

## SUICIDE IN ROMANIA COMPARED TO THE EU-28 COUNTRIES

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### Abstract

Both in Europe and Romania the interest for mental health has increased in the context of the recent economic crisis. In the European Union, every 9 minutes a person dies as a result of suicide, with 160 suicides per day, approximately 59,000 suicides per year, the suicide rate varying between wide limits in the different countries of this region. We conducted this study because there are no comparative studies between the situation of suicide in our country and the European Union and because we believe that for a better understanding of the dimension of the phenomenon of suicide, it is necessary to place it in a regional context. The rising suicide rate in young people and the elderly indicates

a worsening of the mental health status at national level in these age groups and in the elderly at European level.

**Keywords:** suicide, European Union, mental health, young people

## **Introduction**

Both in Europe and Romania the interest for mental health has increased in the context of the recent economic crisis. In the European Union, every 9 minutes a person dies as a result of suicide, with 160 suicides per day, approximately 59,000 suicides per year, the suicide rate varying between wide limits in the different countries of this region. Of the people who commit suicide, 90% suffer from mental disorders or belong to vulnerable and marginalized categories (unemployed, emigrants, people with disabilities, those who have been abused, consumers of psychotropic substances) being more likely to be affected by mental problems. (Tzampazi E, 2009)

The Resolution of the European Parliament no. 2008/2209 (INI) from 2009, regarding mental health, specifies the need to prevent depression and suicide in all member countries of the European Union, (Tzampazi E, 2009), these being invited to develop cross-sectoral suicide prevention programs.

Against the backdrop of massive external migration, with a negative impact on the mental health of children and elderly people left at home without the support of close family, as well as the difficult socio-economic conditions in our country, promoting mental health is a topical issue.

The Government of Romania is aware that suicide is an important national problem and has included the prevention of depression and suicide within the objectives of the National Program of Mental Health and Prophylaxis in Psychiatric Pathology, adopted in 2015, one of the activities planned to be implemented for this purpose being the training of family doctors for early detection of depression (Order No. 386, 2015)

I conducted this study because there are no comparative studies between the situation of suicide in our country and the European Union and because I believe that for a better understanding of the dimension of the phenomenon of suicide, it is necessary to place it in a regional context.

### Material and method

The characteristics of the suicide registered in the European Union and in Romania were analysed based on WHO and Eurostat statistical data, in 2015, and when data on other periods were available, these were included in the study to give a fuller picture about suicide.

### Results

By analysing the suicide rate according to the WHO statistical data, we can see that the countries with the highest suicide rates in 2015 joined the EU-28 after 2004, except for Belgium, with differences between the two genders. The highest rates of suicide in men were registered in the countries that joined the EU-28 in / after 2004, and in women in the countries that joined the EU-28 before 2004.

**Table 1. Ranking of EU-28 countries by suicide rate, in total, for both genders, ratio of male/female suicide rate and alcohol consumption**

<b>N</b>	<b>Total rate</b>	<b>Alcohol</b>	<b>Rate in men</b>	<b>Rate in women</b>	<b>Male /</b>
<b>r.</b>	Country/year of accession / suicide rate	<b>consumpt</b> <b>ion</b> - litres pure alcohol / inhabitant	Country/year of accession / suicide rate	Country/year of accession / suicide rate	<b>female ratio</b> Country/year of accession/ suicide rate
1	Lithuania/ 2004/ 26.1	Lithuania 15.0	Lithuania/ 2004/ 47.1	Belgium/ 1957/ 9.1	Slovakia/ 2004/ 7.24

2	Poland/ 2004/ 18.5	Czech Republic 14.4	Poland/ 2004/ 32.7	Lithuania/ 2004/ 8.1	Cyprus/ 2004/ 6.7
3	Latvia/ 2004/ 17.4	Germany 13.4	Latvia/ 2004/ 31.9	Sweden/ 1995/ 7.6	Poland/ 2004/ 6.67
4	Belgium/ 1957/ 16.1	Luxembur g 13.0	Estonia/ 2004/ 26.4	Finland/1995/ 7.2	Latvia/ 2004/ 6.64
5	Hungary/ 2004/ 15.7	Ireland 13.0	Hungary/ 2004/ 25.8	Hungary/ 2004/ 6.9	Romania/ 2007/ 6.56
6	Slovenia/ 2004/ 15	Latvia 12.9	Slovenia/ 2004/ 24.5	Slovenia/ 2004/ 6	Lithuania/ 2004/ 5.81
7	Estonia/ 2004/ 14.9	Bulgaria 12.7	Belgium/ 1957/ 23.4	Netherlands/ 1957/ 6	Estonia/ 2004/ 5.5
8	Finland/ 1995/ 14.2	Romania 12.6	Finland/ 1995/ 21.4	France/ 1957/ 5.9	Czech Republic/ 2004/4.54
9	Sweden/ 1995/ 12.7	France 12.6	Croatia/ 2013/ 19.2	Croatia/ 2013/ 5.7	Greece/ 1981/ 4.5
10	France/ 1957/ 12.3	Slovenia 12.6	France/ 1957/ 19	Austria/ 1995/ 5.3	Ireland / 1973/ 4.28
11	Croatia/ 2013/ 12.1	Portugal 12.3	Austria/ 1995/ 18.5	Luxemburg/195 7/5.2	Malta/ 2004/ 4.1
12	Austria/ 1995/ 11.7	Belgium 12.1	Bulgaria/ 2007/ 18.3	Poland/ 2004/ 4.9	Slovenia/ 2004/ 4.08
13	Bulgaria/ 2007/11.2	Austria 11.6	Slovakia/ 2004/ 18.1	Latvia/ 2004/ 4.8	Italy/ 1957/ 3.95
14	Ireland / 1973/ 11.1	Estonia 11.6	Ireland / 1973/ 18	Estonia/ 2004/ 4.8	Portugal/ 1986/ 3.86

15	Czech Republic/ 2004/ 10.6	Poland 11.6	Sweden/ 1995/ 17.8	Bulgaria/ 2007/ 4.8	Bulgaria/ 2007/ 3.81
16	Slovakia/ 2004/ 9.9	Slovakia 11.5	Czech Republic/ 2004/ 17.7	Denmark/1973/ 4.7	Hungary/ 2004/ 3.74
17	Netherlands/ 1957/ 9.4	Hungary 11.4	Romania/ 2007/ 16.4	Germany/ 1957/ 4.5	UK/ 1973/ 3.65
18	Romania/ 2007/ 9.2	UK 11.4	Portugal/1986/1 4.3	Ireland / 1973/ 4.2	Austria/ 1995/ 3.49
19	Germany/ 1957/ 9.1	Cyprus 10.8	Germany/1957/1 3.9	Czech Republic/ 2004/ 3.9	Croatia/ 2013/ 3.37
20	Denmark/1973/ 9.1	Finland 10.7	Denmark/1973/1 3.5	Portugal/ 1986/ 3.7	Spain/ 1986/ 3.24
21	Portugal/ 1986/ 8.5	Denmark 10.4	Netherlands/ 1957/ 12.9	UK/ 1973/ 3.2	France/ 1957/ 3.22
22	Luxemburg/1957/8.5	Greece 10.4	UK/ 1973/ 11.7	Spain/ 1986/ 2.9	Germany/ 1957/ 3.09
23	UK/ 1973/ 7.4	Spain 10.0	Luxemburg/1957/11.6	Slovakia/ 2004/ 2.5	Finland/ 1995/ 2.97
24	Spain/ 1986/ 6	Sweden 9.2	Spain/ 1986/ 9.4	Romania/ 2007/ 2.5	Denmark/1973/ 2.87
25	Italy/ 1957/ 5.4	Croatia 8.9	Italy/ 1957/ 8.7	Italy/ 1957/ 2.2	Belgium/ 1957/ 2.57
26	Malta/ 2004/ 5	Netherlands 8.7	Malta/ 2004/ 8.2	Malta/ 2004/ 2	Sweden/ 1995/ 2.34
27	Cyprus/ 2004/ 3.9	Malta 8.1	Cyprus/ 2004/ 6.7	Greece/ 1981/ 1.2	Luxemburg/1957/ 2.23

28	Greece/ 1981/ 3.2	Italy 7.5	Greece/ 1981/ 5.4	Cyprus/ 2004/ 1	Netherlands/ 1957/ 2.15
	UE 28 = 11.01	OMS Europa 9.8	UE 28 = 17.3	UE 28 = 5	UE 28 = 3.4

*Obtained by the processing of tables (3 WHO, 4 WHO) I marked with red the countries that have implemented a suicide prevention strategy.*

In the ranking of EU-28 countries according to the ratio of suicide rate in men/women the first 12 places are occupied by countries that joined the EU-28 in/after 2004 and by countries strongly affected by the economic crisis of 2007 (Greece ranking 9<sup>th</sup> and Ireland 10<sup>th</sup>).

Romania ranked 18<sup>th</sup> in terms of suicide rate, 17<sup>th</sup> in men, 24<sup>th</sup> in women, probably due to the more important role of the Orthodox religion in women's lives, and 5<sup>th</sup> in relation to the ratio of men/women suicide rates after Slovakia, Cyprus, Poland and Latvia, of which only Poland has a suicide prevention strategy.

Alcohol is known to be a risk factor for suicide, and Romania ranks 8<sup>th</sup> in terms of alcohol consumption in the European Union, with 28.6% higher consumption in the EU 28. The increased consumption of alcohol in our country is not a surprise, being known that in the Carpathian-Danubian-Pontic area the tradition of alcohol consumption dates by 6,000 years ago, and according to ancient legends the god of wine, Dionissos, was born in Thrace.

Using the Pearson correlation test we found that there was a moderate positive correlation between total suicide rate and alcohol consumption ( $R = 0.4958$ ,  $p = 0.007295$ ), a moderate positive correlation between male suicide rate and alcohol consumption ( $R = 0.5328$ ,  $p = 0.003511$ ), which means that there is a tendency for high rates of suicide to be associated with high alcohol

consumption (and vice versa), and a very poor positive statistically insignificant correlation between female suicide rate and alcohol consumption ( $R = 0.2475$ ,  $p = 0.2041$ ).

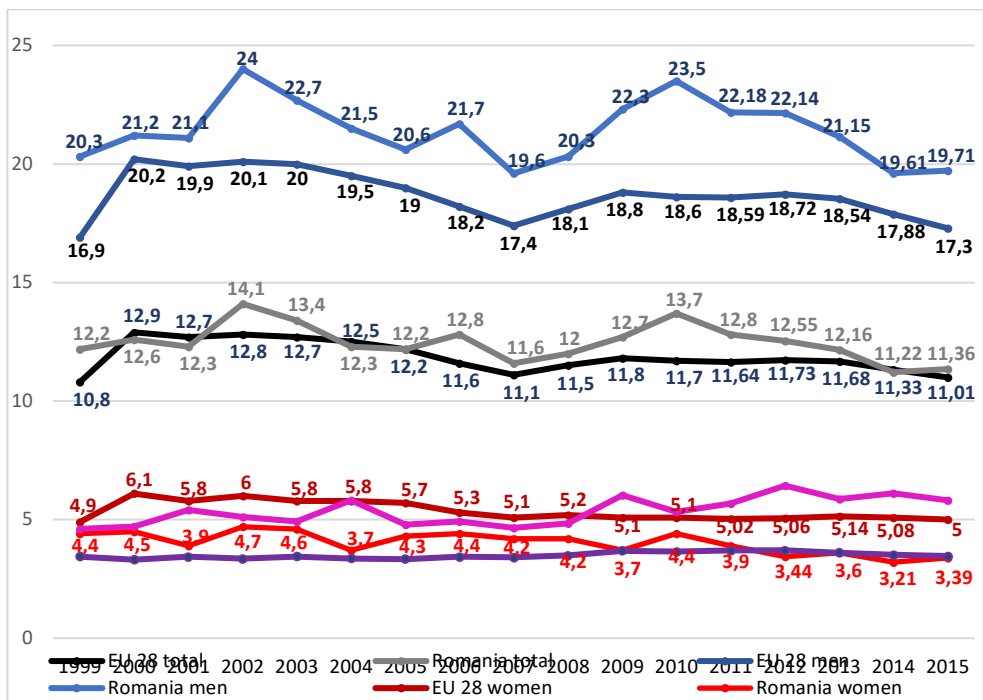
Of the 28 countries in the EU-28, a national suicide prevention strategy has been adopted in 17 countries (England, Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Germany, Ireland, Luxembourg, the Netherlands, Poland, Portugal, Slovenia and Sweden), and in 2 countries there are suicide prevention guides (in Italy and Spain), Greece being the only country that joined the EU before 2004, which does not yet have a suicide prevention strategy.

Of the 13 countries that joined the EU after 2004, only 4 have implemented a suicide prevention strategy (Bulgaria, Estonia, Croatia for children and adolescents, Poland, Slovenia), although they have high rates of suicide. Most countries that ranked first in terms of the ratio of male/female suicide rates did not have a suicide prevention strategy.

### **1.3.1 Comparative analysis of suicide in Romania and in the EU 28**

During the whole period 1999-2015 the value of the total suicide rate in Romania was close to that of the EU-28. In case of men in Romania the suicide rate was higher than in the EU-28, while the suicide rate in women in Romania was lower, thus explaining the higher ratio of men/women suicide rate in Romania (on average 5.4) than in EU28 (3.5).

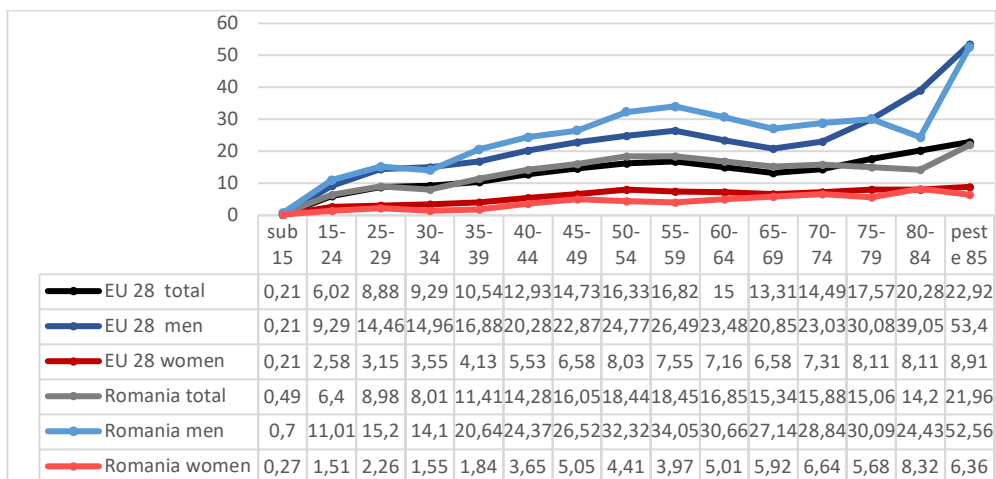
**Figure 1. Evolution of the total suicide rate by gender, in the EU-28 and Romania**



Obtained by the processing of tables (5 Eurostat, 6 Eurostat)

In Romania, the total suicide rate in men has 3 peaks, in 2002, 2006 and 2010, while in EU 28 there were 2 peaks, in 2000 and in 2009.

Figure 2. Suicide rate, by age group, in EU-28 and Romania in 2015



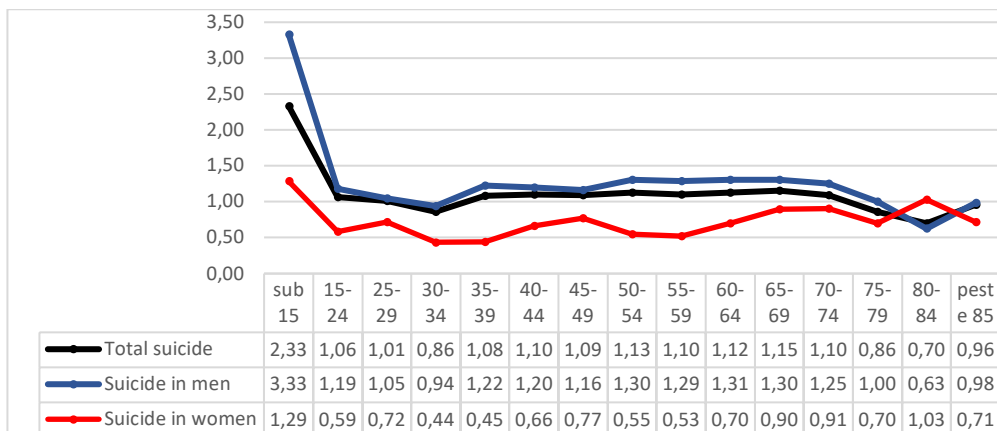
Obtained by the processing of tables (6 Eurostat)

The highest suicide rate in EU 28 and Romania was observed in people aged 50-59 years, according to the results of studies from the USA, Canada, Ireland and UK. (Navaneelan, 2017; AFSP; O'Donnell, 2018; Samaritans, 2018) A possible explanation for the high rate of suicide in this age group is the increase in mortality in middle-aged Caucasian people due to "drug or alcohol intoxication, suicide, chronic liver disease and cirrhosis", (Case, 2015) more marked in persons with a low level of education, as well as almost doubling the number of people in this age group with disability caused by psychiatric disorders and musculoskeletal diseases. (Cheatle, 2011)

By analysing the suicide rate by age group, we observe that the total suicide rate in the EU-28 was higher than in Romania in people between 30-34 years and over 75 years.

The suicide rate in men in the EU-28 was higher than in Romania in the age group 30-34 and over 80, while the suicide rate in women in the EU-28 was higher than in women in Romania, except for the age group under 15 and 80-84 years.

**Figure 3. Report of suicide rate in Romania / EU-28, by age group, in 2015**



*Obtained by the processing of tables (6 Eurostat)*

The highest ratio between the total suicide rate in Romania and the EU-28 was registered in the age group under 15 years, being 2.3 times higher, 3.3 times higher for boys and 1.3 times higher for girls. Children under 15 in Romania represent a much more vulnerable group to suicide than children in Europe due to the family's economic and emotional problems caused by the leaving of one or both parents to work abroad, children remaining in the care of one of the parents, grandparents or another relative, the so-called "white orphans" named as such by the Italian media.

All three types of parental absence (father, mother, or both parents) were associated with negative emotional consequences, especially loneliness, depression and anxiety, (Tomşa, 2015; Zhao, 2014; Wang, 2015; Fellmeth, 2018) bullying behaviors, computer dependence, and poorer performance on cognitive tests. (Guo, 2012; Hu, 2014; Geng, 2013) Children with both parents left more often presented with autolytic ideation, depression and anxiety being the mediators in the relationship between the absence of parents and the suicidal ideation.( Fu, 2017) Given that the affective relationship between mother and child is an essential element for healthy childhood development, (Jampaklay, 2018) the large number of children living separately from the mother is worrying, especially since the long-term effects of parental migration are unknown.

In order to realize the extent of the phenomenon of emigration, we calculated that during 2008-2015, 1 750 000 inhabitants emigrated permanently or temporarily from Romania, the majority of young people looking for a job or to study. (22 INSSE) The identification of the new risk factors of suicide in the current socio-economic context of our country, is an essential objective in order to develop a project of primary prevention of depressive-anxiety disorders and suicidal behaviors.

The fact that in men in Romania the suicide rate was higher than in those in the EU-28 in all age groups, with the exception of groups 30-34 and over 80, suggests that men in Romania have a higher vulnerability to suicide. One of the

explanations would be that they have more frequently the role of supporting the family, associated with the reduced availability of a job, especially of one that allows them to fulfil this role. Another cause of the higher rate of suicide in men in Romania is higher alcohol consumption, our country being ranked 9<sup>th</sup> in Europe in case of consumption of pure alcohol per capita (12.6 litres/year), being exceeded only by Moldova (15.2), Lithuania (15), Czech Republic (14.4), Germany (13.4), Ireland (13), Luxembourg (13), Latvia (12.9) and Bulgaria (12.7). Also, Romania ranks 10<sup>th</sup> among EU 28 countries, in which the episodic pattern of increased alcohol consumption, of more than 60 grams of pure alcohol at least once a month is frequent, being situated after Lithuania, Latvia, Luxembourg, Estonia, Czech Republic, Slovenia, Ireland, Slovakia and Germany. (23 WHO)

In women in Romania, the suicide rate was higher than in the EU-28 only in the age group under 15 years and 80-84 years.

Between 1999-2015, the increase of the total suicide rate in the age groups 50-54, 60-64 years in the EU 28, and in Romania in the age groups 15-19, 60-64 and 80-89 years, indicates a worsening of the mental health status in these age groups. (Table 2)

**Table 2. Suicide rate in Romania and EU-28, by age groups, 1999-2015**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total EU	10.75	12.96	12.71	12.88	12.76	12.54	12.21	11.67	11.17	11.55	11.83	11.74	11.73	11.82	11.76	11.38	11.06
Total RO	12.17	12.63	12.13	14.05	13.38	12.30	12.17	12.80	11.50	11.98	12.65	13.63	12.56	12.41	12.01	11.03	11.20
<15 years EU	0.26	0.32	0.32	0.32	0.26	0.31	0.25	0.24	0.26	0.22	0.26	0.22	0.20	0.20	0.21	0.20	0.21
<15 years RO	0.92	0.70	0.77	1.19	0.79	1.62	0.54	0.53	0.56	0.71	0.74	0.50	0.63	0.50	0.45	0.45	0.49
15-19 EU	5.41	5.74	5.32	5.43	5.02	5.16	4.80	4.76	4.54	4.99	4.83	4.57	4.55	4.52	4.53	4.67	4.31
15-19 RO	5.24	5.34	4.69	4.71	4.24	5.16	4.64	5.78	5.32	6.21	6.59	6.82	6.57	5.81	5.22	4.51	5.55
20-24 EU	8.66	9.82	9.43	9.59	9.65	9.43	8.47	8.20	7.82	8.27	8.40	8.61	8.48	8.40	7.99	8.04	7.58
20-24 RO	7.59	6.62	7.16	8.96	7.79	8.06	6.34	6.17	5.18	8.32	9.01	9.95	10.43	8.81	7.77	7.46	7.00
25-29 EU	9.63	11.06	10.59	10.68	10.47	10.20	9.75	8.83	8.74	9.34	9.50	8.85	9.25	9.32	9.21	9.07	8.95
25-29 RO	10.68	10.99	9.86	10.36	10.29	7.56	7.95	8.88	8.24	7.90	10.47	8.83	8.35	10.32	9.15	8.33	8.54
30-34 EU	10.50	12.50	12.35	12.68	11.93	11.61	11.25	10.45	9.91	10.19	9.91	10.21	9.77	10.15	10.15	9.91	9.30
30-34 RO	11.16	12.66	11.97	13.14	11.10	15.11	10.16	10.82	9.35	9.69	10.89	11.93	10.06	9.91	9.75	9.27	7.52
35-39 EU	12.59	15.18	14.59	14.41	14.53	13.88	13.34	12.70	11.88	12.06	12.45	11.98	12.04	11.70	11.40	10.95	10.57
35-39 RO	15.34	14.55	16.69	18.99	19.81	17.60	16.25	19.07	17.80	14.26	12.93	15.16	14.54	14.40	12.65	8.94	11.07
40-44 EU	14.87	18.13	17.64	17.65	17.10	16.60	15.57	14.39	13.66	14.50	14.60	14.62	14.41	14.38	13.96	13.64	12.94
40-44 RO	18.52	19.83	19.65	21.06	19.98	16.40	15.03	14.53	12.72	13.89	16.98	18.49	15.01	16.37	14.19	11.84	13.90
45-49 EU	15.45	19.75	19.25	18.88	19.55	19.03	18.25	17.39	16.14	16.47	17.34	16.81	16.62	16.81	16.61	15.54	14.74

45-49 RO	20.66	23.21	22.01	24.21	25.31	22.56	20.98	22.03	18.13	18.59	23.10	23.42	21.31	22.80	21.70	17.99	16.27
50-54 EU	<b>14.90</b>	<b>18.28</b>	<b>18.22</b>	<b>19.01</b>	<b>18.92</b>	<b>19.07</b>	<b>18.94</b>	<b>18.56</b>	<b>17.12</b>	<b>18.14</b>	<b>18.91</b>	<b>18.60</b>	<b>18.54</b>	<b>18.44</b>	<b>18.16</b>	<b>17.44</b>	<b>16.45</b>
50-54 RO	22.24	21.88	22.65	27.82	23.24	17.62	24.82	25.25	22.54	22.35	22.88	23.98	21.91	19.64	19.80	18.04	17.96
55-59 EU	<b>15.23</b>	<b>17.28</b>	<b>17.35</b>	<b>17.02</b>	<b>17.13</b>	<b>16.92</b>	<b>17.22</b>	<b>16.26</b>	<b>15.82</b>	<b>16.74</b>	<b>17.88</b>	<b>18.07</b>	<b>18.34</b>	<b>18.26</b>	<b>18.39</b>	<b>17.19</b>	<b>16.95</b>
55-59 RO	21.44	23.65	18.58	24.58	23.01	23.74	22.30	22.26	19.27	19.96	18.97	23.26	20.43	19.86	18.99	19.27	17.86
60-64 EU	<b>14.41</b>	<b>16.94</b>	<b>16.35</b>	<b>16.52</b>	<b>16.13</b>	<b>15.98</b>	<b>15.60</b>	<b>15.24</b>	<b>14.05</b>	<b>14.21</b>	<b>15.10</b>	<b>15.55</b>	<b>15.19</b>	<b>15.56</b>	<b>15.85</b>	<b>14.98</b>	<b>15.08</b>
60-64 RO	<b>15.60</b>	<b>17.89</b>	<b>16.75</b>	<b>18.02</b>	<b>20.61</b>	<b>12.57</b>	<b>19.11</b>	<b>17.13</b>	<b>15.99</b>	<b>14.90</b>	<b>14.06</b>	<b>16.87</b>	<b>17.43</b>	<b>17.86</b>	<b>18.56</b>	<b>15.64</b>	<b>16.98</b>
65-69 EU	14.73	17.17	16.41	16.60	16.41	15.77	15.98	15.50	14.71	14.99	15.26	14.54	14.14	14.23	14.86	13.54	13.60
65-69 RO	16.95	17.83	16.95	18.57	17.31	16.65	18.80	17.14	16.56	18.14	17.84	18.25	18.50	15.52	17.07	16.40	15.96
70-74 EU	16.39	19.73	18.18	19.21	17.85	17.91	17.48	16.68	15.91	15.94	15.57	15.83	16.08	15.75	15.90	15.43	14.39
70-74 RO	19.78	17.31	14.99	18.97	19.10	17.32	14.73	20.70	17.12	18.08	16.94	18.48	15.52	16.98	16.24	17.35	15.56
75-79 EU	18.22	22.15	21.02	21.15	20.81	20.50	19.45	19.07	19.01	18.64	17.78	17.21	17.90	18.25	17.83	17.57	17.73
75-79 RO	17.53	16.20	14.75	21.08	16.22	15.45	16.82	16.05	15.40	17.29	13.46	13.31	13.40	12.16	12.99	15.33	14.98
80-84 EU	21.98	27.40	25.90	25.50	26.24	24.32	23.85	22.37	21.64	21.70	20.79	20.89	20.52	20.87	20.06	20.72	20.39
80-84 RO	23.23	22.94	17.05	15.42	21.54	21.25	26.29	19.77	20.43	16.26	13.91	14.86	13.39	14.08	13.32	14.05	14.21
85-89 EU	24.27	32.12	30.11	29.90	29.30	28.15	28.17	24.55	24.93	23.75	24.16	24.14	23.34	24.05	23.50	25.63	24.25
85-89 RO	<b>18.90</b>	<b>19.73</b>	<b>20.62</b>	<b>16.71</b>	<b>13.12</b>	<b>11.49</b>	<b>17.56</b>	<b>12.75</b>	<b>17.31</b>	<b>14.55</b>	<b>18.04</b>	<b>17.66</b>	<b>17.24</b>	<b>15.13</b>	<b>18.38</b>	<b>16.06</b>	<b>22.59</b>

*Obtained by the processing of tables (5.6,24 Eurostat) With bold I pointed out the age groups in which the suicide rate increased.*

## **Discussions and conclusions**

In the ranking of the EU-28 countries according to the total suicide rate and the suicide rate in men, Romania ranked in its second part, in the middle of the ranking in what concerns the suicide rate in women and on the 4<sup>th</sup> rank according to the ratio of the suicide rate in men/women, after Cyprus, Poland and Latvia. Most countries that ranked first according to the ratio of suicide rates in men and women do not yet have a suicide prevention strategy.

During the whole period 1999-2015 the total suicide rate in Romania was close to that of the EU-28, while in men the suicide rate was higher, and in women it was lower than in the EU-28.

In Romania there was a higher suicide rate than in the EU-28 for all age groups, except for the groups 30-34 and after 75 years. Under the age of 15, the suicide rate was much higher in Romania than in the EU-28, both in men and women, the important emigration of parents having had a big contribution.

Men in Romania aged between 50-69 had a suicide rate of approximately 30% higher than those in the EU-28, followed by those aged between 70-74 (25%) and by those aged between 15 -24 and between 35-44 (with 20%).

The rising suicide rate in young people and the elderly indicates a worsening of the mental health status at national level in these age groups and in the elderly at European level.

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