

Regions with the Highest Suicide Rates for Children and Adolescents – Some Observations

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Editorial

Childhood is often perceived as a time of innocence and happiness; unfortunately, this is not true to all children. The concept of happy childhood devastatingly conflicts with suicide in children. Indeed, research has shown that the majority of children are able to understand the meaning of self-inflicted death from 8 years of age on [1], and are capable to engage in suicidal behaviours. Although suicide in children represents a relatively rare event, it is still one of the leading causes of death in the age group 10-14 years [2]. Suicide prevalence increases in adolescence, a phenomenon that is not unexpected, as this constitutes the time of rapid developmental changes. Similarly to adults, suicide rates in children and adolescents greatly vary between countries. Our recent analysis of 81 countries between 2000 and 2009 based on the WHO Mortality database [3] revealed that the highest suicide rates for children and adolescent in both sexes were mainly found in the former Soviet Union and Central and South America (Table 1).

Males			
10-14 years		15-19 years	
Kazakhstan	8.53	Russian Federation	33.28
Suriname	6.36	Kazakhstan	31.06
Russian Federation	5.47	Lithuania	30.15
Kyrgyzstan	5.12	Guyana	28.49
Belarus	3.94	New Zealand	22.38
Guyana	3.77	Belarus	22.36
Ukraine	3.36	Estonia	19.78
Ecuador	3.34	Ireland	18.86
Lithuania	3.3	Finland	17.15
Estonia	3.05	Iceland	16.72
Females			
10-14 years		15-19 years	
Guyana	6.46	Guyana	24.95
Suriname	6.11	Suriname	15.75
Ecuador	3.14	Kazakhstan	12.28
Kazakhstan	2.86	El Salvador	12.02

Nicaragua	2.22	Nicaragua	11.02
El Salvador	2.10	Ecuador	10.18
Colombia	2.00	New Zealand	9.55
Trinidad and Tobago	1.86	Russian Federation	7.87
Russian Federation	1.85	Mauritius	7.61
Paraguay	1.84	Trinidad and Tobago	7.45

Table 1. Suicide rates for males and females aged 10-14 and 15-19 years in Top 10 countries

Indeed, there are sex differences: former Soviet Union countries seem to prevail in young males (they are listed among the top 10), while Southern American countries are overrepresented in females. More specifically, Kazakhstan and Russia have the highest rates for boys aged 10 to 14 and 15 to 19 years, while non-Latin Caribbean countries such as Guyana and Suriname have the highest rates for both age groups in young females. There are a few exceptions in the age group 15-19 years, where New Zealand is present for both genders (despite their declining rates), while Ireland, Finland and Iceland are present with their high rates for young males.

After considering these epidemiological data, one wonders what could be the possible contextual influences in those countries that might be hidden behind the high suicide rates at such an early stage of life. We do not aim to try to answer in full this question, as it would definitely need a deep analysis, inclusive of several societal factors (e.g., cultural, political, economic, etc); however, we would like to formulate a few simple observations. The USSR kept its suicide rates secret (i.e., unpublished) until the 1990s [4]. Since then, the suicide rates from the region have been the highest in the world [5]. The collapse of the system and the consequent transformations caused several political and social problems. Soviet programs for citizens and family policies were largely neglected during the transition; the new era brought economic sequelae (such as unemployment, inequalities, and privatisation) previously unknown to the people living under Soviet rules [6]. Those changes - in combination with heavy alcohol use - influenced morbidity and mortality of newly independent countries, causing a general increase in mortality [7]. Considering that the new countries resulting from the fragmentation of the old Soviet Block did choose their own ways of building up the nation, they continued to struggle after being hit by the global economic crisis. These circumstances had also an impact for the youngest generations [8]. Similarly to the former Soviet Union, several countries in the Central and South America have experienced severe economic and political

turbulence. The limited research originating from the area has pointed out that the countries with the highest suicide rates are poor and have low GDP [9]. Other influential factors often named in explaining the high suicide rates in young people are loss of cultural values and traditional beliefs in indigenous people [10,11]. In addition, considering that in majority of the countries hanging is still the most prevalent suicide method for young females and males, it is important to note that South American countries with the highest suicide rates have a very high prevalence of suicides by poisoning with pesticides and other chemicals (X66-X69), especially in young females. For example, the prevalence of pesticide poisoning in females in age group 10-14 years was 81% and in age group 15-19 years was 83.6% in Guyana while the corresponding percentages for Mexico were 14.2% and 20.6%, and for Canada 0% and 1.5%, respectively [3]. Although populous Asian countries such as India and China do not report their suicide data to the World Health Organization and are therefore not included into our analysis, they are widely known for the high prevalence of suicide cases involving the use of pesticides; this phenomenon is generally believed to contribute to the high suicide rates of young females in those countries [12,13]. Another important consideration while interpreting suicide rates in youth is that suicides are more likely to be underreported, especially in children. Possible factors related to the underestimation are social stigma and shame around suicide; coroner or legal officer's reluctance to determine a verdict of suicide in case of a child; disparities in death classification systems, and/or the misconception that children are unable to engage in suicidal behaviours due to their cognitive immaturity [14,15]. Pritchard and Hean [16] analysed potential underreporting of 18 countries in Central and South America, and evidenced very high rates of undetermined deaths, exceeding suicide rates, particularly in younger males. On the other hand, it has recently been noted that there have been improvements in the recording and registering of suicide mortality in some countries of South America [17]. There is a number of important aspects to consider for suicide prevention in children and adolescents. At the primary prevention level, it has been proven that restricting access to means is effective in reducing suicide incidents; for example, controlling their availability in South America might prevent many fatal cases of pesticide poisoning. Further, considering the vulnerability to economic fluctuations, governments could play an important role in preventing suicide by implementing strategies capable of minimizing the adverse effects of a country's economic recession [18]. Stuckler et al. [19] indicated that active labour market programmes might mitigate the adverse effect of unemployment on health. This has the potential to prevent the loss of life not only of working-age people, but also of children and adolescents.

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