

Suicide and Depression: Epidemiology in Lithuania

Savižudybės ir depresija: epidemiologija Lietuvoje

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SUMMARY

Suicide is a complex, multidimensional and multi-causal phenomenon which can be described from different approaches and perspectives. Most suicides are related to mental disorders, especially with depression. Depression also known to be the most common disorder among people who die by suicide. Lithuania has the highest suicide rate in the EU, which poses a serious challenge to mental health services.

The objective of the present report was to review the statistical data of suicide and depression, risk factors, and to discuss possible suicide prevention methods, based on national and international literature.

Methods. Analysis of statistical data of suicide mortality and morbidity of depression was based on a literature search of the World Health Organization (WHO), Eurostat, Health Statistics/Institute of Hygiene in Lithuania databases.

Results and conclusions. The analysis of statistical data showed that despite a recent decline in suicide mortality in Lithuania, suicide remains one of the leading causes of death in the working age population, particularly men. In Lithuania, there is still a large gap in the number of suicides in urban and rural areas. Suicide rates are also high among vulnerable groups include mid-aged (45–59 years) and over 75 years old males, living in rural area. Men are five times more likely than women to commit suicide, while women are more likely to experience suicidal attempts. Almost ten percent are people with depression in Lithuania, and a quarter have had of depressive episodes at some point in their lives. Depression is a treatable condition but about 50% of cases of major depression still go untreated. This implies that mortality of suicide could be reduced by preventing depression and by recognizing and adequately treating it. A broad array of suicide prevention strategies addressing different risk factors at various levels is recommended to achieve an overall reduction in the population's long-term suicide rate. To address inequalities in the number of suicides between major cities of Lithuania and district municipalities located in remote regions of the country, municipalities are developing rapid intervention algorithms.

Keywords. suicide, depression, mental health

SANTRAUKA

Savižudybė yra sudėtingas, daugialypis ir daugiaveiksnis reiškinys, kurį galima apibūdinti iš skirtingų požiūrių ir perspektyvų. Dažnai savižudybės yra susijusios su psichikos sutrikimais, ypač su depresija. Depresija yra žinomas kaip labiausiai paplitęs psichikos sutrikimas tarp žmonių, kurie miršta nuo savižudybės. Lietuva turi didžiausią savižudybių skaičių Europos Sąjungoje, ir tai kelia rimtą iššūkį šalies psichikos sveikatos tarnyboms.

Darbo tikslas – remiantis nacionaline ir tarptautine literatūra, apžvelgti savižudybių ir depresijos statistinius duomenis, rizikos veiksnius, bei aptarti galimus savižudybių prevencijos metodus.

Metodika. Savižudybių mirtingumo ir depresijos sergamumo rodiklių statistinių duomenų analizė atlikta naudojantis Pasaulio sveikatos organizacijos (PSO), Eurostat, ir Higienos instituto duomenimis.

Rezultatai ir išvados. Atlikus statistinių duomenų apžvalgą, pastebėta, kad nepaisant pastaruoju metu sumažėjusio savižudybių skaičiaus Lietuvoje, savižudybės vis dar išlieka viena pagrindine darbingo amžiaus žmonių, ypač vyrų, mirties priežastimi. Lietuvoje išlikęs didelis savižudybių skaičiaus atotrūkis tarp miesto ir kaimo. Didžiausia savižudybės rizika yra vidutinio amžiaus (45–59 metų) ir vyresniems nei 75 metų vyrams, gyvenantiems kaime. Vyrų nusižudo penkis kartus dažniau nei moterų, tačiau moterų kelis kartus dažniau bando nusižudyti. Lietuvoje yra apie 10 proc. sergančių depresija, o kada nors gyvenime turėję depresijos epizodų yra ketvirtadalis. Depresija yra išgydoma liga, tačiau beveik pusę depresija sergančių asmenų negauna tinkamo gydymo. Todėl galima formuoti hipotezę, kad savižudybių mirtingumą būtų galima sumažinti užkertant kelią depresijai, laiku diagnozuojant bei tinkamai ją gydant. Norint pasiekti ilgalaikį savižudybių mirtingumo rodiklių sumažėjimą, rekomenduojamos plataus masto savižudybių prevencijos strategijos, išskiriant konkrečius veiksmus atliktinus tiek bendrojoje populiacijoje, tiek individualiame lygmenyje. Savižudybių skaičiaus netolygumų mažinimui tarp didžiųjų Lietuvos miestų bei rajonų savivaldybių, esančių atokiuose regionuose, Lietuvos savivaldybėse kuriami ir diegiami greito įsikišimo algoritmai.

Raktiniai žodžiai: savižudybė, depresija, psichikos sveikata

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INTRODUCTION

Good mental health is a critical part of individual well-being, and the foundation for happy, fulfilled and productive lives [1]. The economic costs of mental illness are also significant. Mental health problems cover a wide range of illnesses, including mild or moderate anxiety, depressive disorders, drug and alcohol use disorders, and more severe disorders such as, bipolar disorders and schizophrenia. Mental disorders are one of the top public health challenges in the European Region, affecting about 25% of the population every year [2]. In the European Region, depression affects around 40 million people, or 4.3% of the population. Regional average (not age standardized) of depressive disorders in Lithuania according to the WHO in 04/2017 was 5.6% [3]. Depression limits a person's ability to fully function at work or school and to cope with daily life. This also leads to enormous economic losses; in the European Union, the cost of lost productivity due to depression has been estimated at over €70 billion per year [4].

Despite being very common and affecting anyone at any stage of life, depression is still under-recognized and undertreated [5]; there is, consequently, a need to open up dialogue and tackle the stigma associated with this highly disabling condition. Depression is a major challenge to health in the European Region. Depression is a treatable condition but about 50% of cases of major depression still go untreated [6]. Yet, 3 out of 4 people who suffer from depression do not receive adequate treatment, therefore WHO works to raise awareness of the consequences of depression and self-harm, to reduce stigma and discrimination, and to improve access to health care. It supports countries' efforts to scale up services for depression in nonspecialized health-care settings as part of an integrated approach to chronic disease management [7]. The European Mental Health Action Plan 2013–2020 encourages Member States to develop and implement

evidence-based suicide prevention strategies that combine a universal approach with activities to protect vulnerable groups [8].

At its worst, it can lead to suicide. Depression is a primary cause of suicide deaths. Suicide is a serious global public health problem that demands our attention but preventing suicide is no easy task [9]. It contributes to premature death, morbidity, lost productivity, and health care costs [10]. Although the suicide rate in Lithuania is on a consistent decline, the overall number of people taking their own lives remains high, highlighting the problems in the mental healthcare system [11, 12]. Lithuania ranks the fourth in the world according to suicide rate, and it has a second rank for the male suicide rate among all countries in the world [13].

EPIDEMIOLOGY

The number of suicides is one of the most important indicators of the public's state of mental health. Lithuania is one of the top countries in terms of suicide rate. According to data provided by the Institute of Hygiene in Lithuania, 683 people committed suicide in 2018, down from 748 in 2017, 823 in 2016, 891 in 2015, 935 in 2014 and 1.085 in 2013 [12]. Since 2004, the standardized mortality rate (SMR) (the number of deceased individuals per 100,000 residents in accordance with the European Standard) per 100,000 Lithuanian residents due to suicide, which was at 42.89 during that year, started to go down – in 2013, it was 36.68 (Figure 1) [14]. According to the Eurostat data, the average rate of death by suicide in the EU in 2014 was 11.7 (per 100,000 residents), while the SMR in Lithuania was 31.71 (per 100,000 residents) and exceeded the European Union average three times [15,16]. In 2015 it was at 30.84, which means it remained largely unchanged for three years. The suicide rate has also declined over the past few years from 30.84 suicides per 100,000 population in 2015 to 28.69 in 2016, and 26.45 in 2017 and 24.4 in 2018 [12].

The Organization for Economic Cooperation and

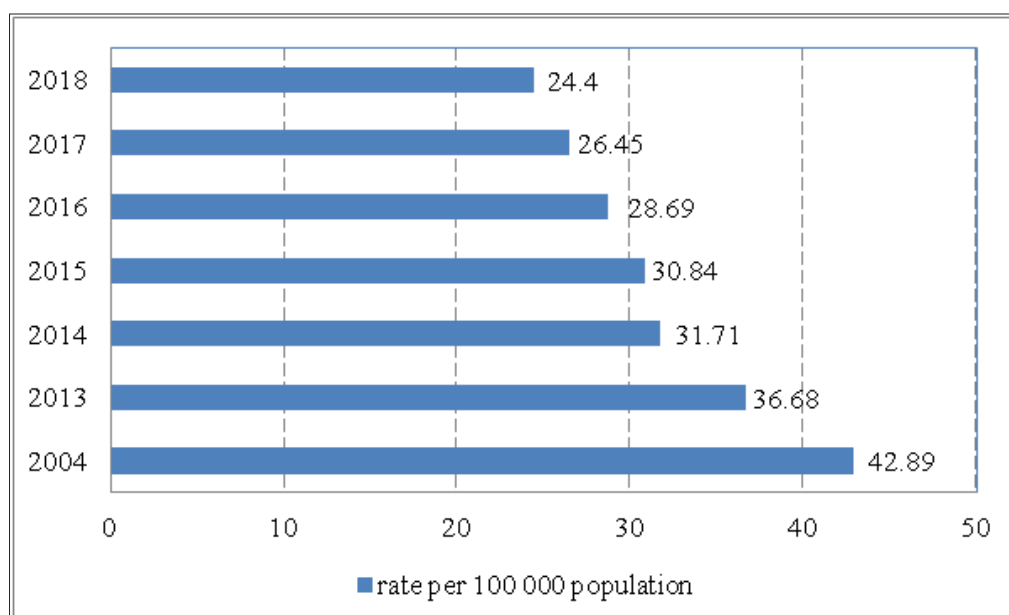


Figure 1. Age-standardized suicide rates (per 100 000 population) in Lithuania in 2004–2018

Development (OECD) notes that Lithuania's high suicide rate is tied to many different factors, including rapid social and economic changes which increase both psychological and social insecurity, as well as the lack of a national suicide prevention strategy [14].

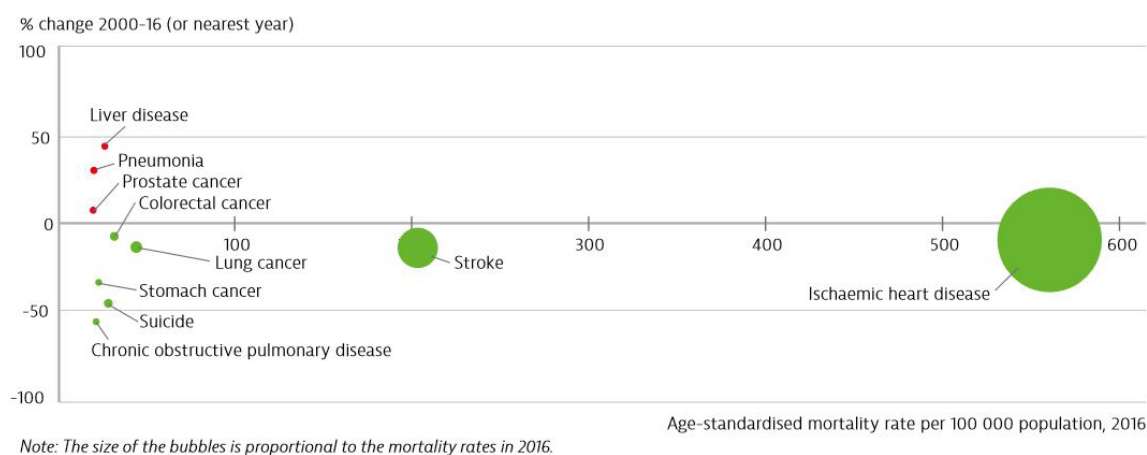
In recent years, the authorities have launched a number of suicide prevention campaigns, social and economic conditions have also changed, that led to a 45% decrease in the number of deaths due to suicide between 2000 and 2016 (Figure 2), but is still more than double the OECD average for the general population and nearly three-times the OECD average for men (Figure 3) [17]. It is estimated that more than half of all deaths in Lithuania can be attributed to behavioral risk factors, including dietary risks (32%; vs. EU: 18%), tobacco smoking (15%; vs. EU: 17%), alcohol consumption (10%; vs. EU: 6%) and low physical activity (5%; vs. EU: 3%). This proportion is far above the 39 % EU average. Mortality from ischemic heart disease, suicides and alcohol-related causes was the highest in the EU. Many of the leading causes of death – including cardiovascular diseases, liver diseases, accidental poisoning and road traffic deaths – are associated with high alcohol consumption, and Lithuania has recently introduced new alcohol control policies (Figure 2) [17].

Looking at trends in more specific causes of death, ischemic heart diseases and stroke remain the top two causes of death in Lithuania (Figure 2), with mortality rates four and two times above the EU average respectively. Lung cancer is now the third leading cause of death, a legacy of high smoking rates. Lithuania also has the highest suicide rate in the EU, which poses a serious challenge to mental health services. Colorectal and prostate cancers, as well as liver disease, have climbed in the list of leading causes of deaths between 2000 and 2016.

Globally, suicides are the second leading cause of premature mortality in individuals aged 15 to 29 years (preceded by traffic accidents), and number three in the age-group 15–44 years [18]. According to recent review of Bachmann et al (2018) crude and age-standardized suicide

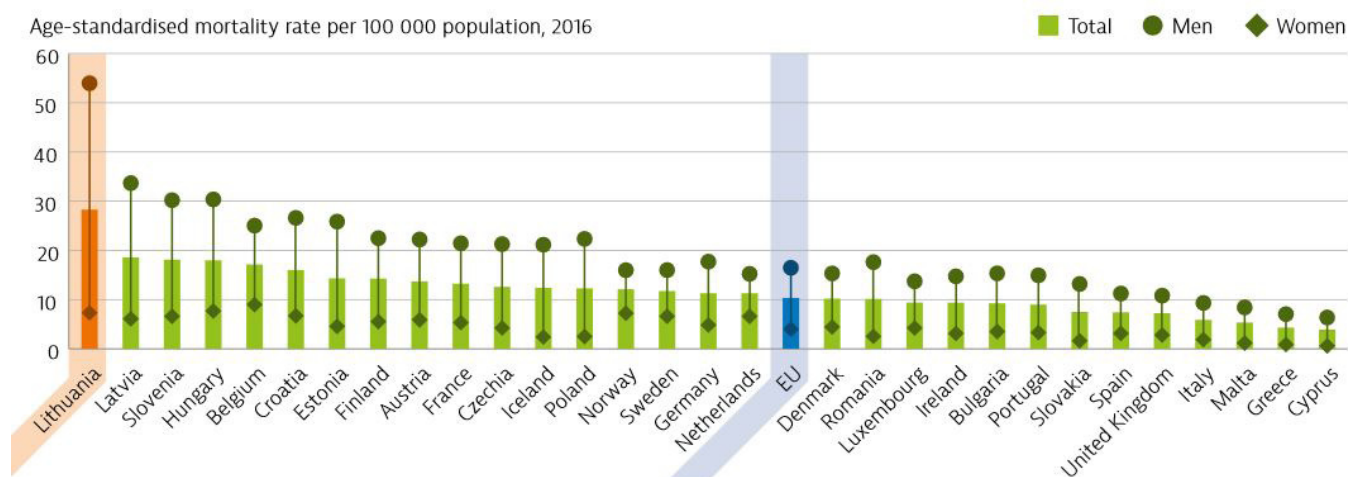
rates according to WHO regions, both rates amount to 10.7 per 100,000 worldwide but fall apart in certain regions. The Eastern Mediterranean region has suicide rates of 3.8 and 4.3, the African region 8.8 and 12.8, the Americas 9.6 and 9.1, the Western Pacific region 10.8 and 9.1, South East Asia 12.9 and 13.3, and Europe 14.1 and 11.9 (all crude and age-standardized) [19].

The highest suicide rates for both men and women are found in Europe, more particularly in Eastern Europe, in a group of countries that share similar historical and sociocultural characteristics, such as Estonia, Latvia, Lithuania and, to a lesser extent, Finland, Hungary and the Russian Federation [18]. Obviously, the European area presents the highest absolute or crude suicide rate, namely above the global suicide rate of 10.7 for both genders. This is the case despite the fact that, since 1980, a drop in suicide rates was reached through preventive measures and assisted suicides were taken out of the statistics. On the other hand, however, data quality is much better in comparison to other regions of the world, and fewer incidents are lacking in the statistics [18, 20]. Although there is some progress in reducing historically high mortality rates from suicide, it nevertheless remains an important cause of death, particularly among men, as Lithuania recorded the highest rate of mortality from this cause in the EU in 2016. The largest absolute gender gap in 2016 was in Lithuania, where the rate for men was 54.5 per 100 000 inhabitants compared with 7.8 per 100 000 inhabitants for women (Figure 3). The most vulnerable groups include mid-aged (45–59 years) and over 75 years old males living in rural and socially isolated environment. Men are five times more likely than women to commit suicide, so municipalities are developing rapid intervention algorithms to address this trend [12]. However, taking a simple ratio between the rates for men and women showed that in Poland, the rate for men was 7.6 times as high as the rate for women. This ratio between the gender was lowest in Luxembourg, Belgium, Sweden and the Netherlands, where standardized death rates for suicide for men were at most 3.0 times as high as those for women [17]. It



Source: [17] OECD/EU (2018), *Health at a Glance: Europe 2018: State of Health in the EU Cycle*, OECD Publishing, Paris. Available online: https://doi.org/10.1787/health_glance_eur-2018-en

Figure 2. Top 10 causes of death in 2016 and percent change, 2000–2016, all ages, number in Lithuania



Source: [17] OECD/EU (2018), *Health at a Glance: Europe 2018: State of Health in the EU Cycle*, OECD Publishing, Paris. Available online: https://doi.org/10.1787/health_glance_eur-2018-en

Figure 3. Suicide is a serious public health concern in Lithuania, particularly for men

was estimated, that nearly three times as many men as women die by suicide in high-income countries, in contrast to low- and middle-income countries, where the rate is more equal.

It is very difficult to obtain reliable data on suicide rates. However, assuring rates of suicide attempts is nearly impossible, not least because a suicide attempt may not come to anyone's attention, much less to the attention of the health care system. Nevertheless, the registration of suicides and suicide attempts is a desirable goal towards better prevention, detection, and intervention [18].

MENTAL HEALTH SERVICES

Although Lithuania's mortality rate by suicide has come down over the past decade, in 2017 it was still the highest reported in the EU, which poses a serious challenge to mental health services.

According to Mental Health ATLAS 2017 Lithuania profile burden of mental disorders (WHO official estimates) expressed as 4,425.98 disability-adjusted life years (per 100,000 population) [4]. The largest proportion of physical and human capital is concentrated in psychiatric institutions, with large numbers of beds, psychiatrists and increasing funding for medications. Many strategies have been developed in Lithuania not only to prevent suicide but also to detect depression symptoms earlier and provide more appropriate treatment for other mental health issues [17].

Over the last 15 years, a substantial share of institutionalized psychiatric and substance abuse services has moved into general hospitals and outpatient mental health centers to reduce the stigma associated with mental health disorders. The provision of mental health care center has been considerably restructured, with specialized primary care providers playing an increasing role. Patients can be referred to these primary mental health services by their GP or the hospital, but they can also access them directly [17].

Data in Table 1 demonstrate the human resources for mental health and mental health service availability and

uptake.

At the primary care level, services are delivered in 115 mental health care centers (Table 1), which are sometimes co-located with primary care centers. Most centers consist of multidisciplinary teams, including psychiatrists, psychologists, mental health nurses, and social workers.

In 2015, the European Union (EU) had around 90 000 psychiatrists in total (Figure 4). The majority practiced in Finland, Sweden, the Netherlands and France. According to data, Lithuania has retained a high number of psychiatrists (225 per million inhabitants) [15].

Despite retained a high number of psychiatrists in Lithuania, accessibility of services at mental health centers are uneven. Due to differences in the workload of mental health specialists, and the failure to ensure team work, coordination across different health care providers remains a major issue. The availability of mental health and primary care services does not systematically translate into a functional team approach with effective mechanisms to detect illness early and meet patients' needs. Coordination between hospital and outpatient care is also insufficient. Despite access to pharmacological treatment, psychosocial treatment to recovery to be missing.

This may explain, at least in part, why inpatient deaths from suicide among patients hospitalised with a mental disorder, as well as suicide rates one month and one year after hospitalisation, are also substantially higher than in neighbouring countries. Other components of care such as housing, psychosocial and vocational rehabilitation, community based mental health services should be developed.

In 2017, the National Audit Office called for renewed efforts to identify and support individuals at risk of mental health issues and to ensure immediate and continuous support to people who have attempted suicide, emphasizing the need for information sharing between institutions [21].

On 1st November 2018, Lithuanian Health Minister order stated the procedure for providing help of suicide survivors. The document includes prepared goals to increase training

Table 1. Human resources for mental health and mental health service availability and uptake

Resource	
Total number of mental health professionals (gov. and non gov.)	2,558
Psychiatrists per 100,000	8.45
Child psychiatrists per 100,000 (gov. and non gov.)	3.17
Psychologists per 100,000	15.86
Mental health nurses	49.76
“Community-based / non-hospital” mental health outpatient facility	115
Inpatient care (total facilities)	
Mental hospitals	4
Psychiatric units in general hospital	20
Inpatient care (per 100,000 population)	1
Mental hospital beds/annual admissions	40.18/364.33
General hospital psychiatric unit beds/annual admissions	49.59/767.41
Forensic inpatient unit beds/annual admissions	1.50/4.98
Mental hospitals	
Total number of inpatients	2,063
Admissions that are involuntary	755
Mental hospitals (length of stay)	
Inpatients staying less than 1 year	89%
Inpatients staying 1–5 years	9.4%
Inpatients staying more than 5 years	2.0%

Source: [15] EUROSTAT (European statistics). Available online: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/EDN-20171010-1>

for key gatekeepers, volunteers, and professionals regarding recognition of risk factors, warning signs and at-risk behaviours; to provide effective interventions; and to develop and promote effective clinical and professional practice to support clients, families and communities. Psychosocial assessment can be a vital tool for self-harm management, for engaging patients in treatment and improving their rates of aftercare.

A recent Lithuanian Health Minister order states that, from November 2019, new health care services will be provided in mental health care institutions to children and adolescents. In addition, the network of institutions providing psychiatric day care treatment will expand from five institutions to ten. Since 2019, the Ministry also started financing municipal Public Health Bureaus to promote mental health prevention in schools. The objectives of this program are to enhance the competences of school staff in detecting and addressing mental health issues and improve overall mental health literacy.

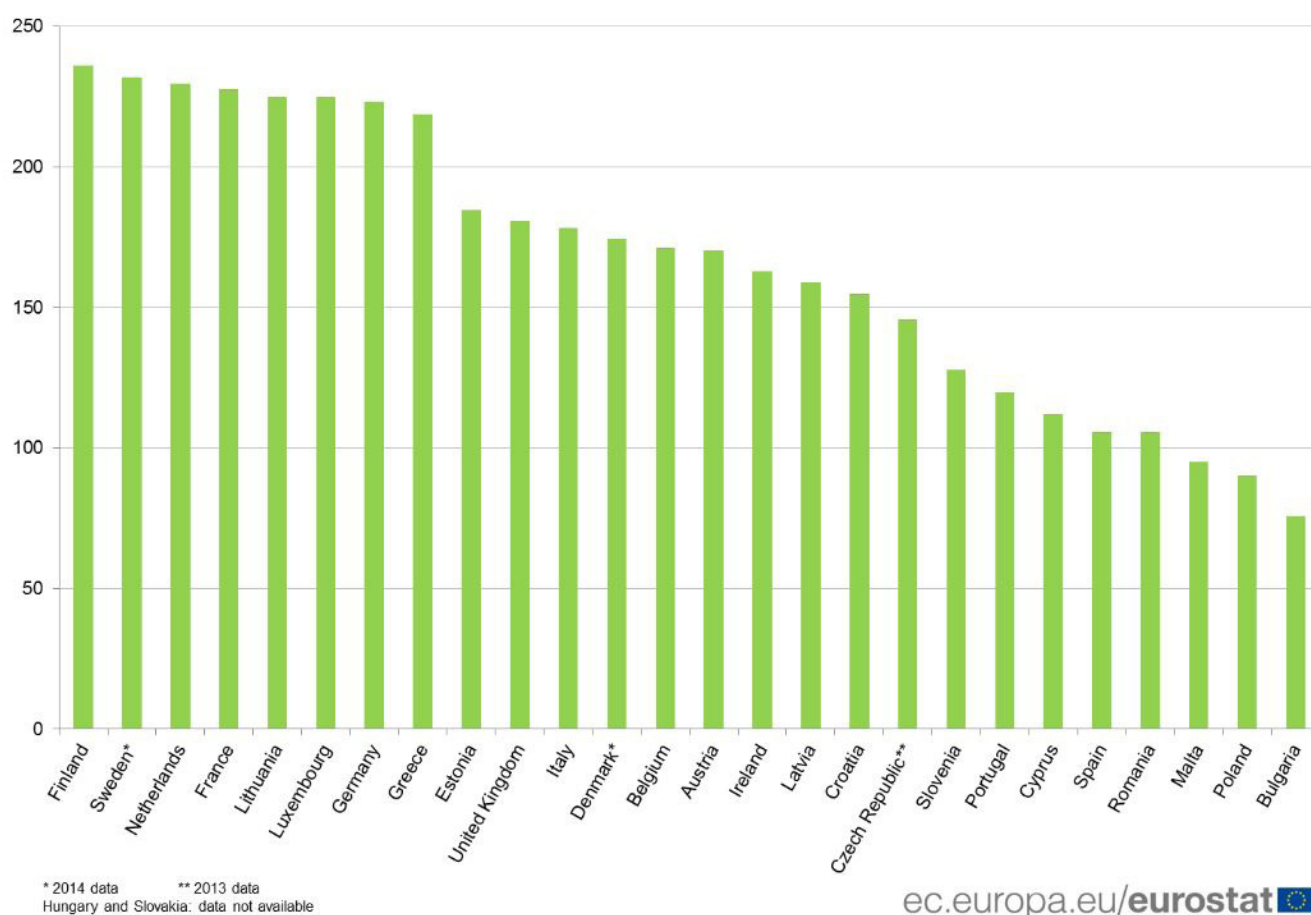
According to data provided by the State Patients' Fund, the number of visits to medical psychologists in clinics

has tripled over the past three years – from 20,959 in 2014 to 65,000 in 2017. The support from other people during a suicidal crisis is one of the strongest suicide deterrents [22]. Unfortunately, individuals with suicide behavior often avoid seeking help from others [23]. Thus, it is very important to understand reasons for this avoidance better. The question of how to improve the interaction between those who can help and those who need help is open until now. Early detection of any disease or disorder can help prevent the condition from worsening. Yet all too often, people do not seek medical attention when they are struggling with early signs of mental illness. They may fear being labeled as mentally ill or crazy, or they don't believe anyone can help them. Perhaps they have had previous negative experiences in the health care system, or ineffective treatment. Too often, the stigma associated with mental illness and suicide both deter and prevent many people from obtaining the necessary resources and health care that will thwart and lower the risks for suicide [24]. Research in the field of psychiatry and mental health is not very well developed, mainly because of a lack of research capacity and the absence of research institutions in these fields.

DEPRESSION AND SUICIDE

Depression is the leading cause of death of suicide worldwide and is number two in years lived with disability (globally up to 11%) [8, 25]. Study of Bradvik (2018) showed that the majority of suicides are related to a psychiatric condition, including depression, substance use disorders, and psychosis [26]. Other research suggests that the suicide risk for mental disorders including depression, alcoholism, and schizophrenia is around 5% to 8%, while up to 60% of people who commit suicide have depression [27]. In 2017, the proportion of people reporting depression in Lithuania was 4.7%, while 7.1 % in the EU-28 population (Figure 5). With 12.1%, Ireland topped the ranking for the share of its population reporting chronic depression, while double-digit shares were also recorded in Portugal, Germany and Finland; an even higher share was recorded in Iceland (14.8 %), while Turkey also recorded a double-digit share (11%). The proportion of people reporting depression was less than 4% in the Czech Republic, Cyprus, Bulgaria and Romania [28].

Looking across the age groups from youngest to oldest, the share of people reporting depression generally increased with age (data not shown). There was a relatively low prevalence of chronic depression among the young (compared with most other diseases). The only exception to the pattern of increasing prevalence with age was for the class covering those aged 65–74 years, where the prevalence of depression was lower than for people aged 45–54 and 55–64 years [28]. Longitudinal studies have consistently demonstrated the importance of past suicide attempts, cigarette smoking, alcohol use disorders, and comorbid personality disorder as predictors of future suicide attempts in depressed populations [29, 30]. The most important risk factor for lifetime suicide attempt is depression, with a population attributable risk proportion of around 28%. This implies that the lifetime prevalence of suicide attempts could be reduced significantly by preventing depression and by recognizing and adequately treating it [31, 32].



Source: [15] EUROSTAT (European statistics). Available online: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/EDN-20171010-1>

Figure 4. Number of psychiatrists per million inhabitants in the EU Member States, 2015

Some country-specific factors may play a role in recognition and management of depression in PC settings. Currently, two parallel and separate PC systems coexist in Lithuania. PC health centers employ family practitioners and are expected to cover the majority of medical problems whereas mental health problems are assigned to primary mental health centers where psychiatry teams are employed. Such a system may contribute to poor recognition and management of depression by family practitioners as they may assign mental health issues to primary mental health care services [30, 33].

Existing evidence suggests that depression remain poorly recognized and managed in the PC setting mainly because PC health providers face significant time constraints, and receive limited training with regard to identification and management of mental health issues.

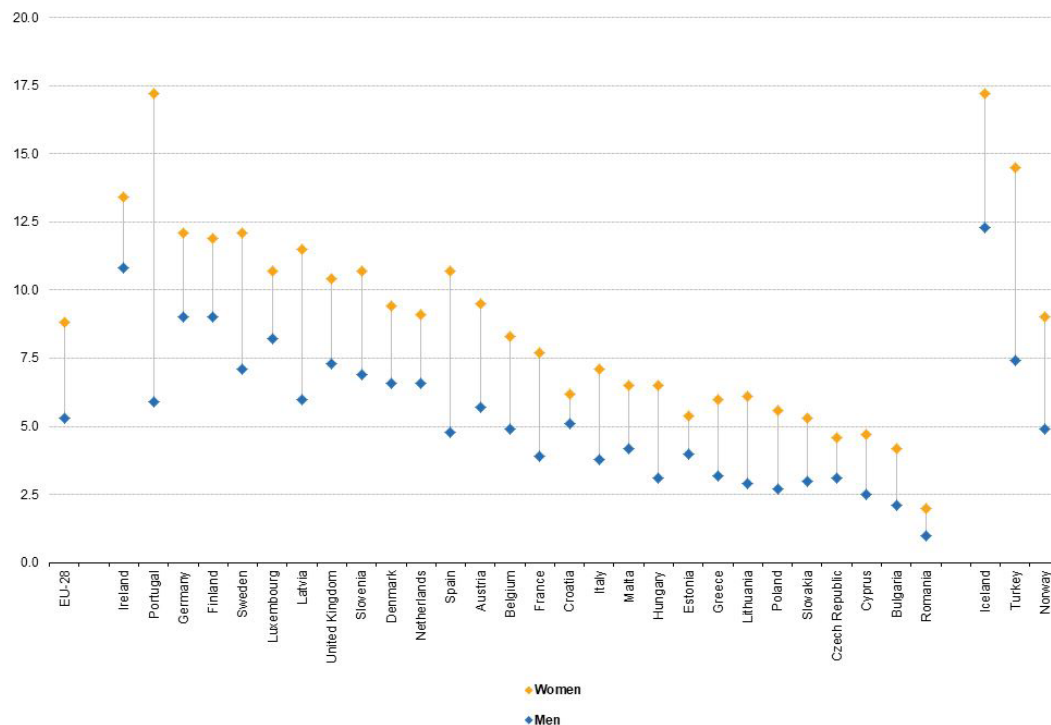
Advances in understanding suicidal thinking, strongly intertwined with mood states, as well as psychological and neurocognitive factors influencing a person's decision making [34, 35] are needed to advance the clinical care of suicidal patients and prevention of suicidal behaviour. It is an area where psychotherapy and neuroscience must meet.

THE CHALLENGES AND THE SOLUTIONS

In 2013, the 66th World Health Assembly, composed of

the ministers of health of 194 member states, approved the WHO Mental Health Action Plan 2013–2020. Member states committed to strive for the common goal of decreasing the number of suicides by 10 percent by 2020 [14]. One of the goals of the Lithuanian Health Strategy 2014–2025 [36] is to decrease the SMR due to suicide down to 19.5 cases per 100,000 residents by 2020, and then to 12 cases by 2025. The rates had only been reduced by 1.6 percent from 2012 to 2015 [11]. A fraction of at-risk individuals remains unidentified and help-offering institutions often fail to react in a timely manner and to provide help throughout the country. The achievement of such an ambitious goal necessitates the mobilization and purposeful action on the part of all sectors (health, education, social security and labour, interior affairs, non-government organizations (NGO), etc.).

Important efforts have been made in recent years to improve mental health services, which have contributed to initiate a reduction in the number of deaths by suicide. Many strategies have been developed not only to prevent suicide but also to detect depression symptoms earlier and provide more appropriate treatment for other mental health issues. Psychological help for those who are not willing or not able to seek out professional assistance of a psychologist or a psychotherapist due to financial restrictions is available through online or phone suicide prevention hotlines, there are



Note: ranked on the share of the total population reporting that they had chronic depression.

Source: [15] State of Health in the EU. State of Health in the EU Lithuania Country Health Profile 2019. Available online: <https://ec.europa.eu/health/sites/health/files/state/docs/2019chplenglish.pdf>

Figure 5. State of the population reporting that they had chronic depression, 2014

nine phone numbers listed.

Reliability of suicide certification and reporting is an issue in great need of improvement. Suicides are most commonly found misclassified according to the codes of the 10th edition of the International Classification of Diseases and Related Health Conditions (ICD-10) [6]. In addition, stigma associated with suicide (and suicide attempts) has profound psychological and behavioral effects on individuals and families – who may avoid seeking help, and may conceal or deny suicide – and also affects false death registration and coding practice [37, 38]. Providing case registration information to policy makers, researchers and health professionals allows greater exposure to the problem of suicide and can be a way of raising awareness, initiating research and developing prevention campaigns, and monitoring the effectiveness of suicide prevention and intervention strategies.

CONCLUSIONS

Although Lithuania's mortality rate by suicide has come down over the past decade, in 2018 it was still the highest reported in the EU, which poses a serious challenge to mental health services, highlighting the problems in the mental healthcare system. In order for things to change, the stigma surrounding mental illnesses ought to be annulled, the suicide prevention programs must be involved evidence-based interventions from population level to the individual, implemented simultaneously within a localized region. Integral to the success of this program is collaboration

between local healthcare, community services.

Lithuania aims to develop a prevention strategy affecting the entire population, in order to increase access to health care services and promote taking care of a mental health, to reduce the consumption of alcohol; early identification, treatment and care of people with mental and substance use disorders, chronic pain and acute emotional distress; training of non-specialized health workers in the assessment and management of suicidal behavior; follow-up care for people who attempted suicide and provision of community support. Advances in understanding suicidal thinking, strongly intertwined with mood states, as well as psychological and neurocognitive factors influencing a person's decision making are needed to advance the clinical care of suicidal patients and prevention of suicidal behaviour. Given that suicide is complex and multifaceted, a broad array of suicide prevention strategies addressing different risk factors at various levels is recommended to achieve an overall reduction in the population's long-term suicide rate. In the future, more research is needed to improve the prediction of suicide in depression, along with more effective implementation of preventative measures.

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*Received 23 March 2020, accepted 20 April 2020
Straipsnis gautas 2020-03-23, priimtas 2020-04-20*