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Which suicides increase during the economic crisis? A commentary and a proposal

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Both suicide and economic crisis as terms are defined differently in scientific studies. Suicides before the crisis have several causes, and the proportion of such suicides during a crisis is unknown. Calculating these suicides as part of the purported economic crisis induced suicides may exaggerate the increase in the suicide rate. Suicide statistics is not reliable in all countries. Several years may pass before the economic crisis to make people conclude with a wish to and an act of committing suicide. People referred to hospitals before the crisis, during the crisis and some years after. The crisis could be characterized and compared according to objective and individually felt relation to deteriorating finances. The aim of the study is to demonstrate the complexity of the concept of suicide related to the economic crisis in Europe in 2007 to 2008 and propose a way to research this complexity.

Key words: Suicide, economic crisis, unemployment.

INTRODUCTION

A committed suicide is seldoma disputed fact. Death is a final end-point. Suicides have intrigued the scientist and common man at least from the seminal works of Emile Durkheim. (Durkheim 1897; Werth 1996)The road to and reason for a suicide is complex and not fully understood, and reporting is unreliable (De Leo 2015). World Health Organisation (WHO) cautions against the validity of direct comparisons of suicide rates from different countries, also outside periods with an economic crisis. While WHO firmly discourages the practice of straight data comparisons between countries, nobody actually seems to care (De Leo 2015). Reasons for this deplorable data insufficiency are many; stigma avoidance, legal or religious pressure against reporting, self-starvation, voluntary euthanasia, methods of suicide as motor vehicle accidents and opiate overdose, and missing persons. Thus, even before an official statement of death due to suicide on a death certificate form, many factors contribute to uncertainty. Countries have different routines and responsibilities for investigation procedures and issuing of death certificates.

An economic down turn or crisis has an impact on suicide rates, and often also on the unemployment rate. Both terms may interact during a crisis, but empirical studies vary widely. The study proposes that a too simplified notion of suicide and unemployment is used in epidemiological and public health studies of changes in societies. In a study by Laanani et al. unemployment and

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suicide rates were found to be statistically associated, but very weakly (Laanani et al. 2014). A "crisis effect" was inconsistent across countries and was interpreted as an argument against a causal effect. Impact of unemployment on suicide rates is shown to be offset by the presence of generous state social and unemployment benefit programs (as in Norway), though effects are small or inconclusive (Baumbach and Gulis 2014; Cylus et al. 2014). Reeves et al. found an 0.94% increase in male suicide rates for each percentage point rise in unemployment in 20 European Union (EU) countries with widely varying social welfare programs (Reeves et al. 2014a).

The economic crisis in Europe in 2007 to 2008 has started a renewed interest in a purported effect of an economic downturn on the rates of suicides in society (Chang et al. 2013). Attitudes towards suicide have changed considerably through history from a question of moral sentiment to a medical, psychological or public health problem (Fitzpatrick 2014). Committed suicides have rates that differ with age, sex, work conditions and employment status. Whereas, women in rural India commit suicide out of poverty and harsh family relations using pesticides (Mohanraj et al. 2014), old men in Norway (suicide rate above 70 years 29.8/100000 in one study (Kjølseth et al. 2002)) and other European countries find their lives useless and have a rate higher than in the working age groups. When suicide is not accepted in society, even national statistics may be inaccurate or rather report low suicide rate. An eruption of publications started in the light of the Orthodox Church in Greece stating that suicide is a deplorable moral act, and an ensuing underestimation of suicide cases in the public statistics. This was very prominent when the economic downturn of 2007 made living conditions deteriorate as shown in a study by Kentikelenis et al. 2014.

This study is firmly contested by Konstantinos et al mentioning that suicide rates have increased in countries without crisis Fountoulakis and Theodorakis 2014. Several articles have highlighted the impact of the crisis on mental health, usually through suicide, although mental health problems are not the only reason for a suicide during a crisis. A recent editorial in Lancet underscore the ill effect of austerity measures. (Editorial 2015) The imputed increasing suicide rate in Greece after 2008 has been studied extensively. (Stuckler et al., 2009, Kentikelenis et al., 2011, Costa et al., 2012, De Vogli et al., 2013, Fountoulakis et al., 2013, Kondilis et al., 2013, McDaid et al. 2013). On the other hand the total health impact of the economic downturn in the short run has been positive in 23 European countries (Toffolutti and Suhrke 2014). All cause mortality decreased 3.4% at the increase of 1.0% in unemployment rate, even motor vehicle accidents and alcohol related deaths decreased, whereas the suicide rate increased by 34.1%.

The quality of suicide statistics hinges on the quality of mortality statistics in a country (De Leo 2015). In 2012 in Norway, 530 persons committed suicide and around 240 died after an overdose of a narcotic substance, mainly heroin. A clear distinction between the two ways of dying would be hard to come by, even if every heroin overdose is defined as not a suicide. If on the other hand both ways of dying would be part of the suicide statistic, the suicide rate in Norway would in fact be 50% higher than the published one. On the other end of mortality statistic, observations of artificially low suicide rates in Greece may have a cultural background. Death certificates issued by medical doctors are usually the input to mortality statistic tables. Handling of violent or self-inflicted deaths may be subject to religious or discretionary demands. Even if the statistics are reliable, the relationship between unemployment and suicide is not monolithic (Jalles and Andresen 2014). It may change for different demographic groups, places and sex.

Several reasons for suicide are known. A not comprehensive outline of types of suicides is given in Table 1. The type of suicide varies along cultural, religious and political lines. To the study knowledge the proportions of suicides in a country has not been estimated according to the groups depicted in Table 1. During an economic crisis nearly all suicides are thought to be the result of the crisis. Time lag between an economic crisis and committing suicide is an unknown factor. A suicide during the economic crisis may have its root in events before the crisis. Events during the crisis that could drive people to a suicide may not be judged as related to the crisis because of a long time lag before it happens.

In a study by Reeves et al. of the political economy of austerity and healthcare, the authors used data on health expenditure changes in all 27 EU countries (Reeves et al. 2014b). Reductions in government health expenditure were not significantly associated with magnitude of economic recessions, nor did ideology of governing parties have an effect. Lending from international financial institutions or tax revenue falls correlated more closely than underlying economic conditions with healthcare expenditure change.

Overview of the concept of suicide

Table 1 lists different types of suicides and their purported relationship to an economic crisis. Most types are deemed not related to a crisis, although the numbers would be included in the suicide statistics.

DISCUSSION

An increase in suicide rates during the economic crisis in 2007 and the following years would have to be encompassed by Table 1. Mental illness is known to

Table 1. Suicide types.

Type	Description	Relation to economic crisis
Benevolent suicide	Self-sacrifice for the sake of the greater good	Hardly
Copycat suicide	Werther effect (after J.W. Goethe) + media induced	Hardly
Sokushinbutsu	Buddhist sect practice of self-mummification	Hardly
Shinju	Group suicide out of love, Japanese puppet theatre practice	Hardly
Prisoner suicide	Inmate in prison out of despair or isolation	Hardly
Ritual suicide (Japan)	As part of religious ritual	Hardly
Mass suicide	A group of people commit suicide together out of religious belief or as a result of military defeat. Jauhar practice in medieval India	Hardly
Military suicide	Two types: 1) Suicides after duty because of adjustment problems to non-military life 2) Combat related behaviour of voluntarily seeking out life threatening situations	Type 1 may be related to an economic crisis Type 2 not related to economic crisis
Suicide bombers	An act of suicide drawing innocent others into death out of fanatic or revengeful religious reason	No connection to economic crisis, but to inequality gaps
Voluntary euthanasia	The act of killing someone painlessly to relieve suffering from an incurable illness	Not related to economic crisis
Altruistic suicide	Committed for the benefit of others. Durkheim notes this as a tribal duty for a wife when her man dies	Hardly
Youth suicide	Contagious form of suicide in groups of young. May be related to personal bereavement	Partly related to economic bereavement. Related to the Werther effect
Personal economic bereavement	Sudden change in personal disposable income and wealth	Assumed causal relationship
Group economic bereavement	Sudden change in income or tax burden for a group of citizens	Purported causal relationship
Conspicuous suicide	Committed in public to demonstrate ill effect of crisis. Cases in Greece recently	Causally related to crisis
Crying for help suicide attempt	Unwanted successful suicide	Hardly related to economic crisis

increase the risk of suicide above the risk in the general population. Mental illness is not a uniform entity and the work force participation rate differs greatly, and little is known about whom with a mental illness commit suicide.

1. Persons with a psychotic illness may never have worked. If they commit suicide, the relation to the economic crisis is not straightforward.
2. Persons with a minor mental illness in the work force may have difficulties staying in the job, also in good times. The effect of sudden unemployment may drive some into suicide and this would be a case of crisis-induced suicide.

Military service men and women commit suicide for reasons related to the military service or the great change in life circumstances after ending military service. The relation to a concomitant economic crisis is uncertain. The road from suicidal ideation to committing suicide may be influenced by increased emphasis on awareness to live and being connected to others as shown in a qualitative paper from Norway (Vatne and Nåden 2014). Data from Greece on suicides are unreliable out of cultural reasons. Thus, the reported increase in Greece

of suicide rates during the last economic downturn may be an artefact of statistical registration.

Sparse social security nets would increase the negative consequences of a recession, as might be the case for Hungary. The substantial decrease in suicide rates, from a very high level over the last 30 years in Hungary, is a counter example of no positive relation between an increase in economic crisis and an increase in suicide rates. As would the steady rate of suicides in Norway be in a period with improved social security net. The unemployment - suicide link was studied in 30 countries spanning the period 1960 to 2012 (Norström and Grönqvist 2014). The possible excess effect of un-employment during the financial crisis was not significant in the fixed effects model of the authors. More generous unemployment protection implied a weaker detrimental impact on suicide of the increasing unemployment during the Great Recession.

Table 1 indicates that the fraction of suicides related to an economic crisis in a country is unknown. The seven first types of suicide are hardly related to the crisis, whereas they may constitute a non-negligible part in some countries. Before the economic crisis we do not register whether a suicide is related to the same economic mechanisms as during the crisis. Suicides do not necessarily occur immediately after the proclamation of an economic crisis. If a suicide occurs some years after the start of an economic downturn there is no agreement as to a purported causal relationship.

Inferences from existing datasets should therefore be more tentative than in some recent publications. The results for Hungary are further explained by a study by Fountoulakis et al 2014b. Using a dataset from 2000 to 2011 they suggest that unemployment might be associated with suicidality in the general population only after 3to 5 years. It is possible that the distressing environment of the economic crisis increases suicidality in the general population rather than specifically in un-employed people. Spectacular suicides published in media shortly after the start of an economic downturn probably represent a marginal phenomenon, but may increase slightly the numbers of suicides for some days (Ueda et al. 2014). The media coverage rather than the co-occurrence with an economic downturn would explain this short-term rise in suicides.

How could we improve the studies on suicide rates related to economic changes?

Characterizing suicidal events may be achieved by studying persons referred to medical or psychiatric departments before a crisis emanates, during the crisis and some years after. This would not be a cohort study. Data on socio-economic circumstances, concomitant mental problems characterized in some detail and the relation to a crisis cycle must be gathered. Objective economic parameters may be compared to individually felt economic restrictions. This may be done both by quantitative and qualitative methods, also lagged regression models and relevant psychometric tests.

Conclusion

The fraction of people succeeding in committing suicide without being referred to hospital cannot be characterized by such a study. However, in most cases a suicide outside hospital does leave researchable traces of information. The distinction of military personnel described earlier may very well be studied by the proposed methods. Inaccurate mortality statistics would not pose a problem. Comparisons across countries could be done. Violation of the warnings by WHO would, with the proposed methods, not be relevant.

Conflict of interest

The author has none to declare.

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