

A MEDICO-LEGAL ANALYSIS OF THE SUICIDE PHENOMENON IN ROMANIA AT THE BEGINNING OF THE 20th CENTURY VS. THE BEGINNING OF THE 21st CENTURY

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Abstract: Background. Suicides are a common occurrence in all types of human societies throughout time.

Each suicide is a singular event that disrupts and influences in a negative manner the lives of those that survive the person that kills themselves.

Methods. Data collected in two important medico-legal books are analyzed, Professor’s Nicolae Minovici “Studiu asupra Spanzurarei (Etude du Pendaison, Study of Hangings), 1904 and Professor’s Teodor Vasiliu “Problema Sinuciderilor – in cadrul unor noi statistice”, (The issue of suicides – in the context of new statistics), 1939 as much as medico-legal PHD thesis on various topics and titles of suicides and other documents from the National Archives.

Results. By analyzing Romanian society over a time lag of one hundred years – the beginning of the 20th Century and the start of the 21st Century – we were able to clearly observe societal changes (i.e. demographics, area, attitudes, criteria of influence, etc.), including Forensic Medicine changes in the approach, reporting, statistics. Based on these we were able to draw several pertinent conclusions that can help in developing a system of coping management and the development of a prevention strategy.

Conclusions. One hundred years of gap in the analysis time frame have allowed us to better observe otherwise incremental changes in the way people take their own lives in Romania, their motivation behind such desperate acts, the means employed, but also society’s response and approach. We observed a better and more reliable reporting of quantitative events, however, we also have seen a deterioration of the qualitative data available in central reporting.

Keywords: Suicide, analysis, 20th century, 21st century, discrepancy of reporting, statistics.

INTRODUCTION

Throughout human history, no society has managed to eradicate the phenomenon of human autolytic behavior.

Historically there have been many factors that have contributed to the incidence of such an event. Suicides and suicidal behavior are worth a close study as any single event does not only affect the person perpetrating it, but through a domino effect, it involves all those around the person taking their own life, sometimes with grave consequences, as other people in the victims’ entourage can decide to take their own lives as well.

Each suicide has as well an economic impact; people need to take time off work, throughout the grieving process they are generally less productive, they

might need support, including professional support.

In Romania’s case, fast changes have occurred at a societal, demographic, linguistic and economic level in the last 150 years; both the 1859 and 1918 political unification processes and the unification of its writing systems followed (Cyrillic script to Latin script) [1]. Linguistically, an official Romanian language emerges based on the Southern dialect (though the three major dialects were perfectly mutually intelligible). Economic and demographic aspects will be more closely analyzed further in this work, as they more closely impact the subject matter.

Suicides, like any social or medical issue is not a static phenomenon, it is inexorably linked to political, social, or economic change, as well as the psychological wellbeing of an individual.

To start with, a study over such a great time;

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more than 100 years, can generate difficulties relating to a specific geographical area, as the borders of the country changed in between the two World Wars. Each change of the border has inevitably caused upheaval and migrations; both immigration (migrations of local populations within the new borders, migrations of populations from other countries for political, economic, social, or ethnic reasons) and emigration (native populations of new territories can decide to leave the new country they find themselves living in) [2].

From a social point of view, it is self-evident that in Romania several less well-off social classes have moved towards the middle classes. Financial polarisation of the population changing from the extreme levels at the beginning of the 20th Century, to less extreme levels as the century progressed, and then increases again after the revolution in December 1989 [3]. Interestingly, the financial polarisation levels of the population are somewhat synchronous with literacy and school attainment levels, criteria which we know can impact on the levels of suicides.

Another major turn, with great impact on suicide levels as we will try to show, was the general population's attitude to religion and theological dogma. Proof, if needed, can be witnessed in the divorce levels in Romania; at the beginning of the 20th Century divorce levels were almost nil, as fear of shame, following of religious precepts, economic dependence were major barriers, whilst a hundred years later this social indicator was at 50% (source: National Institute of Statistics).

Without any doubt the wealth and standard of living of the population in Romania has increased by a great deal in this last hundred years: qualified urban populations in relative terms earn a great deal less than before the Great War, but their standard of living is nevertheless much higher due to societal developments; health care, infrastructure, etc. On the other hand, the urban poor and the rural population have witnessed unparalleled growth in their wellbeing and living standards. All these factors contributing to a better off population, but also older population. Standard of living, wellbeing, and personal wealth are especially important factors in suicide study and prevention.

METHODS

Our analysis will be primarily based on statistics and annual statistics compiled by the National Institute of Forensic Medicine, and its institutional predecessors,

annual statistics of the National Institute of Statistics, in particular for the late 19th and early 20th Century, where reliable statistics are lacking almost entirely we will use books that analyze various aspects and types of suicides, as well as doctoral thesis on this theme by Romanian forensic medicine practitioners (Physician, teaching or lecturing staff, etc), articles and works by specialists and Romanian sociologists specialized in this field of study.

Although the actual territory of Romania has undergone many changes over the century we cover in this study we will always try to refer to the entire landmass and population of Romania at any given moment, as the few statistical data we could find always refers to Romania as it was then.

In some instances, we possess data only for Bucharest, and luckily, we have demographic data for it. To diminish the aberrations introduced by such variations, we will perform the analysis in percentages. While we agree that this type of analysis is a priori an approximation, as different population categories will have variable proportions of the total population in time, the analysis will allow us to extract important and pertinent conclusions to the matter at study.

The last census of the 19th Century in Romania was telling us that Romania entered the 20th Century with a population of 6 million people, the vast majority ethnic Romanians, thus a very homogenous country, without great ethnic or religious tensions within. Romania, at the time of the turn of the 20th Century had no serious conflict with any of its neighbours, it had a non-aggression and alliance Pact with Austro-Hungary and Germany (1882), based on dynastic family relations [4-6].

At the time of the 1912 census, the year of the First Balkan War, the authorities decided the final report be in the old style of Ottoman times; final report classifies people by religion rather than by ethnicity, this having positive connotations, as the ethnic background of someone was perceived as being less important than their religion [9]. This approach in great part masks the presence of other ethnic populations such as Bulgarians, Greeks, or Serbs, as they have been counted with Orthodox believers, while Catholic believers with other ethnic groups. The number of those declaring themselves as Lipovan Russians increases four-fold, those declaring themselves as Muslim doubles. In the 13 years gap between the censuses, we may count a population growth of almost 25%, an extremely high figure. A deepening of centralisation is to be seen; the city of Bucharest was the greatest winner.

Due to various adverse conditions i.e. political, administrative, etc. The National Archives have gone through in the last 100 years a lot of historical data was altered or lost [2], Two books drew our attention on this topic: Professor's Nicolae Minovici "Studiu asupra Spanzurarei (Etude du Pendaison, Study of Hangings), 1904 at that time subdirector of the National Institute of Legal Medicine Institute in Bucharest [7] and Professor's Teodor Vasiliu ("Problema Sinuciderilor – in cadrul unor noi statistice", The issue of suicides – in the context of new statistics, 1939), in that time also subdirector of the National Institute of Legal Medicine Institute in Bucharest [8].

Tableau Sinuciderilor de la 1891-1902

F E L U L	1891		1892		1893		1894		1895		1896		1897		1898		1899		1900		1901		1902		Total
	B.	F.	B.	F.	B.	F.	B.	F.	B.	F.	B.	F.	B.	F.	B.	F.	B.	F.	B.	F.	B.	F.	B.	F.	
Spânzurări	3	2	12	1	10	2	1	4	4	4	6	1	7	4	8	2	12	1	10	1	17	4	15	5	136
Prin arma cu foc a drum de fer a Tramvai	6	—	12	1	7	—	13	2	5	2	10	1	5	—	6	—	13	2	40	—	7	1	6	1	110
Inst. tector.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14
Inecări	2	—	—	—	3	—	4	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13
Aruncări în puț Arunc. de la înălțimi Arsuri de petrol Fosfor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Oxid de carbon Acid fenic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Esență de oțet Amoniac	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16
Acid sulfuric	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10
Biclorură mercur Ceanură de potas Arsenic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15
Acid azotic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Morfina	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Sublimat corosiv Sulfat de cupru Laudanum	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Total	12	3	28	9	24	7	24	7	14	7	22	9	17	5	25	10	33	10	24	13	30	8	20	12	370

Notă. — B. F. = Bărbați, Femei.

Figure 1. Suicides from 1891 – 1902 (photo) [7].

Table 1. Suicides split by sex and method [7]

Method	Male	Female	Total
1 Shooting	120	8	128
2 Poisoning	46	71	117
3 Hanging	44	17	61
4 Cutting or Stabbing instruments	33	2	35
5 Jumping in front of a train	8	2	10
6 Jumping out the window	8	0	8
7 Drowning	2	2	4
8 Asphyxia with coals	3	1	4
9 Various methods not mentioned	3	2	5
Total	267	105	371

Table 2. Suicides by split by sex ratio between 1901 and 1910 [8]

Year	Total number of suicides	Men	Women	Ratio
1901	43	33	10	3.3
1902	59	36	23	1.5
1903	42	32	10	3.2
1904	26	17	9	1.8
1905	26	20	6	3.3
1906	23	19	4	4.5
1907	36	27	9	3.0
1908	33	25	8	3.1
1909	39	29	10	2.9
1910	49	38	11	3.4

Beside the data presented in these two rare books, we used also Doctoral thesis on various suicide titles of the University of Medicine and Pharmacy Carol Davila Bucharest.

RESULTS

At the turn of the 20th Century the population of the city of Bucharest was 300,000 inhabitants [2]. A mean rate of 10‰ and a sex male: female ratio of 2.5 to 1 is depicted in dr. Minovici's book.

However, data from Dr. Vasiliu's book, are more detailed.

A suicide rate of 12.5‰ is then depicted for the first decade of the 20th Century in Bucharest, and a Male: Female ratio 3 to 1 (both the suicide rate and the ratio are very small compared to what we might normally expect). Indeed, the ratio, according to this data [8] stays low for the first half of the 20th Century. He gives us a mean ratio of 1.9 to 1 for a 50 years period.

At the beginning of the twentieth century, the reported suicide rate in Bucharest was about 2.5 men per 1 woman. This ratio is much lower than that of about 5.3 men to a woman for the beginning of the 21st century, but if we consider the very high probability that the number of suicides for men will be under-reported due to social pressure it is possible to reach figures closer to current ones. While this analysis is based on certain assumptions, they are credible, and probably likely. A further corroboration could be gained if we compare suicide methods to current ones.

Professor Dr. N. Minovici's analysis [7] is much more detailed; by age groups, by trades, by marital status, by ethnicities and many other criteria, but unfortunately, he restricts his analysis only to the subject of study in his book; hangings. What is obvious is that at that time the statistics were much more sophisticated, allowing the author to extract such statistical data from the general statistics of the time.

At the end of the twentieth century and the beginning of the twenty-first century two Romanian sociologists stand out: Mr. S. Radulescu, "Evolutions and trends of the suicidal phenomenon in Romania, in the period 1996-2012" [9] with a complex and exhaustive analysis of the suicide phenomenon in the period that we analyse and Mrs. Cristina E. Bradatan, "About Some 19th-Century Theories of Suicide Interpreting Suicide in an East European Country" [10] providing a historical qualitative and quantitative analysis corroborating, or not, older analytical theories, in line with analysis from other countries, and applying

these methods to Romania.

According to the data of the National Institute of Legal Medicine, corroborated by those from the National Institute of Statistics (there still are small differences between the data of the two institutions), in Romania there are on average 2,700 to 3,200 suicides per year.

Between 1996 and 2012 only the years 2000, 2002 and 2003 are out of the norm; for the period 1996 – 2012 this figure is at just over 3,100 deaths a year [11].

While the number of suicides is relatively constant, the population of Romania varied quite a lot

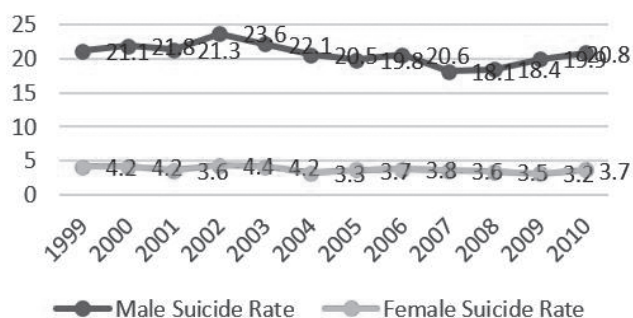


Figure 2. Male vs. Female Suicide rates 1999-2010 (Source: EUROSTAT 2012).

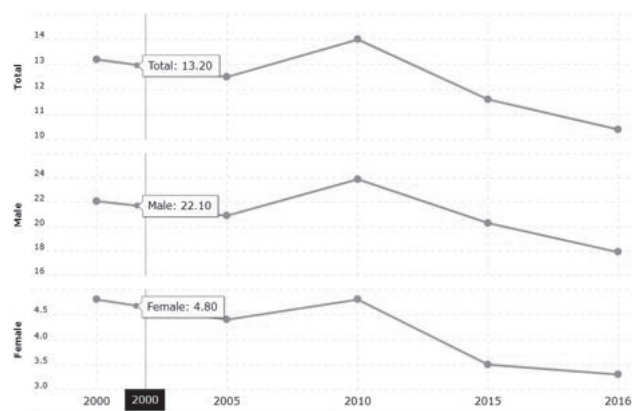


Figure 3. Male vs. Female Suicide rates 2000-2016 (Source: World Bank, 2018).

during this period, from 21,698,181 people according to the 2002 census to 20,121,641 according to the 2011 census. So, in terms of the standardized suicide rate, in the most accurate terms (having the census figures), Romania goes from a rate of 16.06 per 100,000 inhabitants to 13.84 [11].

From the point of view of gender analysis, we have an approximate rate of one woman to five men, this ratio being relatively constant between 1996 and 2012.

If we are to take the data of the National Institute of Legal Medicine Mina Minovici Bucharest [11] related to an estimated population - one of the consequences of democracy being the deterioration in real terms of the quality of information from the Population Records; many people no longer bother with registering their temporary address, or registering with the Romanian embassies abroad when settling in other countries, so reporting is approximate, but with

Table 3. The evolution of suicides in Romania between 1996 and 2012[11]

YEAR	No. of suicides	YoY Variation	Variation to 1996	% of violent deaths
1996	2,933	-	-	no data
1997	3,174	+8.0	+8.0	no data
1998	3,318	+4.3	+11.6	26.0
1999	3,541	+6.3	+17.2	25.3
2000	3,967	+10.7	+26.1	30.1
2001	3,120	-27.1	+6.0	28.3
2002	3,486	+10.5	+15.9	31.0
2003	3,481	+0.1	+15.7	29.4
2004	2,594	-34.2	-13.1	28.8
2005	2,913	+11.0	-0.7	26.6
2006	3,187	+8.6	+8.0	27.7
2007	2,705	-17.8	+8.4	22.8
2008	2,802	+3.5	-4.7	23.6
2009	2,953	+5.1	+0.7	25.3
2010	3,050	+3.2	+3.9	26.1
2011	2,784	-9.6	-5.4	27.0
2012	2,753	-1.1	-6.1	26.8

Table 4. Split of suicides by age and method employed 1996-2012 (Source: NILM annual statistics [11])

AGE	Hanging	Heights	Vehicles	Arson	Shooting	Drowning	Wounding	Poisoning	Other	TOTAL
11-20	15.3	10.0	3.2	-	3.6	12.9	8.5	23.1	20.0	105
21-30	19.0	22.2	22.6	13.6	17.9	18.6	23.4	17.5	20.0	164
31-40	18.7	16.7	25.8	13.6	7.1	11.4	17.0	24.2	40.0	151
41-50	18.1	16.1	21.1	27.3	42.8	18.6	23.4	16.5	20.0	158
51-60	15.9	11.7	12.9	27.3	25.0	18.6	10.6	13.2	-	123
61-70	8.4	9.4	4.8	13.6	-	5.7	6.4	1.1	-	58
71-80	1.9	3.9	4.8	-	-	8.6	4.3	2.2	-	26
81+	1.5	3.9	1.6	-	3.6	5.6	4.3	1.1	-	21
Unknown	1.2	6.1	3.2	4.6	-	-	2.1	1.1	-	20
TOTAL	321	180	62	22	28	70	47	91	5	826
%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

deviations small enough to still be relevant - we have an evolution of standardized rates of suicide according to Figure 4.

An analysis of the suicides divided by sex after 100 years, the ratio changed from 2.5: 1 men compared to women in the early twentieth century to 5:1 in the early twenty-first century.

Considering that most of the deaths, according

to Professor Nicolae Minovici [7], were from more violent deaths; hangings or fire arms, and women generally prefer less violent methods, it is normal to have some suspicions in terms of figures and reports.

Towards the end of the 19th century, two other important studies were published on this topic: Emile Durkheim “Suicide: Étude de sociologie”, 1897 and Thomas G. Masaryk “Suicide and the Meaning of

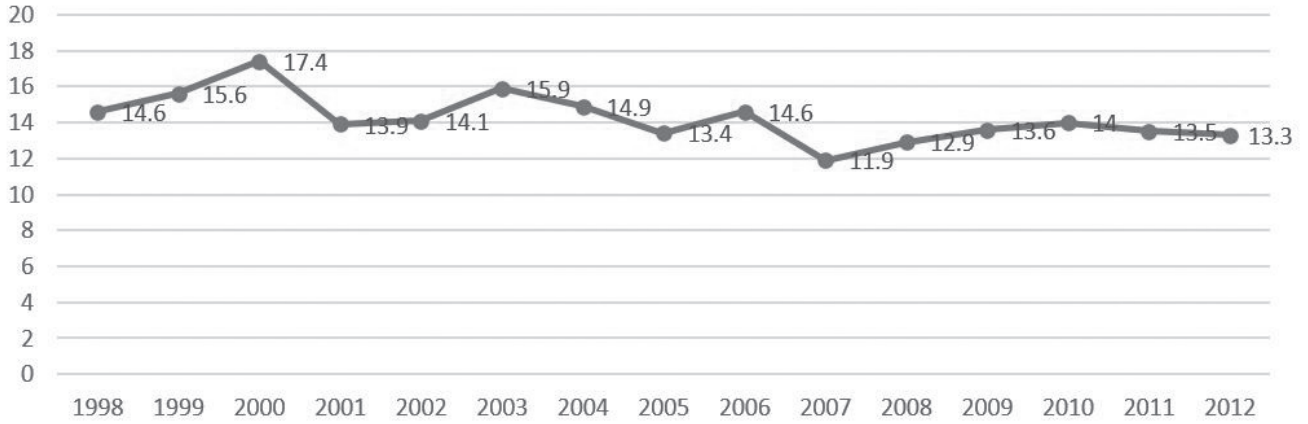


Figure 4. Annual Suicide Rates in Romania 1998-2012 (Source: Annual Reports NILM [11]).

Table 5. Suicides by method employed and motivation, 1996-2012 (Source: NILM annual statistics [11])

Causes \ Method	Suicide Method Employed									
	Hanging	Heights	Vehicles	Arson	Shooting	Drowning	Wounding	Poisoning	Other	TOTAL
Conflict with spouse	47.1	8.6	10.0	2.9	5.0	5.7	10.7	10.0	-	140
Work related issues	61.5	7.7	7.7	-	-	15.4	-	7.7	-	13
Conflict with relatives	30.0	20.0	16.0	2.0	-	4.0	8.0	18.0	2.0	50
Financial difficulties	49.0	17.7	3.9	3.9	3.9	3.9	2.0	13.7	2.0	51
Mental illness or conditions	36.8	26.4	6.7	2.6	2.6	9.6	4.6	10.4	0.3	345
Serious physical illness	12.5	46.9	-	-	-	12.5	6.2	21.9	-	32
Non-adjustment to prison	54.5	15.2	-	-	3.0	3.0	9.1	15.2	-	33
Other reasons	35.2	13.5	2.7	8.1	5.4	5.4	13.5	13.5	-	37
No apparent reason	36.0	25.6	10.4	4.8	12.8	12.8	0.8	5.6	1.6	125
TOTAL	321	180	62	22	28	70	47	91	5	826

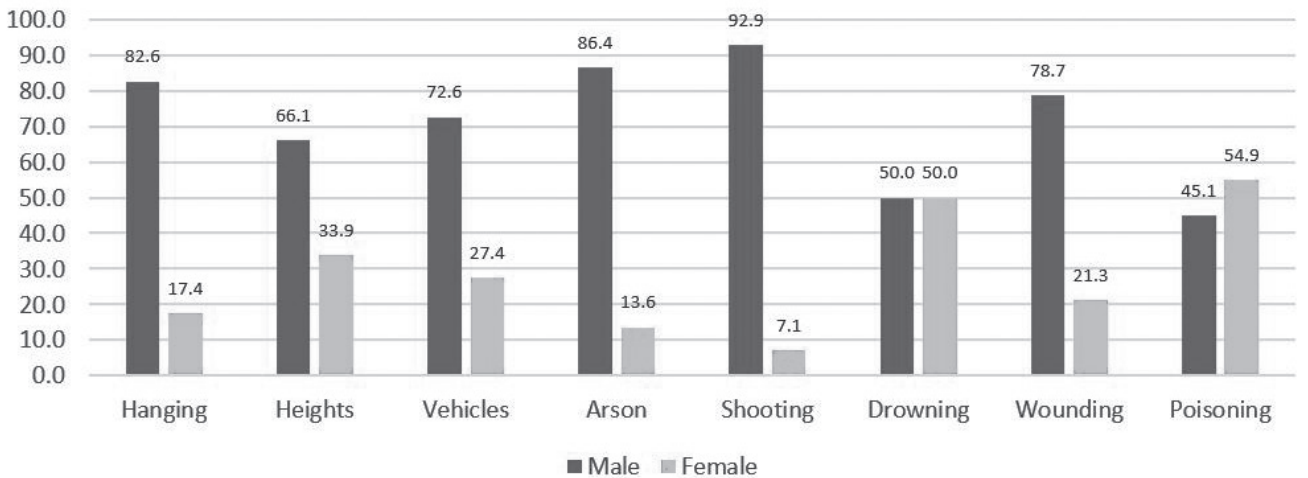


Figure 5. Split of suicides by sex and method employed 1996-2012 (Source: NILM annual statistics [11])

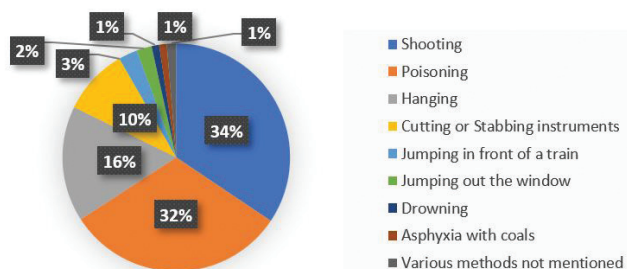


Figure 6. Split of suicides by methods employed (further splitting), 1996-2012 (Source: NILM annual statistics [11]).

Civilization”, 1881. Both authors analyse the subject from a social and moral point of view, considering the increase of the suicide rate as an effect of a sick social system. Their ideas sometimes overlap, but there are several points on which they disagree. Some data from Romania have been used to test these theories. Even though in some cases the data have rejected the hypotheses, the phenomenon of suicide continues to follow some of the laws discovered in the nineteenth century: women have a lower suicide rate than men, married people are less likely to commit suicide, political change causes a decrease in the tendency of suicide and economic crisis causes an increase of it [12].

An in-depth analysis in the directions given by the two papers of Masaryk and Durkheim, and drawing parallels with a study from the United States we can also question and analyse the discrepancy between suicide ratios of men and women in 1900 compared to 3000; why (if it did) go from a ratio of 2.5: 1 to a ratio of 5: 1 [12].

The analysis raises questions not only about Durkheim’s theory, but also about other theories about suicide that are based on sociological reasons rather than psychological ones [12].

The most convenient categorization of suicidal events is according to the method applied. From the data available from the National Institute of Legal Medicine Mina Minovici (NILM) statistics shows the following image for the beginning of the 21st century [11].

Shootings and hangings have a joint share of almost 51%, and poisonings of over 30%, while jumping from heights represents a little over 2% of cases. The extremely strict laws on gun control and the psychological controls of those who legally own them have made shooting suicides almost extinct, and it can be argued due to their very violent nature that they have been largely replaced by hangings.

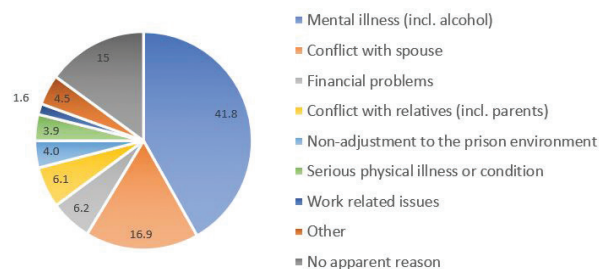


Figure 7. Split of suicides by causation, 1996-2012 (Source: NILM annual statistics [11]).

Even if we consider an under-reporting of suicide cases (though this would have been common especially in rural areas, not so much in Bucharest), or that these statistics were compiled only for Bucharest and not for the whole country, compared to the populations of the city at that time and we still have a suicide rate significantly lower. We can deduce that the socio-economic and demographic pressures were lower, but not enough to justify such a difference. As we have seen from the literature of the time (see the already cited works of Durkheim or Masaryk, as well as the analysis done based on them), religion was still a powerful factor in discouraging suicide.

In conclusion, the suicide rate in Romania at the beginning of the twentieth century was actually higher than officially reported; this is evident if we apply an analysis to the information contained in several contemporary works, including the work already cited, of Professor Nicolae Minovici [7] and Professor Teodor Vasiliu [8].

Adding to this a rigorous extrapolation and adaptation to the local conditions in Romania (most impacted by lack of any reliable data outside Bucharest), on the model of the study carried out in Holland of Durkheim and Masaryk’s theories [12], can be deduced that the ratio of 2.5 suicidal men to a woman is underestimated, the authorities of the time trying to hide the suicides of mainly males, probably some considered figures of some importance in their communities at the time. It should not be considered that this cover up method was exclusive to men, as most likely the spouses or daughters of such people were likely to have received similar treatment. This however is conjecture as we have no data to prove either way.

Although indirectly, as primary sources of information have disappeared, or have deteriorated beyond use, we can also conclude that the statistics on suicide 100 years ago were very sophisticated, having analysis or comparison criteria that are no longer

used (i.e. ethnicity) for reasons of clinical irrelevance (perceived or real) or political correctness. However, the lack of verifiable rigor of quantitative data is often compensated by qualitative data that allow much more complex analyses, suggesting perhaps a need to re-evaluate suicide reporting criteria.

As this analysis is about suicide, it is self-evident that some form of prevention strategy needs to be implemented. The other EU member countries neighbouring Romania; Bulgaria and Hungary have drawn up and started to implement a National Suicide Prevention Programmes [13]. Both these countries have had higher suicide rates than Romania, but they managed to lower them, Bulgaria went from 18,25% in the year 2000 to 11,5% by 2016 [14], while Hungary went from 32,11% in the year 2000 to 19,10% by 2016 [15].

All suicides are a loss, firstly, to the families of the departed, secondly, a financial loss to society as the ones that survive the loss will have to pay additional costs (i.e. time off work, therapy, etc) to be able to cope with the sudden loss. As we have seen suicide rates are intrinsically linked to mental health and mental wellbeing, thus any direct, firm, and coordinated positive action in this area coupled with a support infrastructure for vulnerable groups should reflect positively, and lower suicide rates [13].

Conflict of interest

The author declares that she has no conflict of interest.

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