping under control the number of cases with cardiovascular diseases is the early treatment of above mentioned risk factors.

Cardiovascular Diseases (CVD) include coronary and ischemic heart disease, brain vessel disease, peripheral arterial disease and their respective complications.

Institute of Public Health has prepared a book of guidelines on the prevention of cardiovascular diseases in the primary healthcare services, and also has offered and continues to offer training for healthcare service professionals on prevention of CVD in primary healthcare services. About five (5) trainings were concluded during the years 2011-2014 with healthcare services personnel in different regions, specifically, in Tirana, Elbasan, Berat, Durres; and about 150 family doctors were trained.

Objectives of this screening book of guidelines are:
·   To help the healthcare professionals, such as family doctors or general practitioners in the primary healthcare services system and other professionals of primary health to fulfill their role in promoting the cardiovascular health and prevention of cardiovascular disease in the communities they serve.
·   To help healthcare professionals of primary care in identifying the risk factors for cardiovascular diseases (CVDs) and their complications.
·   To offer the health professionals of primary care the best counseling practices with regards to prevention, risk assessment and management of CVDs.

The book of guidelines is the result of research review on the recent documents that exist today on health systems in the world, and has been designed relying on the job description of health professionals approved by Ministry of Health in 2009. According to the package of basic health services, a health center needs to offer services like: diagnosis, treatment, management, prevention of diseases as well as health promotion.

Screening will stimulate and improve the productivity with regards to the framework of health education and services in primary health in our country. In Albania, general practitioner's productivity and access in primary health is one the lowest in the world, therefore the implementation of the screening program proposed in this guideline would achieve beside the effects with regards to cardiovascular control, also other positive effects regarding the quality improvement of services and access.

Major and minor risk factors in this book of guidelines
From the perspective of the relative risk which takes into account the relationship among cardiovascular accidents and risk factors, they [risk factors] can be classified in major and minor risk factors:

Table 1. Risk factors of CVDs.

Major Factors	Minor Factors
➢ Diabetes ➢ Smoking ➢ Hypertension ➢ Hypercholesterolemia ➢ Obesity ➢ Family members with heart disease	➢ Sex: Males ➢ Hormonal factors; Female post-menopause ➢ Psycho-Social factors (low level social-economic, type A of personality, poor control of stress and depression, etc. ➢ Sedentary life ➢ High alcohol consumption ➢ High resting pulse (more than 75 beats per minute).

Screening model and counseling used for each factor
The proposed screening is an opportunistic model (only in the individuals who use primary healthcare services for other reasons rather than the health problem of screening interest), a screening process for risk factors of a client who has a personal contact with health personnel for any other reason; also in the future. Depending on the success of this program, it can take a more active screening form in workplaces as well as in the communities.

Client Screening. In each of the risk factors mentioned above, it is described the age in which the screening must be started according to sex, and test periodicity (depending on the outcomes of screening test). We must highlight that the screening test does not necessarily decide the diagnosis of disease. The screening test used for the early detection is specific, according to the risk factor

and depending on the test result the patient is classified with low risk, moderate or high, with regard to each risk factor. The model also proposes the level or the recommendation force for each risk factor based on the system ABCDI of USPSTF.

Client Counseling. After the screening process of risk factors and classification for each risk factor, the client must be counseled based on his level of risk. In the minimal or low level of risk, the client is counseled and encouraged to keep the same lifestyle, while in other cases, when the risk level is moderate to high, he/she is counseled for a change in the lifestyle, and even for a referral to the medical doctor specialist. There are several kind of strategies regarding the counseling recommendations, such as that of 5 A-s or the strategy of 2R + 3P, but in their core they have the profile assessment of the client and his specific counseling for each case. The client encouragement, a warm contact and the humane relation between the healthcare personnel and the client is necessary.

Abortions in 2013
According to the Abortion Surveillance System

Alba Merdani, Dorina Çanaku, Prof.Dr.Eduard Kakarriqi

This summary presents the results on the processing of files on abortion collected by the IPH (Institute of Public Health) from all districts of the country during 2013, the sixth year data on abortion are collected using the official reporting document (the abortion file). The Institute of Public Health, which oversees the work for the country as a whole, stores data on the number of abortions performed in each of the districts, their urban-rural distribution, as well as data related to the woman's residence, marital status, level of education, health insurance, employment, and other data related to the type of abortion and the method used.

Methodology and Content of The Abortion Filing Form

Based on the Guidelines of the Ministry of Health on abortion reporting, the file must be completed by the doctor for every termination of pregnancy, and must be reported through the Inspector of Reproductive Health for the District to the Public Health Institute.

The accurate completion of all sections of the abortion reporting file is not only a methodology requirement for every maternity hospital or private clinic licensed for pregnancy termination, but also a legal obligation, to ensure data and information validity. To protect the confidentiality of the patient, the abortion file does not contain the identity (name) of the woman.

The results of this information processing in the respective tables allow a deeper analysis of the phenomenon according to its different aspects and over wide-ranging time periods.

Quality of Completion of the Abortion Filing Form

In general, the files have been well completed. Deficiencies have been noted mainly in the genesis table, where the woman must describe when and how her previous pregnancies have ended.

A portion of the women who have mentioned previous pregnancies have not completed the genesis table for all cases they have declared. In addition to this, in some of the files in which the end of the pregnancy is noted in the genesis table, the years of the pregnancies are not noted. The accurate completion of this section is important for the study of the interval between pregnancies, the impact of previous pregnancies on latter ones, etc.

District Reproductive Health Inspectors have been contacted to enable a better completion of the file by doctors by keeping in touch with them constantly.

Despite these deficiencies, this information is valuable not only for central administrative purposes, but also for the specialized institutions that perform abortions, which must be more active in the accurate reporting of the abortions they perform. Thus they will contribute to a better knowledge on the abortions performed in the country and about the main problems related to them.

Table 1: Abortion reporting by district

Nr.	District	Total	Reported by Completing the File	Percentage Reported
1	Berat	416	416	100
2	Bulqizë	0	0	-
3	Delvinë	0	0	-
4	Devoll	18	0	-
5	Dibër	227	227	100
6	Durrës	400	383	95.8
7	Elbasan	113	84	74.3
8	Fier	434	434	100
9	Gramsh	33	30	90.9
10	Gjirokastër	82	82	100
11	Has	0	0	-
12	Kavajë	65	65	100
13	Kolonjë	10	9	90
14	Korçë	171	171	100
15	Krujë	72	72	100
16	Kuçovë	0	0	-
17	Kukës	54	38	70.4
18	Kurbin	21	21	100
19	Lezhë	147	96	65.3
20	Librazhd	83	83	100
21	Lushnjë	234	234	100
22	Mal.Madhe	0	0	-
23	Mallakastër	0	0	-
24	Mat	29	7	24.1
25	Mirditë	17	17	100
26	Peqin	0	0	-
27	Përmet	2	2	100
28	Pogradec	84	43	51.2
29	Pukë	19	18	94.7
30	Sarandë	133	133	100
31	Skrapar	0	0	-
32	Shkodër	230	0	-
33	Tepelenë	0	0	-
34	Tiranë	2908	1391	47.8
35	Tropojë	12	0	-
36	Vlorë	428	391	91.4
	Total	**6442**	**4447**	**69.0**

General Data on Abortions

Institute of Public Health collects every year data on abortions from 34 public reporting centers (district maternity hospitals), as well as from all private institutions licensed for pregnancy terminations, based on the Ministerial Order issued in 2007. The maternity hospitals of Kuçovë, Mallakastër and Malësi e Madhe districts do not perform pregnancy terminations. The reporting centers convey their information through the Inspectors of Public Health to the Public Health Directorates of their respective districts. Census data (INSTAT) and data on births (Ministry of Health) are used to calculate the abortion level (number of abortions per 1000 women between the ages of 15 and 44) and the abortion ratio (abortions per 100 live births).

In 2013, 6442 abortions were reported, 1404 fewer than in 2012. The number of files received from all reporting centers was 4447, which means that 69% of the abortions were reported using the abortion reporting file. Abortions performed in the public sector make up 95.4% of the total number. Among the cities with the largest numbers of abortions, after Tirana (2908) come Fier with 434 abortions, Vlorë with 428 abortions, Berat with 416 abortions, and Durrës with 400 abortions.

The private sector performed only 4.6% of abortions (291) which have been reported by two private clinics in Tiranë licensed for pregnancy termination (the clinic "Mary Stopes Albania" with 269 abortions, and the clinic "Shëndeti" with 22 abortions). The low percentage is explained by the loss of licenses that expired during 2013 and subsequently have been issued only to private hospitals, to offer women a better service for abortions.

Private hospitals have been contacted regarding reporting method, but it will be determined later how the abortion files are to be reported by them to IPH.

Abortions by type of abortion

Comparing the surveillance system data over the years shows quite a noticeable increase of the number of spontaneous abortions over the number of abortions following woman's request. In 1996, spontaneous abortions made up about 18.2% of all reported abortions, while in 2009 they made up 48.1% of the total abortions. In 2013, spontaneous abortions make up about 67.2% of the total number of abortions.

We strongly suggest for such a high number of spontaneous abortions further investigative study on the causes that have led to this artificial increase of spontaneous abortions over those by woman's request.

Graph 1: Abortions by Age-group and Type (as % of the total) for 2013
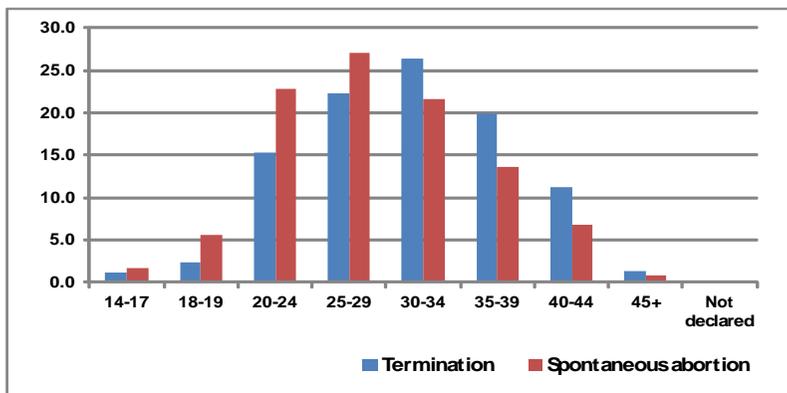
It is noticeable that the majority of the abortions are carried out by women between 25 and 34 years old, while teenage abortions (14-19 years old) make up about 4.9% of the total number of abortions.

Abortions by Woman's Residence

By analyzing the data from the abortion reporting files it is noticeable that those carried out by women living in urban areas make up 61.2% of the total number of abortions (65.1% for the year 2012), thus giving a clear picture of the demographic transition taking place in the country.

Abortions by Woman's Marital Status

Examining abortions by age-group and marital status of the woman shows the largest portion of abortions (92.8%) are carried out by married women, as opposed to the 6.3% carried out by unmarried women.

Abortions by Woman's Employment and Insurance

Compared to 2012, it is noticeable that abortions are increasingly being carried out by women who are not employed and not insured. In 2013, abortions carried out by unemployed women make up about 83.1% of the total, as opposed to 80.8% of abortions by unemployed women in 2012. Likewise, the percentage of abortions by uninsured women is 78.4% in 2013, against that of 80.1% in 2012.

Down Syndrome Epidemiology in Albania for 2011-2013

Dorina Çanaku, Alba Merdani, Ervin Toçi, Eduard Kakarriqi

Background

Down syndrome is a genetic disorder: the affected person has 47 chromosomes instead of the usual 46. The extra chromosome causes problems in physical and brain development of the affected person. Down syndrome is one of the most common causes of born defects in humans. The symptoms of Down syndrome vary from one person to another, with a range from the most insignificant symptoms to the most severe. Although Down-syndrome children development is delayed, they can lead productive and independent lives in adulthood., 1 in 700 hundred children is born with Down syndrome each year worldwide.

Do chances of having a Down syndrome child increase with the increase in the mother's age? Yes, they do.

- At the age of 25, the probability of having a Down syndrome child is 1 in 1250
- At the age of 30, the probability is 1 in1000
- At the age of 35, the probability is 1 in 400
- At the age of 40, the probability is 1 in 100
- At the age of 45, the probability is 1 in 30

Although the probability increases with the increase of the mother's age, about 80% of Down syndrome children are born to mothers under the age of 35. This is because of the greater number of births by women at younger ages than by women at older ages.

Down syndrome types:

1. Trisomy 21, which occurs in about 95% of the cases (every cell of the body has three separate copies of chromosome 21, instead of the usual two copies)
2. Translocation, which occurs in about 3% of the cases (a part of chromosome 21, or sometimes the entire chromosome is attached to another chromosome)
3. Mosaic, which occurs in about 2% of the cases (some of the cells in the body have three copies of chromosome 21 and other cells have the typical two copies)

Prevention and Diagnosis

Experts recommend a genetic consultation for people who want to have a child but have a family history of Down syndrome. The risk that a woman may have a Down syndrome child increases with age. The highest risk is for women above the age of 35. Couples that already have a child with Down syndrome have a greater probability of having another child with this syndrome. The screening and diagnostic tests for Down syndrome offered during pregnancy are: neck transparency ultrasound, triple test, amniocentesis, and chorionic villus sampling, which may be performed during the early months of the pregnancy. Specialist doctors may diagnose Down syndrome during pregnancy or after the child is born.

Some families want to know during pregnancy whether the child has the Down syndrome. Prenatal diagnosis of Down syndrome allows parents and relatives to prepare for the special needs of their child. After the child is born, the specialist doctor examines the child to confirm the diagnosis and performs an analysis of the child's chromosomes to confirm the presence of the additional chromosome 21.

Some of the most common health problems present in children with Down syndrome are the following:

1. Hearing loss (affects about 75% of the individuals)
2. Obstructive sleep apnea (affects about 50-75% of the individuals)
3. Ear infections (about 50-75% of the individuals)
4. Eye disorders, e.g. cataracts, strabismus, etc., requiring use of glasses (up to 60% of the individuals)
5. Congenital heart defects (50% of the individuals)

Other, less common health problems observed in children with Down syndrome include the following:

1. Congenital intestinal obstruction, which requires surgical intervention
2. Coxofemoral luxation
3. Thyroid gland disorders
4. Anemia and iron deficiency, Leukemia as a baby or in early childhood
5. Hirschsprung's disease

Medical care and monitoring for individuals with Down syndrome:

Specialist doctors should monitor and perform routine check-ups on all children with Down syndrome for the presence or appearance of any of these health problems. The respective treatment should be offered upon the diagnosis of any health problem.

Table 1: Incidence of Down syndrome in Albania, 2011-2013

Year	Born Defects Total (#)	Down Syndrome Total (#)	BD / 1000 live births	DS / 1000 live births
2011	499	48	14.5	**1.4**
2012	521	32	14.9	**0.9**
2013	412	20	11.9	**0.6**

Down syndrome is one of the many born defects identified in Albania. From the data in the table above, it is apparent that the incidence of Down syndrome in Albania has been decreasing. In fact, the incidence of this syndrome has not changed substantially, but there has been a lack of reporting, particularly in 2013, not only for Down syndrome, but also for all other born defects

Table 2: Socio-demographic Characteristics of Down syndrome cases, 2011-2013

Urban/Rural	%
Rural	64
Urban	36
Gender	
Male	58
Female	42
Pregnancy duration	
< 37 weeks	22
≥37 weeks	78
Mother's Age	
≤ 25	23
26-30	22
31-35	28
36-40	13
41-45	8
>45	0
Missing data	6

The table above shows that during the period 2011-2013, 64% of Down syndrome cases lived in rural areas, and 58% of the cases were males. Only 22% of the cases were preterm births. The distribution of the age of the mothers of babies with Down syndrome in Albania is the same as the distribution of the age of such mothers for the world, since the majority of the births in Albania belong to the younger age groups.

Table 3: Distribution of babies with Down syndrome by County, 2011-2013

County (Prefektura)	%
Berat	2
Dibër	3
Durrës	10
Elbasan	6
Fier	9
Gjirokastër	0
Korçë	4
Kukës	1
Lezhë	3
Shkodër	0
Tiranë	54
Vlorë	8

The table above shows that counties Durrës, Fier, and Vlorë have a higher occurrence of cases of Down syndrome, since they also have a higher number of births. Tirana has the highest number of Down syndrome cases, since it also has more births, accounting for about 1/ 3 of all births in Albania. Worthy of note is the fact that Shkodër county (in particular the Shkodër district) does not systematically report birth defects identified and diagnosed in this county.

Living with Down syndrome - Recommendations
Many individuals with Down syndrome lead productive and healthy lives well into adulthood. They may find employment and lead independent lives. Individuals with Down syndrome who live independently should be involved in their communities, care well for themselves, and conduct regular visits to the family doctor. Families of individuals with Down syndrome should stay in touch with their family doctor, as well as with other families that have children with this syndrome, to benefit from shared knowledge and mutual support for the various changes they may encounter during their care for the child with Down syndrome.

Contraceptives Logistics Management and Information System (LMIS) Analysis of LMIS data for 2013

Miranda Hajdini, Eduard Kakarriqi

The system collects data every quarter from the routine reporting of each district and of every unit that offers family planning services. The reporting deadline is the 10th day of the month following the quarter.

These are the main indicators determined from the reported data : reporting level, reporting method, usage of each contraceptive method, number of clients using each method, stock management and problem evaluation on three levels, central (IPH), district level (Directorates of Public Health), and service offering level.

Reporting

The reporting level for 2013 was constant, with good coverage, reaching about 95-96% for each quarter from all 36 districts.

Two main problems were identified regarding this indicator,

Timely Reporting

Delays of more than two weeks from the required reporting deadline continue to occur. This comes as a consequence of frequent staff movements in most of the cases, but also of poor performance management and poor performance of the staff involved in the reporting in a considerable number of cases

Reporting Method

All districts have been equipped with a database computer system for data input at the Directorate of Public Health. The data input ensures not only the quick electronic transmission to IPH, but also the quality of the data at the Directorate level. Frequent training and re-training regarding data quality have been conducted. Computer system malfunctions remain an important problem and

there are still some districts not included in the electronic system, (Sarandë, Peqin, Shkodër, Mat, Malësi e Madhe, Dibër, and Delvinë, respectively).

Use of each Contraceptive Method

There wasn't noted any considerable increase in the use of contraceptive methods for 2013. There was a small increase in COCP use (combined oral contraceptive pill), while all other methods did not show any significant increase.

Table 1: Usage of Contraceptive Methods

|	COCP	POP	Injection	IUD	Condom
1st Quarter	14,146	2,685	3,519	354	103,222
2nd Quarter	14,851	2,624	3,623	381	101,289
3rd Quarter	13,243	2,350	3,473	415	101,048
4th Quarter	15,050	2,605	3,506	428	104,608

COCP: Combined Oral Contraceptive Pill

POP: Progestogen-Only Pill

IUD: Intra-uterine Device

The chart below shows the preponderance of each method as a percentage of the total usage. The comparison to the previous year shows that the share of condom usage has decreased from 22% to 20% and the share of IUDs has increased from 30% to 32%. The relative shares of the other two methods have not changed. This shows to a degree the general population preference for contraceptive methods. There is no current information on the urban/rural distribution. Previous studies showed trends toward contraceptive injection in rural areas and toward pills in urban areas, but without information about the source sector: public, private, or social marketing.

Chart 1: Relative Usage (Market Share) of Contraceptive Methods for 2013
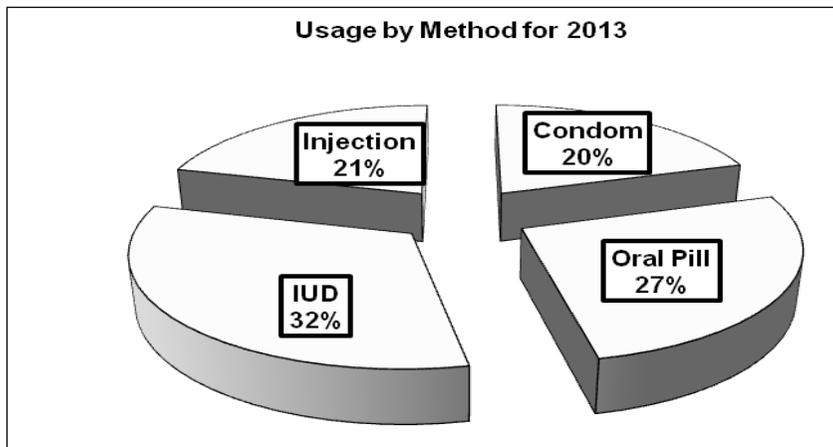
CYP/GMR (Couple-Years of Protection) is a measure of coverage of the population with contraceptives, by the public sector in this case. This number does not represent the correct level of coverage because there are no data from the other two market sectors and no population studies to estimate the Contraceptive Prevalence Rate (CPR). The Demographic Health Study (DHS) of 2008 estimated that this was 11%. The CYP indicator is calculated indirectly from the volume of usage of contraceptive methods by means of a standard table of conversion factors. For example, usage of oral pills is divided by 15 units of this method needed to provide one year of contraceptive protection for a couple for a year, contraceptive injection usage / 4, IUD usage * 3.5, and condom usage / 120 units per year.

**Chart 2: Contraceptive Coverage Levels for 2013**
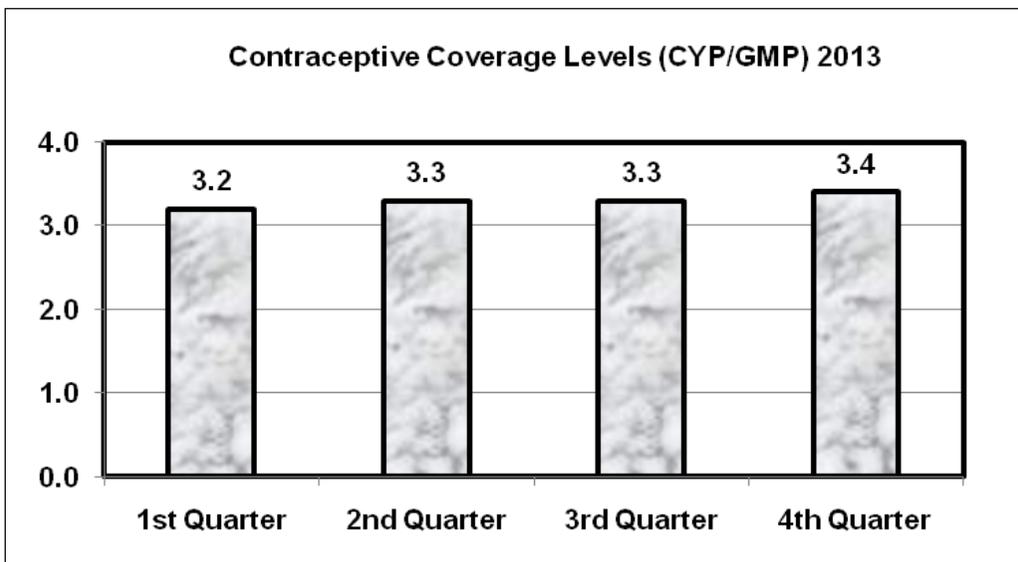
Family Planning Visits

This indicator shows the number of clients that visit a center offering family planning services and use a contraceptive method. For the two indicators First Visits and Repeat Visits, there was no substantial increase over the previous year.

There are no current studies to explain why there are no increases in contraceptive usage and visits to family planning centers. One possible reason is that other market sectors also offer modern contraceptive methods and a part of the population obtain their preferred methods directly from a pharmacy avoiding the free public service, thinking that the former offers better quality. Another reason is that the population in general does not prefer to use modern contraceptive methods, leaning more towards traditional methods of family planning, which is also shown by the most recent DHS.

Chart 3: Family Planning Visits Trends 2013
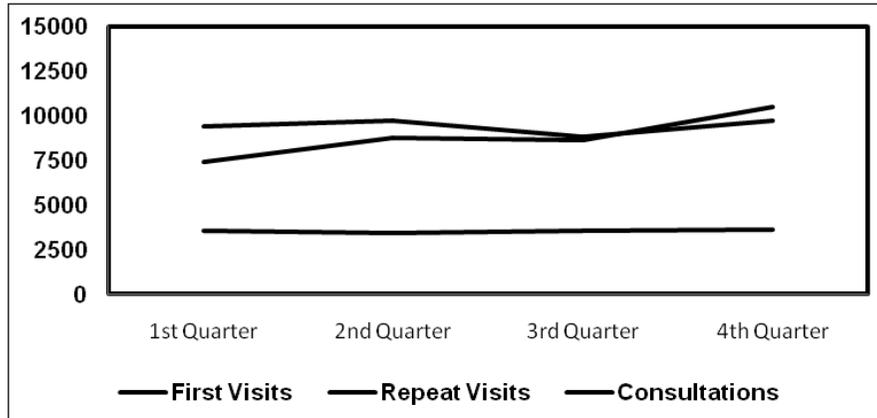
Stock Management and Stock-outs

This is a fundamental indicator of the management and functioning of a system. It is the best measurement of the performance of every primary health care employee for a quality offering of Family Planning services. This indicator continues to show reported numbers higher than the standard norm, which would have no more than 5% of the centers reporting that they have no more of a particular contraceptive at the end of a quarter. This is caused by many factors, but the main one is the cooperation between the three different levels of the system. Such cooperation requires more serious monitoring and frequent checking in the second and third levels of the system. Stock-outs up to 20% of POP (Progestogen-Only Pill) continue to be reported. Regarding the quantities of other methods, there have been no problems in any of the three levels, with sufficient quantities available according to the protocols for checking demand or forecasts for contraceptive purchases.

Chart 4: Contraceptive Stock-outs in 2013
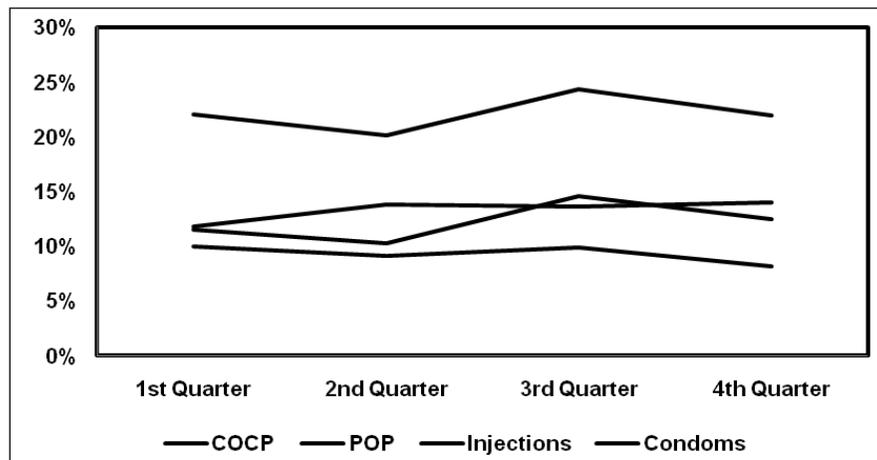
In conclusion, Family Planning Services by the public sector will continue to be offered free, in accordance with the policies of the Ministry of Health. In the Reproductive Health Strategy approved in 2009, the main objective for Family Planning is not only the free offering of modern contraceptive

methods, but also increasing CPR up to 15% by 2015. Since 2010, the budget funding for contraceptive purchases has been completed at 100%. The LMIS will continue to empower the managerial capacity for better logistics in obtaining and distributing contraceptives.

Health Education Curriculum of Training for Medical Personnel in Schools

Jeta Lakrori, Engjëll Mihali, Genta Qirjako

One of the basic tasks of the Department of Health Education and Promotion at IPH is the training of various social groups on the main problems of health education and promotion, as well as their continual enablement through updated knowledge of the latest advancements in the field of health. With the purpose of carrying out this task, at the end of 2013 and further on, during the first quarter of 2014, the department has started the training of the medical personnel of the schools in   Tirana district. This training is taking place every week, covering the basic topics under the peer review of this department. Forty doctors and twenty nurses have been trained so far. The department has worked with foreign experts through the cooperation with the WHO Regional Office for Albania to design and build the program for this training. Those experts have contributed with their experience in the selection of topics and also of methods for building the curriculum for each topic. Let us keep in mind that these curricula have been designed in every detail, including here the theoretical aspects (theoretical knowledge of health education and promotion), with illustrations by examples from our country, as well as with practical exercises and assignments to be completed by the medical personnel of the schools in cooperation with teachers and students. Likewise, we must point out that these curricula are accompanied by presentations of the materials, as well as by published textbooks and workbooks with all the materials for the respective topics, made possible by the cooperation with the WHO Country Office in Albania.

The above knowledge is conveyed to the beneficiaries according to a detailed plan responsibly designed by the department as a whole and discussed with the participants through open and honest dialogue. The reflection of a variety of opinions on specific issues covered in separate modules enriches the perspective plan for the implementation of the knowledge gained during this training. This is why one of the main concerns of the team of trainers regarding the curricula of health education and promotion is to awake interest and encourage discussion and critical thinking by participants in the training, who will need to implement in their daily work the knowledge they have gained.

The Department of Health Promotion has covered these modules:

A. Work methodology for medical personnel in schools

B. Healthy eating

C. Chronic diseases

D. Physical activity

E. Accidents and trauma

F. Smoking and alcohol

G. Mental health

H. Violence prevention

I.   Sexual and reproductive health

All modules have been expounded by keeping in mind the core competencies of medical personnel in schools, such as: Medical Activities to be completed (offering care, documentation, working with the community, program planning and design); Health Education activities according to the promotion calendar; Legal and Regulatory Aspects (referral system); Ethics, communication between medical personnel and students, teachers, and parents.

A. Work methodology for medical personnel in schools

Health education methods are planned activities and exercises to be used in the process of health education to convey health education messages.

The selection of the learning method is essential to health education and promotion activities because the effect of such activities depends on that method.

Medical personnel in schools, in the role of the health educator, must select the method to use.

The module emphasizes health education methods that should be used by medical personnel in schools, divided into individual-work methods and group-work methods, and explains the advantages and disadvantages of each method. Fortunately, we have available a wide range of teaching methods that can be used for working with students and teachers, which necessitates coordination of the various methods, and selection of the appropriate method for the issues to be discussed or addressed. So, doctors, nurses, and other medical professionals are involved in the education process even in their daily routine and what is now necessary, it is to know the importance of gaining educational abilities and to work daily on continuous professional improvement for scientific understanding of the topics and for the comprehension of the methods of each professionals work.

B. Module: Healthy eating for school-age children

Nutrition is one of the basic pillars of individual health and development during one's whole life, starting from the early stages of fetus development (during pregnancy), at birth, during infancy, childhood, adolescence, adulthood, and retirement.

This module is conceived in three parts.

B.1. Basic nutrition concepts and food groups. This part covers the basic concepts of nutrition, malnutrition, causes and types of malnutrition (underfeeding and overfeeding), what is energy, what is food, what is the food pyramid, introduction to food groups and benefits of each group, portion sizes, and dietary variety. In addition, it presents the recommendations of the Ministry of

Health and the WHO for healthy eating during school age, the importance of nutrition for school-age children, and how to check their nutritional state.

B.2. The most common eating disorders for school-age children and adolescents. Care for children with special nutritional requirements. This part covers the eating disorders and illnesses that are encountered most frequently in school-age children and adolescents, which are with micronutrient insufficiency, particularly anemia and iron deficiency, low iodine intake, lack of vitamin A, obesity from consuming hyper caloric foods, etc. In addition, the symptoms of unhealthy eating in childhood are described, with the aim their identification and prevention.

B.3. Food safety, and the influence of the school environment on children's eating habits, and food labels. This part covers health dangers arising from unsafe food, related diseases, the importance and method of washing hands, introduction to the 5 keys to food safety. In addition, the food label is described, identifying its component elements, the importance of reading the label, and how to understand some expressions of food labels.

C. Module: Chronic Diseases

Chronic diseases are reaching epidemic proportions. Worldwide, chronic diseases are the main causes of mortality, killing each year more people that all other causes taken together. The data show that about 80% of the deaths from these diseases occur in low-income and medium-income countries. About ¼ of the worldwide deaths from chronic disease occur before the age of 60, but chronic diseases increase with age and are not characteristic for childhood and adolescence.

Regardless, chronic diseases have their genesis at an early age and intervention at such an age brings about great benefits with respect to public health.
This module is conceived in three parts.

C.1. General knowledge about chronic diseases. This part introduces some concepts of chronic diseases, in the world and in our country, the distinction between chronic illness and acute illness, the distinction between communicable chronic disease and non-communicable chronic; facts and misunderstandings about chronic diseases in the world and in our country, and also presents information about risk factors, including many well known factors (globalization, urbanization, unhealthy lifestyles, biological factors, etc.).

C.2. Most widespread chronic diseases for school children. The most frequent chronic diseases in children and adolescents in our country (according to the Ministry of Health, 2011) are: Bronchial asthma, Diabetes, and Epilepsy. This part gives their definitions, causes, how they are managed, their prevention, and the work medical personnel must do with these children in schools, such as counseling, monitoring, and various activities. In addition, examples of management plans for these diseases are given, and instructions are included on how the referral system should be used for children with chronic diseases.

C.3. Prevention of chronic diseases. Chronic diseases can be diminished in importance and millions of lives saved through prevention, early detection, and timely treatment. This part gives the definitions of prevention, screening, and their kinds, describes methods for the prevention of chronic diseases, and outlines counseling strategy.

D. Module: Physical activity and its health benefits for school-age children

Physical activity is particularly important for the healthy development of children and youth, while lack of physical activity is responsible for 6% of deaths worldwide. The module gives a few key concepts of physical activity, its definition, various types, frequency, intensity, duration, health benefits, and the health effects of inactivity. The module also discusses the factors or conditions or barriers that influence the performing of physical activity and gives the recommended physical activity guidelines for school-age children.

E. Module: Accidents and trauma

Accidents and trauma are always an increasing problem of public health. This module talks about the risks that lead to accidents and trauma, which can happen anywhere: at home, on the street, at school, wherever we live and work. Therefore the module emphasizes knowing the dangers and avoiding them. This module also teaches how to offer first aid on the spot (location) to the person who is hurt, basic first aid knowledge for children in schools, traffic rules and the importance of observing them, and also presents the methods for conducting various activities in a manner that prevents accidents and trauma.

F. Module: Smoking and alcohol

This module aims to describe the dangers of smoking and alcohol for the human body and is conceived in two parts.

F.1: Smoking and Health. Smoking is known as the main cause of 25 dangerous diseases, a number of which have fatal consequences. Smoking is one of the greatest challenges that public health faces in Albania today. This module gives the definitions of active and passive smoking, the harm that comes from smoking, both active and passive, the main ways in which smoking damages health, and describes the socio-economic damage that results from smoking. In addition, the module describes the factors that lead youth to smoke, identifies the signs that a young person is smoking, and outlines counseling for quitting smoking and various activities that may be conducted in schools.

F2: Alcohol, youth and health. Alcohol is another disturbing phenomenon for Albanian society. Its harm could be fatal for youth who are not aware of the consequences of consuming alcohol. This module gives the definition of alcohol abuse and alcoholism, lists all the factors that urge adolescents to consume alcohol, as well as the harmful health effects of alcohol and the harmful psycho-social effects of alcohol abuse.

G. Module: Mental health

Sound mental health is an important component of our health and wellness. It is necessary for managing a successful life and offers emotional and spiritual abilities that enable us to enjoy life and to face distress and disappointment.

The module covers an understanding of mental health, an introduction to the main groups of mental disorders and the most common mental health issues for school-age children in Albania. In addition, the module shows some of the risk factors that can be causes of harm to mental health, the techniques for avoiding unnecessary stress in the lives of children, as well as the methods for counseling children with mental issues.

H. Module: Violence Prevention

Violence is a major problem for the health and wellness of children. For that reason, this module discusses the definition of violence, an awareness of the forms it can take toward children (physical, emotional, or sexual abuse, and neglect), awareness of the symptoms and ramifications of violence on a child's health and development. The module deals with the identification of risk factors for child violence and abuse and with the protective factors. Besides, the module explains how school medical personnel can identify and assist children who are victims of violence and how to prevent child abuse in school, family, and community. In addition, this module describes the legal framework of their work regarding violence, the ethical issues of working with children, and the referral system in cases of abuse.

J. Module: Sexual and reproductive health

This module aims to address issues of sexual and reproductive health in youth and is focused on those components of reproductive health that are connected with this age group, such as sexual health, contraception, and sexually transmitted infections (STI) including HIV/AIDS.

J.1 Sexual and reproductive health. This part gives the definition of sexual and reproductive health and the components that make up reproductive health, describes sexual development during various cycles of life, best practices for safe sex, sexual and reproductive rights, the structure of reproductive health services in Albania, the related legislation, and some techniques for communicating with students of various ages.

J.2: Contraception for adolescents. This part gives a description of contraceptive methods, and informs about the methods that are offered free in Albania and the places where these methods are offered. It also describes the causes and effects on adolescents of not using contraceptives and of using them incorrectly, along with the role of medical personnel in addressing these issues, and how medical personnel can counsel adolescents regarding contraceptive methods and their use.

J.3: Sexually Transmitted Infections. Estimates indicate that 1 in 20 youth in the world is affected by a Sexually Transmitted Infection including HIV/AIDS, and these infections constitute a problem in our country as well.

This part describes the most common STI in adolescents, where the latter should address their concerns regarding testing for and treatment of STI/HIV/AIDS, the common ways of transmission and prevention of STI/HIV/AIDS, and how medical personnel in schools should counsel without judgment regarding STI/HIV/AIDS.

Preparation and Implementation of a National Policy and Strategy for the Treatment of Radioactive Waste in the Republic of Albania

Rustem Paci

The environmental and human health protection from the damaging effects of radioactive wastes can be achieved through the development and efficient implementation of the management system of radioactive wastes. Creation of a national policy and strategy is an important aspect for the classification and decision on proper steps to be undertaken for the safe management of the radioactive wastes in the temporary storage and further in the final warehouse.

Preparation of a policy for the treatment of radioactive wastes was based in appointing a working group with the involvement of all interested parts, even taking into consideration organizational aspects such as technical ones. An important element was the presentation of two special documents on policy and strategy because of different objectives in both of them. Policy document has been approved in March 2013, a year after preparation and discussions.

The policy has taken into account the responsibility for security, role of government, safety management, optimizing the limitations, safety of present and future generations, prevention of accidents, readiness in emergency situations, national legislative framework, current institutional structure, international conventions implemented, **JC (Join Convention)** and directive 2011/70 of EU (European Union), radioactive wastes inventory.

Creation of policy compared to the strategy was simpler because of the different objectives they represented. The strategy specifies how the management of the national radioactive wastes and policy will be implemented from the Commission on Protection from Radiation (CPR) and Institute of Applied Nuclear Physics (IANP) by using the technical measures and financial resources, by defining how and when the identified objectives and requirements would be implemented according to the action plan.

Classification of wastes, characterization of wastes, strategies of radioactive wastes from other countries, development and necessary solutions for the final minimization of radioactive wastes, regulatory control and deliverance from the regulatory control, the disposing control, are some of the important elements of the strategic aspect for the treatment of radioactive wastes.

Data Registration for Radioactive Wastes and Consumed Resources

An important aspect for the consumed sources that are left alone and wastes; is to collect all the facts on their usage, as well as to insure methods to treat them in accordance with the legal obligations and safety measures from radiation.

The inventory for the closed sources left alone and wastes includes:
    a] Radio-nucleotide activity, date and production company
    b] Chemical and physical form of radio-nucleotide
    c] Serial Number and ID (identification) Number
    e] Dosage in surface and 1 meter from the surface, test results which are performed,
       in a way that the surface pollution can be controlled.
Database of consumed sources is in CPR and IANP.

Why is Necessary the Policy-Making for the Administration of Radioactive Wastes

Although there is a good infrastructure of the adequate legal system in Albania for the safe management of radioactive wastes, it is still necessary the creation of a national policy and strategy for the secure management of radioactive wastes and consumed sources.

The policy and strategy are necessary to serve as a base for the preparation, reviewing the needed legislation, for the implementation of the requests by IAEA (*International Atomic Energy Agency) and requests by JC & directives of EU, to further decide in a clear way on the roles and responsibilities to secure the management of radioactive wastes.*

A working group has taken into consideration reviewing the inventory of waste (in the past, now and in the future), national framework and other aspects to make the foundational document. IAEA, with the request of CPR for expertise, brought a group of experts, through which a national workshop was developed on this matter, where the following elements were discussed to be taken into consideration:

Classification of wastes.

Policy and strategy to be together but separate.
Best opportunities for the final extermination.
Best actual practices for conditioning of sources.
Obligations of the Convention JC and directives of EU.
Transferring waste sources to Level 1 and 2 outside of Albania.
Security and safety issues for the radioactive wastes.
Regulation of safe management of radioactive wastes in Albania.
Creation of the final warehouse.
Options for the final warehouse.
Final placement near the surface of the earth and exporting 4 sources of Level 1 or deep geological placement for all the radioactive sources.

Also, we discussed elements, such as:
- Responsibility for security
- Role of the government in the aspect of efficient legal framework and governmental security for the radioactive wastes.
- Management of Security: Effective management of security.
- Optimizing the safety and limitation of risks for the individuals.
- Protection today and in the future.

Prevention of accidents.

One important element is the inclusion of the public in decision-making as part of the preparation process in both documents.

Stress Assessment, hobbies and Behaviors in High School Youth of Tirana City

Alban Ylli, Elida Cangonji, Jonida Haxhiu, Eduard Kakarriqi

In spite of the demographic changes, Albania has remained a country with a very young population in the last two decades. Albanian youth are a priority that is included in the national strategy and government policy. The youth contain most of the energy and dynamism in our society, and are faced with specific risks in the adaptive process in transition from childhood to adulthood.

Youth studies are not absent in the health or social fields in Albania. Two of the most important models in the assessment of health and risk behaviors were applied in a systematic way in the Institute of Public Health. We have done two rounds for each of these studies in national level, such as: "Youth Risky Behavior Survey-YRBS" (2005, 2009) and "Health Behavior in School Children -HBSC" (2008, 2013). The main donor for these studies has been UNFPA.

However, specific studies are lacking, which do not have a health focus only, but research on other life aspects in youth, together with their potential and risk behaviors, pressure levels and their sources, etc.

This study fills the gap between the main objective of assessing the youth profile according to passions, pressure, humor and behavior. This assessment analysis of internal and external factors that influence the youth in their supportive environment has been done. The study results can be used by policymakers of education and/or youth field, education system managers, teachers, psychologists, social workers, public health workers, groups/parent teacher associations (PTA) and interested students.

This study is based on a representative sample of the high schools in Tirana. The sample size has been calculated on a typical expected frequency of 20% with a standard deviation of 3% with interval (17%-23%). The calculated sample size was 670, but to minimize the effect of applied cluster selection and to allow the analysis through the category, the sample size was increased to 1000 (in total 1018 students filled the questionnaire). As sampling framework was used the list of Tirana schools, listed with the number of students for each class (for the academic year 2012-

2013), provided by the Ministry of Education. The number of classes was chosen in random selection according to each school grade. And all the students of the random selected class were invited to fill the questionnaire. On 100% of the selected classes in the study, about 90% of the students filled the questionnaire.

Trained psychologists administered the field work of filling the questionnaire.

A questionnaire filled by the students was used for this assessment. The questionnaire had five sections that were designed and tested by medical doctors on adolescent development and epidemiologists.

Summary of findings

1. About half of the interviewed classify themselves as students with high educational results (with grades 9 out of 10). About 40% reported average results (the grades 7 and 8) and only 11% self-declared as students with low results (with the grades 4 and 5). There is a higher tendency in females to have better grades, compared to males. Also, the proportion of males with low grades is twice as much of the females with the same grades.

2. Economic situation of the family is related with the school grade results of students in the high schools in Tirana; the students with high results are more frequent in higher economic categories, while the probability of having lower academic achievement is higher in the low economic categories.

3. The most reported hobby by the students was sport. This was true for both males and females, although the proportion of males with this hobby is higher than that of females (80% vs. 57%). Music, clothing, computer and walks were also hobbies found often (over 50% of the students report that). Other hobbies included mobiles, cars, books and television (30% to 40% of students). Money, painting and gambling are ranked last, respectively 23%, 18% and 10% of the reporting students.

4. There are many differences between boys and girls with regards to hobbies. So, in girls we assess hobbies like music more prevalent than in boys (76%-the hobby more often found in females), clothing, and walks, further more the books and somehow painting. In boys we see a higher attraction than in girls on computers (68%), cars (60%), mobiles, money, gambling. The last two hobbies are observed more often than in girls, such as they may be considered exclusive hobbies to boys.

5. Age is a factor that influences on the liking of some hobbies. The most important likings are toward a decrease in hobbies like sports, music, books, mobiles and paintings. On the contrary, it seems to have an increased interest on hobbies like money and gambling-the last one results doubled in those over 16-years old.

6. We have seen significant differences from a statistical point of view on some hobbies, when we analyze their relation to the economic status of the family. Mobiles, clothing, and cars are hobbies

that are found more often in students with families of higher economic status. The opposite happens with painting that is preferred less in students of these economic categories.

7. There are differences on the frequency of hobbies in the category results above. The hobby for gambling and less for mobiles and cars are in indirect proportion with the grade results in school. On the contrary, hobby for books, sports, walking, music, and painting are often found among those with high grades in schools.

8. A higher percentage of students report as impossible practicing a sport in free time. This problem is greater in girls, where half of them do not play any sport, although they feel desire to. 20% of the boys have this problem. Also, students in the low economic category have more difficulty in finding time to play a sport.

9. Only a minority of students are engaged or organized in groups, teams or social, cultural or sport organizations. This proportion is lower among girls (only 15%).

10. About 1/3rd of the interviewees are not at all under pressure, but 10% are under high pressure. If we would add the proportion of those that feel to be under average pressure, we would amount almost to 40% of all students. Stress is obviously more common in girls, 46% of whom report that feel themselves under higher or average pressure. This proportion is 29% in boys.

11. The most important sources of pressure in schools are the exams and the fear of failing them. Money is another bigger source of pressure in boys than girls.

12. In the majority of students, or in over 70% of them, the presence of signs or symptoms is observed in the moments they are stressed. The most often found signs related to stress are a headache, anger, bad humor, attention loss, melancholy, sleeping problems, loss of appetite, stomachache, etc. Only 5% have risk for hurting themselves or suicidal thoughts. The signs are more often found in girls. Also, the presence of these signs increases with age.

13. Only half of the interviewed think to ask for help or seek practical help. A high number of students does not think that help would be needed or be useful. However, they desire to receive this help.

14. The help is mainly needed in a family environment or among closer friends. Teachers, psychologists, social workers and medical doctors are frequented less by the students when they are in need. Girls are more open than males to ask for help.

15. More than one in three students have had depression signs or light depression one week before the study. This proportion is higher among girls (40%). It is lower in boys (27%).

16. There is a higher risk of depression in those students that have not been born in Tirana, with those who are born in Tirana, also among those who do not practice any sport, compared with those

who do. There is a constant increase, that is not statistically confirmed, or the risk increase for depression in students in lower economic categories with those of lower school grades category.

17. Most of the students (over 80%) show a pro-social behavior when altruism is dominant (Scale SDQ). While, it is seen that 18% of the students are classified 'in difficulty' or 'abnormal' and about the other 23% are in the border of a behavior where egoism and irresponsibility dominates. We have found a higher proportion of males with such problematic behavior compared to females. In girls, behavioral problems with their peers and emotional ones are more often found. Problems of 'hyperactivity' are observed in about 10% of students.

18. We have detected a general growing tendency of 'abnormality' related to behavior and low school grade results, while we see a higher proportion of 'normality' in the categories with better school grade results.

19. We have seen a steady correlation among several indicators that show a growth of the risk in difficulty for behavior with non-favorable economic positions.

20. Only 12% of the students report to have had obvious or severe difficulty. The others have had slight difficulties (55%), or do not feel to have any difficulty (33%). The major part has felt difficulties recently (36% in less than a month). Females are identified in a greater proportion in 'chronic' difficulty: 1 in 5 of them reports difficulties that last more than a year. This proportion is twice as lower in males.

21. Most of the students either do not worry on difficulties, or worry only in some of them. There are thrice more boys than girls that do not worry at all from difficulties, and vice-versa there are thrice more girls than boys that worry a lot from difficulties.

22. Difficulties influence mainly the teaching in class – less than 1 in 5 students does not feel being influenced by the difficulties in class – and less during free-time – almost half of the students report that difficulties do not influence this part in their lives.