

## THE TREATMENT OF SUICIDE VICTIMS IN TIRANA BEFORE THE ACT OVER THE TIME PERIOD 2001-2010 (RETROSPECTIVE STUDY)

*Pasho Maksuti, Psychiatrist, University Hospital Centre (UHC) "Mother Tereza", Tirana, Albania*

*Vuksan Kola, Psychiatrist, University Hospital Centre (UHC) "Mother Tereza", Tirana, Albania*  
*Artan Simaku, Institute of Public Health, Tirana, Albania*

**Introduction:** Suicide is among the ten leading causes of death in most countries around the world. The vast majority of those who commit suicide have some form of mental disorder at the time of death.

**Aim.** The most specific objective is to find the prevalence and incidence of suicides in the district of Tirana over the period of time 2001-2010 and to establish the treatment before suicide of these subjects at local level.

**Method:** The study is retrospective with a homogeneous cohort. Investigatory files of cases suspected of suicide from the Prosecution Office in Tirana have been used. All the files of confirmed suicide by forensic expertise and legal assessments, with a final decision of the act committed, have been studied. The witnesses statements contained in the files were taken into account. We used the term "suicide" for all causes of death which are directly or indirectly provoked by the positive or negative acts of the victim, who knew the ensuing consequences. Any prior illnesses and treatments of suicide victims were assessed. Epidemiological data on suicides, including manner, profession, month and respectively season of the suicide, was studied. The data has been analyzed with the SPSS 16 statistical packet and with the  $\chi^2$  Yates correction test for the comparison and linear regression of the assessment of the trend. The values of  $p < 0.05$  were considered significant. Point estimates are accompanied with an interval estimate of 95%CI. Statistical tests were bilateral. Tables and graphs are used for the visualization of data.

**Results:** A total of 254 people have committed suicide in the district of Tirana in the time period of 2001-2010. The prevalence of suicide was found 0.04% (95%CI 0.035 – 0.045). Suicides are most frequent among males (65%) and in individuals with low socio-economical level (48%). The average age of the victims was 38.5 (16 SD) years old. Suicides were more common during the months April

(13.8%) and September (14.2 %). Based on the number of inhabitants, in rural areas suicides were 1.4 times more frequent than in urban ones. Suicides were more common among married (52%) and single individuals (37%). By profession, the most affected were labourers (25%) followed by housewives (16%) and farmers (10%). The most frequent method of suicide was poisoning (39.4%), followed by hanging (20%). 70% of the cases were previously diagnosed with mental illnesses and for 30% of victims there was no data on whether or not they suffered from any illness. 51% of victims suffered from depression and 20% of them were diagnosed with other mental illnesses. Only 29% were treated before they committed suicide.

**Conclusion.** The prevalence of suicides in district of Tirana for the time period 2001-2010 was found 0.04%. For 30% of victims there was no data whether or not they suffered from any illness. Only 29% of suicide victims were treated before they committed suicide.

**Keywords:** suicide; epidemiology; prevalence; treatment.

**Introduction.** The term "suicide" is used for all causes of death which are directly or indirectly provoked by the positive or negative acts of the victim, who knew the ensuing consequences (3). In the study of suicide, the term *suicidality* has been used to refer to a continuum of suicidal manifestations ranging from thinking about suicide (i.e., suicidal ideation) through to making a plan, attempting suicide, and ultimately completing suicide. (12,13,14).

E. S. Shneidman is considered to be one of the founders of suicidology. As such, and was among the first to explore he has greatly contributed to the understanding of the nature and psychology of suicide, and delineate the thinking processes of

suicidal individuals (9). As he neared the end of his career and reflected on his past work and clinical experience, he concluded that all suicides are a direct result of immense psychological pain, or *psychache*, as he coined it (14). Psychache is defined as an acute state of intense psychological pain associated with feelings of shame, humiliation, hurt, anguish, despair, loneliness, fear, and dread (14).

The often cited statistics that approximately 90% of suicides are associated with some form of psychopathology, suggests that suicide may be a consequence of mental illness, with the implication that the wishes to die will subside once the underlying disorder is treated (1, 2, 6, 10, 8). Suicide is among the ten leading causes of death in most countries around the world for which information is available (5). Factors that have been associated with suicide include the presence of depression, weak psychosocial support systems, a serious coexisting medical condition, unemployment and living alone.

Suicide is an increasing phenomenon in Albania. Despite recent investments in mental health by authorities there is a widespread culture of shame surrounding mental illness. Tirana is the capital of Albania with the number of residents in increase. It contains about 20% of the national population (from 520.000 in 2001, to 720.000 in 2010) (14). The incidence of suicides nation-wide is estimated with 4 in 100.000 people (7).

For the city of Tirana there is a lack of studies for this problem. Since the demographics of Tirana in a way is the mirror of all the country, because of the migration from all parts of Albania, we believe that the suicides data in Tirana can summarize the national epidemiology. It's very important to know if the people who committed suicide were diagnosed and treated or not by medical professionals.

### The purpose of the study

The more specific objectives of the project were:

1. To find the prevalence and incidence of suicides in the district of Tirana over the period of time 2001-2010 and to establish the treatment before suicide of these subjects at local level.
2. To assess the epidemiological data of suicides at local level over the time period 2001-2010.

**Method:** It is a retrospective study with a homogeneous cohort. For this study were used the investigation files of the cases suspected for suicide taken in the Prosecution Office of the judicial district of Tirana. Medical data and the statements of the witnesses found on the respective files are taken in account. Suicide victims were considered according to the definition that "the death is directly or indirectly provoked by the positive or negative acts of the victim, who knew the ensuing consequences".

They were diagnosed according to the ICD-10 (International Statistical Classification of Diseases), DSM-IV and DSM-IV-TR (American Diagnostic and Statistical Manual of Mental Disorders). For diagnoses were used the medical documents, the confirmation for mental invalids, hospitals data of the admission in hospital, medication and treatment they used, forensic expertise, notes of the victims, statements of relatives and witnesses. The data has been analyzed by the SPSS 16 statistical package. The  $\chi^2$  test with the Yates correction for the comparison of the proportions and the linear regression has been used for the evaluation of the trend. The values of  $p < 0.05$  were considered significant. The point estimates are accompanied with the 95%CI interval. The statistical tests are bilateral. Graphics and tables have been used for the visualization of the data.

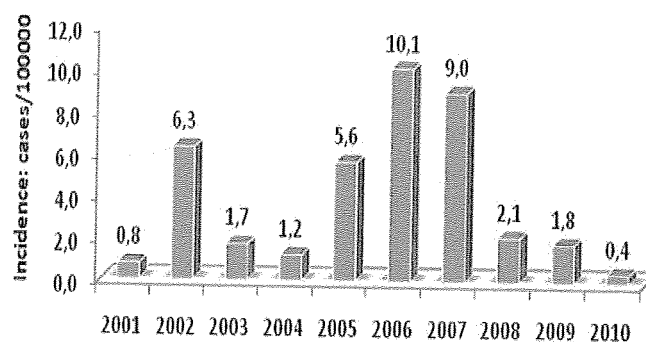
**Results of the study.** The number of the population in Tirana has changed during the time period 2001-2010 (520.000-720.000). 74% of inhabitants lived in urban and 26% in rural areas of city. From the study it results that between 2001-2010 in Tirana 254 individuals have committed suicides. The prevalence of suicides for studied period was found 0.04% (95%CI 0.035 – 0.045), or 40 cases in 100.000. 164 (65%) were males and 90 cases (35%) were females with a statistically relevant difference between them ( $z = 17.5$   $p < 0.01$ ). The ratio between males and females is 1.8.

**Table nr.1. The frequency of suicides according to years and the socio-demographic characteristics of the patients. N=254**

Cases	N	%	P
<b>Years</b>			<b>&lt;0.01</b>
2001	4	2	
2002	33	13	
2003	9	4	
2004	7	3	
2005	37	15	
2006	70	28	
2007	63	25	
2008	15	6	
2009	13	5	
2010	3	1	
<b>Sex</b>			<b>&lt;0.01</b>
Female	90	35	
Male	164	65	
<b>Age, years</b>			<b>&lt;0.01</b>
10-15	4	2	
16-19	16	6	
20-29	64	25	
30-39	61	24	
40-49	53	21	
50-59	27	11	
60-69	15	6	
70-79	9	4	
80-89	4	2	
≥90	1	0	
<b>Residence</b>			<b>&lt;0.01</b>
Urban	172	68	
Rural	82	32	
<b>Civil status</b>			<b>&lt;0.01</b>
Single	93	37	
Married	132	52	
Divorced	14	5	
Widowed	13	5	
Unknown	2	1	
<b>Educational level<sup>1</sup></b>			<b>&lt;0.01</b>
Primary school	126	49.6	
High school	108	42.5	
University	18	7.1	
No information	2	0.8	
<b>Social-economic condition<sup>2</sup></b>			<b>&lt;0.01</b>
Low	122	48	
Average	107	42	

<sup>1</sup> there were no data for two cases<sup>2</sup> there were no data for 12 cases

The average age of the individuals was 38,5 years ( $\pm 15.9$ SD ( range 12 – 93 years). There is noted a dominance of suicides in the year 2006 with 70 cases (28%), with a statistically significant difference with the other years ( $\chi^2= 213.0$   $p<0.01$ ). More victims comes from urban areas (68%) compared to rural ones (32%), in nominal values. There were statistically significant differences between them ( $\chi^2= 31.8$   $p<0.01$ ). 93 cases (37%) were single, 132 (52%) married, 14 (6%) divorced, 13 (5%) widowed and for 2 (1%) persons there were no information. There is a dominance of suicides in married and single people, with a statistically significant differences with other groups ( $\chi^2= 301.9$   $p<0.001$ ). It must be noted that the results are nominative and not compared to the size of the respective groups. There is a dominance of suicides in individuals with low education level, with 126 cases (50%). The difference is statistically significant with the other educational categories ( $\chi^2= 189.2$   $p<0.01$ ). The second place with 108 cases (43%) is held by individuals who have finished high school and only 16 cases (6%) had university degree. There is a dominance of suicides in individuals with lower economical condition (48%), with statistically significant differences with the other economical categories ( $\chi^2= 165.6$   $p<0.01$ ). The second place (42%) is held by victims with middle economical condition and only 13 victims (5%) had high economical condition.

**Fig. 1. The frequency of suicides in Tirana. Incidence: cases/100.000 residents**

The incidence of suicides in Tirana shows an increase from 0.8 cases/100.000 inhabitants in 2001 to 10.1 cases/100.000 inhabitants in 2006 followed by a steep decline to 0.4 cases/100.000 inhabitants in 2010. The trend is not statistically significant (there is a polinomial model of the trend: F-ratio = 0.03,  $p=0.8$ ).

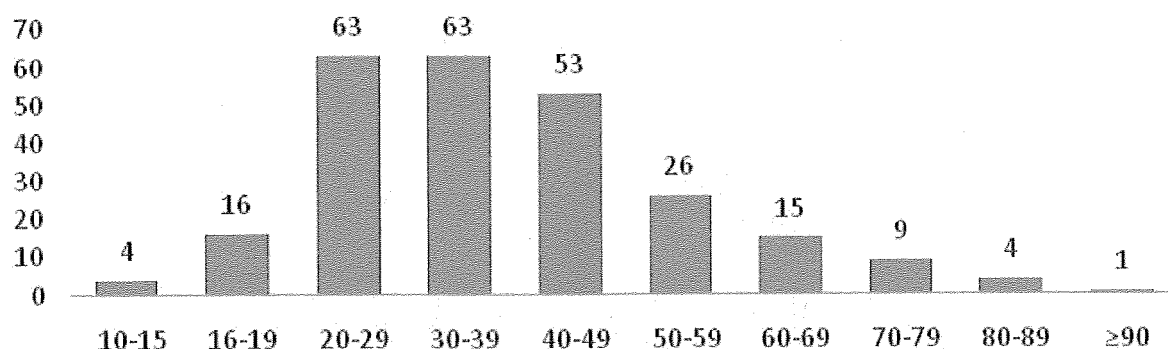


Fig. 2. The distribution of suicide cases by age group (in nominal values)

It can be noted a dominance of suicides in individuals of age groups 20-29 and 30-39 years old with the same number of cases, 64 (25%). There is a statistically significant difference with other age group categories ( $\chi^2 = 216.4$   $p < 0.01$ ). Individuals in the age group 40-49 are in third place with 53 cases (19%). It is seen that most of the cases, 199 or 78% of the total belong to the  $<50$  age group, with statistical difference with the  $>50$  age group, ( $\chi^2 = 79.3$   $p < 0.01$ ).

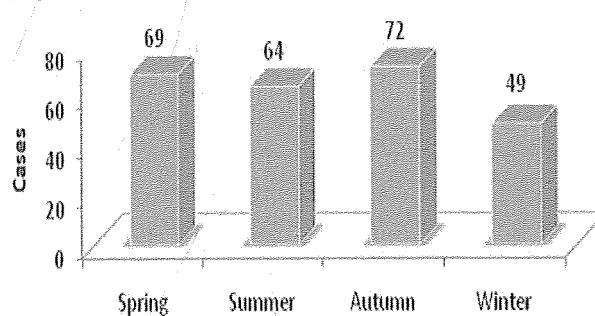


Fig. 4. Suicides by the seasons

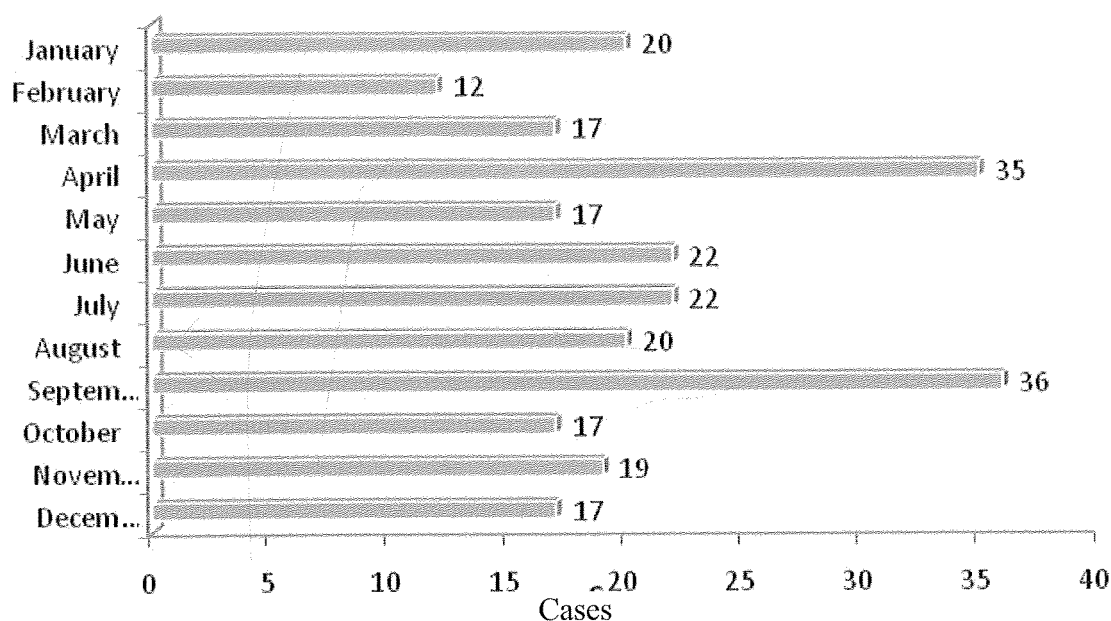


Fig. 3. The distribution of suicides by months

There was observed a predominance of suicide victims in September and April, respectively with 36 (14.2%) and 35 cases (13.8%). There were statistically significant differences with the other months ( $\chi^2 = 22.8$   $p < 0.01$ ).

In distribution according to seasons, the greatest number of suicides is noted in autumn with 72 cases (28.3%) and in spring with 69 cases (27.2%), followed by 64 cases (25.2%) in summer and 49 cases (19.3%) in winter. There is no statistically significant difference between the seasons ( $\chi^2 = 7.9$ ;  $p = 0.04$ ).

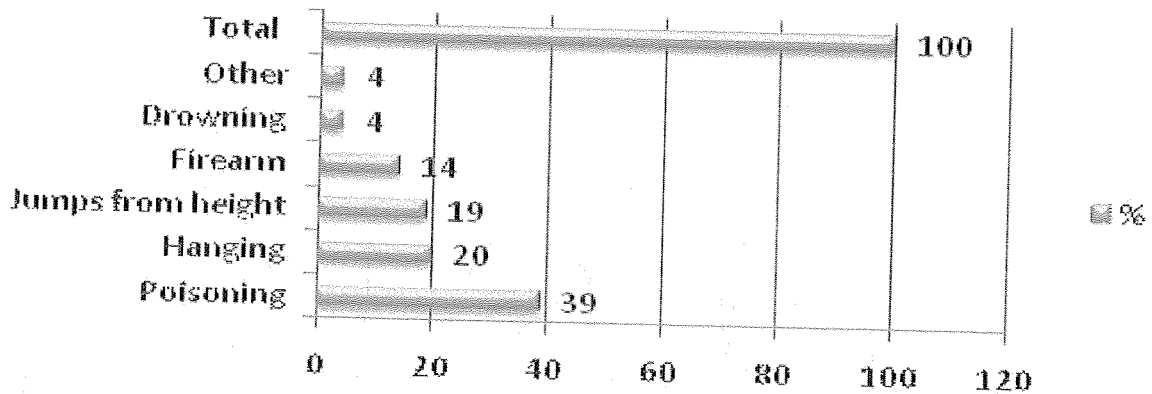


Fig. 5. Suicides by methods of commitment

There is an observed prevalence of poisoning to commit suicide with 100 cases (39.4%), with statistically significant differences to other ways ( $\chi^2 = 300.9$   $p < 0.01$ ). In the second and third place rank "hanging" and "jumps from heights" with respectively 51 (20%) and 47 cases (19%), and in fourth place ranks "firearms"

with 35 cases (14%).

According to morbidity we found that 129 cases (51%) suffered from depression, while 50 cases (20%) were diagnosed with other psychiatric disorders. There is a statistically significant difference between them ( $\chi^2 = 31.7$   $p < 0.01$ ).

Table nr. 2. Distribution of suicides according to morbidity

Mental disorders	N	%
<b>Depression (n=129)</b>		
1. Major unipolar depression	95	37.4
2. Psychotic depression	14	5.5
3. Bipolar depression	10	3.9
4. Depression due to somatic illness	6	2.4
5. Depression due to substance use	4	1.6
<b>Other psychiatric disorders (n=50)</b>		
1. Acute stressed situations	14	5.5
2. Schizophrenia	8	3.2
3. Schizoaffective disorder	2	0.8
4. Delusional disorder	3	1.2
5. Psychotic disorder due to alcohol use	1	0.4
6. Amnestic disorder	4	1.6
7. Bereavement disorder	2	0.8
8. Dysthymic disorder	1	0.4
9. Alcohol abuse	14	5.5
10. Personality disorder	1	0.4

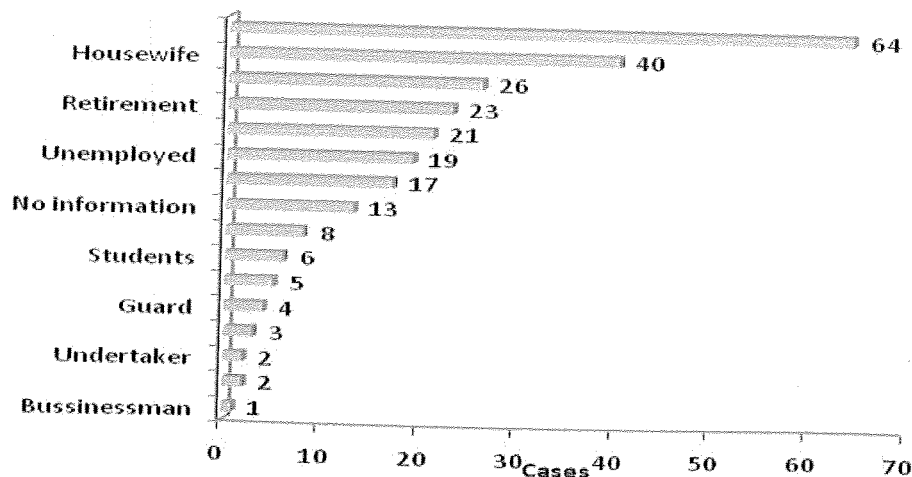


Fig. 6. Suicides by employment status

There is an observed predominance of suicides between laborers in 64 cases (25.2%). The difference is statistically significant compared to other professional categories ( $\chi^2 = 270.0$   $p < 0.01$ ). In second place with 40 cases (16%) were housewives followed by farmers with 26 cases (10%).

were treated by psychiatrists and 23 suicide victims (12.8%) by other physicians. The difference between them is statistically significant ( $p < 0.01$ ). From all cases of suicides (254), only 51 (20%) cases were treated from psychiatrists and 23 cases (9%) were treated by other physicians. 180 cases (71%)

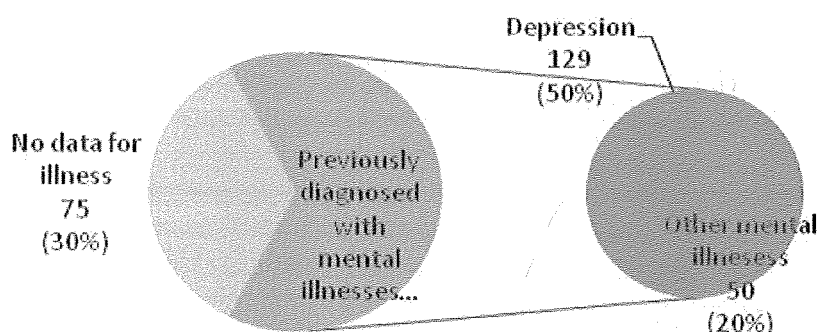


Fig. 7. Previously diagnosed with mental illnesses

For 179 cases (70%), there were identified data they suffered from a psychiatric disorder and for 30% of victims (75 cases) there was found no data whether or not they suffered from any disease. There are statistically significant differences between them ( $\chi^2 = 16.2$   $p < 0.01$ ).

were not treated before suicide and only 74 cases (29%) were. There are statistically significant differences between them ( $\chi^2 = 31.0$   $p = 0.03$ ).

**Discussion-** The average incidence of suicides in Tirana city within the period of time 2001-2010 result with 4/100.000, and the prevalence is 40/

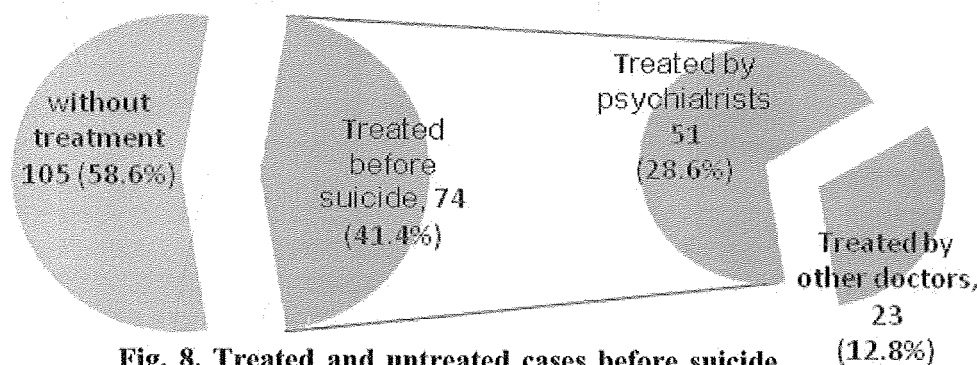


Fig. 8. Treated and untreated cases before suicide

From 179 cases previously diagnosed with mental illness, 105 cases (58.6%) were not treated before they committed suicide and only 74 cases (41.4%) were treated before the act. There are no statistically significant differences between them ( $\chi^2 = 33.9$ ;  $p = 0.2$ ). From the treated group (74 cases), 51 cases (28.6%)

100.000, which is similar with the national incidence and prevalence for the same time period (according to Albanian Institute of Statistics -INSTAT) (7).

Generally, men commit suicide four times more often than women, a rate that is stable over all ages (11). In our study it results that males commit suicide

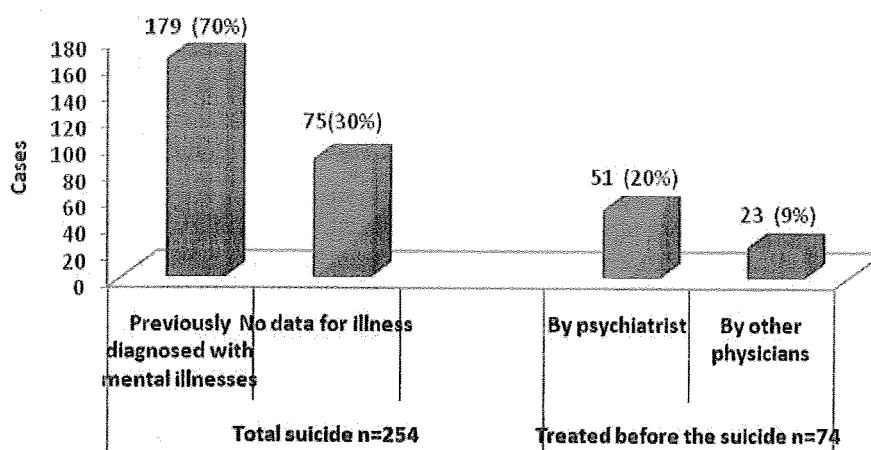


Fig. 9. Definitive data on the diagnosis and treatment before suicide



two times more often than women do (65% against 35%), which is a similar proportion to our national level, but much smaller compared to the data of World Health Organisation (WHO). We see the general trend in developed countries that males committed suicide 4 times more often than females. When we compare our data with the ones of the Republic of Kosovo and the suicide between ethnics Albanians in Republic of Macedonia (RM) for the same period time, we have higher levels of suicide. In Kosovo in the time period 2001-2010 the prevalence of suicides was 16/100.000 (calculated per 100.000 inhabitants) and for ethnic Albanians in RM the prevalence for this period is 29/100.000. It may be result of the economical and political transition in our country. On the other hand these two countries (Kosovo and Macedonia) have just finished an ethnic war. Also, in these two countries the emigration started two decades before it did in Albania, so they lower economical problems than Albania. And third but not least, it might be the continuation of the religiosity in Kosovo and RM. In Albania however, there was a long period of discontinuation of religion due to communism (7, 16, 18).

The most frequent ways of suicide were poisoning 39%, hanging 20%, jumps from heights 18% and firearms 14%, but in a national level the most common way of suicide for the same period was hanging 35%, firearms 23% and poisoning 21% (7). The highest rates were among young people and the greatest number of suicides occurred in spring and autumn. These may be result of prevalence of

depression between young people and seasonal characteristics of some types of depression.

According to the number of population, it results that suicides are more often in rural areas than in urban ones (the rate is 1.4). In rural areas a great proportion of people emigrate abroad or on cities. This perhaps has changed the internal cohesion of the family. Also in countries the medical services are in a much lower level than they are in the cities. In our study we find that for 30% of cases there was found no data whether or not they suffered from a mental illness and only 29% of cases were treated before suicide. According to data from studies we see that in developed country a great proportion of people who committed suicide were without psychiatric diagnosis (in Slovenia in the period time 1984-1999, 56% of victims were without psychiatric diagnosis) (17).

### Conclusion:

- The prevalence of suicide in the district of Tirana for the period of time 2001-2010 was found 0.04% (40/100.000).
- The average incidence of suicide in the district of Tirana for the period of time 2001-2010 was 4/100.000 (range from 0.4-10.1/100.000).
- For 70% of victims of suicide there was found no whether or not they suffered from an illness.
- Only 29% of victims were treated before they committed suicide, 20% by psychiatrists and 9% by other physicians.

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