

Essay

Recognition and treatment of suicidal adults - A SWOT analysis of the present status of our knowledge

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Submitted to SOL: December 15th, 2016; accepted: February 09th, 2017; published: February 11th, 2017

Abstract: In spite of the great development of "suicidology" in the last century, our present theoretical knowledge and treatment-preventive strategies are still incomplete. This paper summarises our knowledge on the recognition and treatment of suicidal adults according to the SWOT analysis, demonstrating the Strengths, Weaknesses, Opportunities and Threats related to this topic.

Keywords: recognition, treatment, suicide, suicide attempt, suicide prevention, SWOT analysis

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Suicidal behaviour is a complex, multidimensional human phenomenon with several psychiatric, biological, psychological, social, demographic and cultural components that represents a major public health problem everywhere in the World (Mann et al, 2005; Hawton & van Heeringen, 2009; Wasserman et al, 2012; Sarchiapone and D'Aulerio, 2015; Cho et al, 2016). Suicide is the most serious complication and the hardest "end-point" of patients in psychiatric care and prevention of it has great clinical and public health significance. In spite of the fact that the discipline of "suicidology" (including also prediction and prevention of suicidal behaviour) has shown a marked development during the last century we are still far from the ideal. In addition to psychiatry several other disciplines are involved

into the *research* of the topic of suicide such as psychology, sociology, biology/genetics, demography, statistics, and suicide is also a common subject of ethics and philosophy. However, in the *real life*, suicidal behaviour still remains psychiatric/medical problem as suicidal patients are regularly and almost exclusively referred to psychiatry. Because suicide is basically related to mental disorders (Rihmer, 2007; Hawton & van Heeringen, 2009; Wasserman et al, 2012; Isometsa, 2014; Cho et al, 2016) and psychiatrists are also medical doctors who take the responsibility for the life of their patients, including those with suicidal tendencies, suicide research outside of the context of psychiatric disorders is always an intellectual challenge but has few practical consequences.

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There is a big gap between our present knowledge on suicide prediction/prevention and implementation of these informations in everyday clinical practice. However, it should be also noted

that in spite of continuous development of "suicidology" our present theoretical knowledge and treatment strategies are also still incomplete. In this paper I discuss the status of the recognition and treatment of suicidal adults according to the SWOT analysis. SWOT analysis is a structured planning method for evaluation of the Strengths, Weaknesses, Opportunities and Threats related to the subject investigated.

I. "S" Strengths

Mental disorder, the most powerful suicide risk factor, helps in recognition and treatment

Probable the most important fact for suicide prediction and prevention is that suicidal behaviour in adults strongly relates to mental disorders. It sounds very simple and evident for well educated professionals but lay people and most community leaders, including many health-care policy makers, think that suicide is primarily a social/economic/moral problem and consequently the prevention of it is outside of the helthcare. Moreover, if the suicide rate of a given country decreases markedly mostly due to better care of psychiatric patients (Gusmao et al, 2013; Jagodic et al, 2013a, 2013b) politicians consider this as the result of better political/economic/social situation which is the result of their activity. However, the reality is that psychological autopsy studies clearly and consistently show that about 80-90 % of suicide victims have at least one current major mental disorders at the time of their death, most frequently major depressive episode (56-87%), substance-use disorders (25-45%) and schizophrenia (6-13%). Comorbid anxiety and personality disorders are also commonly present (Mann et al, 2005; Rihmer, 2007; Hawton & van Heeringen, 2009; Cho et al, 2016). In addition, in about half of the few cases of suicide attempters without current major mental disorder 1-4 subthreshold psychiatric diagnoses can be detected (Balázs et al, 2000). These results show that mental disorder is necessary but not sufficient condition for suicidal behaviour and realizing this relationship is relevant for suicide prevention. Of course, stressing out the priority role of mental disorders does not negate the contributing role of psychological/psychosocial factors in suicidal behaviour and the importance of supplementary psycho-social interventions in the prevention (Fleischmann et al, 2008; Wasserman et al, 2012; O'Connor & Nock, 2014). However, in psychiatric patients, that represents the vast majority of suicide victims, psychosocial interventions alone (without treating the contributory mental disorder)

are hardly enough for treating the disorder and preventing suicide.

Treatment of mental disorders reduces related suicide risk

The clinical significance of mental disorders in suicide prediction and prevention is markedly underlined by the well-documented fact that suicidal behaviour in psychiatric patients strongly relates to active symptomatology and suicidality decreases and vanishes after clinical recovery (Rihmer, 2007; Isometsa, 2014). Clinical studies show that appropriate acute and long-term use of antidepressants and/or mood stabilizers and some atypical antipsychotics in unipolar and bipolar mood disorder patients (Wasserman et al, 2012; Rihmer & Gonda, 2013), as well as the clozapine therapy in schizophrenia (Meltzer et al, 2003; Hennen & Baldessarini, 2005), particularly in combination with psycho-social interventions (Fleischmann et al, 2008), markedly reduces suicide morbidity (attempts) and mortality in these high-risk populations. Concomitant pharmacological treatment of anxiety and insomnia, that are also alarming suicide risk factors, is highly beneficial (Rihmer & Fawcett, 2010; Wasserman et al, 2012). It should be also noted that in the extreme severe and treatment-resistant cases, ECT is still the most effective method that, unfortunately, is underused nowadays in several countries (Fink et al, 2014). Given the fact that depression is a common disorder, it is not surprise that the more widespread treatment of depression in the last 2-3 decades reflected also in the more or less decline of national suicide rates of most developed countries (Gusmao et al, 2013; Jagodic et al, 2013a).

The common medical contact helps recognition and prevention even before the first suicidal act

As medical contact is quite common some months, weeks and days before suicide both in general practice and in psychiatry (Luoma et al, 2002, Rihmer & Rutz, 2009) this makes the possibility for recognition and management of suicide risk with good chance. It has been shown that postgraduate training of GPs and other health-care workers on recognition and treatment of depression, the most common suicide risk factor, particularly in combination with gatekeeper-training and public education markedly reduces the suicide mortality of the given area (Rihmer & Rutz, 2009; Székely et al, 2013). Recognition of suicidal risk in a person who is actually suicidal or made suicide attempt in the past is not a big task, it can do by everybody.

Psychiatrists and other professionals engaged with suicide prevention should know much more. Past suicide attempt is the best single predictor of future suicide but since more than half of suicide victims die by their first attempt and since more than two-thirds of them have (mostly untreated) current major depressive episode (Mann et al, 2005; Rihmer, 2007; Hawton & van Heeringen, 2009), it is very important to detect recent or long-term suicide risk as early as possible (eg. even before the first suicide attempt) and intervene prior to the person making first attempt to take his/her life. Considering the well-documented distal/indirect suicide risk factors (others than current suicidal tendencies) in psychiatric patients (Rihmer, 2007; Rihmer et al, 2015a; Isometsa, 2014) in the majority of cases prediction of their suicidality is quite possible even before the first suicidal act. To focus on the suicide danger only in cases when patients actually present suicidal ideation is, of course, obligatory, but sometimes too late for prevention.

Covert strength - "Hidden" suicide prevention

Successful treatment an illness from the onset will prevent the development of progression and complications. Appropriate treatment of newly recognised hypertension will markedly reduce the risk of later stroke, even if the treatment has been started in the very early stage of the illness, e.g.. before the first vascular attack. There are several other fields of medicine when the successful treatment of a given disorder prevents its later complications. Successful antibiotic treatment of follicular tonsillitis caused by streptococcus completely prevents the formerly quite common and serious complications such as endocarditis, glomerulonephritis and polyarthritis. After the widespread use of antibiotics in the last some decades these serious complications practically disappeared but we do not know in which patients would be they developed or not without the antibiotic therapy. This "hidden" form of prevention is also true for preventing suicide in psychiatric/mood disorder patients because in many cases suicidality develops in relatively later stage of the illness.

It is also important to note that more widespread and more effective treatment of mental disorders, especially depressions, that is also reflected in the continuous and marked increase of antidepressant prescription, is one of the most important contributors in the significant decrease of suicide mortality of all developed countries in the last three decades (Gusmao et al, 2013; Jagodic et al,

2013a). In the last 50 years, a remarkable progress has been made in the treatment of depression and several other disorders, including, e.g, hypertension. Since hypertension is present in 75 percent of patients with stroke and with coronary heart disease (like depression in suicide victims and attempters), cardiologists have declared that better treatment of hypertension was a significant (but not the only) contributory factor in a markedly reduced morbidity and mortality from stroke and coronary heart disease in the USA between 1970 and 2000 (Moser, 2004). As everybody knows that declining cardiovascular mortality is mainly the result of better care of these patients by their cardiologists psychiatrists also should stress out their fundamental (but not exclusive) role in declining national suicide rates.

II. "W" Weakness

Suicidal persons are still underdetected and undertreated

In spite of the fact that suicide mortality shows a continuous and significant decline in most developed countries in the last three decades (Gusmao et al, 2013; Jagodic et al, 2013a) there is a big gap between the accumulated theoretical knowledge and available treatment strategies and implementation of these in the daily practice. Although the tendency shows continuous improvement, the rate of appropriate treatment including antidepressant/mood stabilizer pharmacotherapy and psycho-social interventions among suicidal patients is still disturbingly low (Rihmer et al, 1990; Heriksson et al, 2001; Almási et al, 2009; Bruffaerts et al, 2011). In a multinational representative WHO survey including 6 continents, 21 countries and more than 109.000 persons, the past year rate of persons with suicidal ideation and attempt were 2.5 percent and 0.7 percent, respectively. However, only 40 percent of suicidal persons have received treatment for this; 17 percent in low-income countries and 56 percent in high-income countries (Bruffaerts et al, 2011). This later finding - in agreement with other studies - underlines the fact of good availability of medical/psychiatric/social care services in suicide prevention (Pirkola et al, 2009; Jagodic et al, 2013b).

Our current best practice on prediction and prevention of suicide is not optimal

The genetical background and biological correlates of suicidal behaviour are well explored and we know that genetical factors and some specific biological abnormalities - like disturbed central

serotonergic neurotransmission - play important contributory role. However, at present, there is no a single/simple biological marker of suicidal behaviour that could be easily implemented in the everyday clinical practice (Mann et al, 2005; 2006; Hawton & van Heeringen, 2009; Wasserman et al, 2012; van Heeringen & Mann, 2014). Therefore, clinically explorable suicide risk factors (Rihmer, 2007; Rihmer et al, 2015a; Hawton & van Heeringen, 2009; Wasserman et al, 2012) remain the most useful aids for detection of suicide risk in the daily practice. However, at present, suicidal behaviour is not predictable with 100 percent of precision but hopefully our effectiveness will further improve in the next future. Another sources of the weakness of our present possibilities regarding suicide prevention are the low availability to psychiatric care and psychotherapy in several countries and the substantial rate of nonresponders to our current therapies as well as the high rate of nonadherence.

III. "O" Opportunities

More widespread distribution of our recent knowledge and better implementation of it in the daily practice among professionals is a great opportunity. As it has been shown that multi-level suicide prevention programmes, including also gatekeeper training, public education and more appropriate media coverage of suicide are highly beneficial (Rihmer & Rutz, 2009; Székely et al, 2013), the regular and widespread implementation of these programmes is strongly recommended. Despite the great improvements in the last decades, the recognition of depression in primary care is still far from the ideal. Besides increasing the rate of appropriate detection of depression and all patients with recognized depression should be screened for suicidality (Rihmer & Rutz, 2009). As specific psycho-social factors play not only provocative but also protective role in suicidal behaviour regular use of psycho-social assessment and interventions among suicide attempters, that markedly decrease the rate of repetition, are also highly advisable (Fleischmann et al, 2008; Bergen et al, 2010; O'Connor & Nock, 2014). As suicidal behaviour in mood disorder patients usually develops later in the course or "only" during the repeated episodes, using the indirect clinical markers of suicidal behaviour in mood disorder patients (like family history of suicide, early onset, currently agitated, insomniac clinical picture, comorbid anxiety or substance-use disorders, impulsive personality features, etc., Rihmer et al, 2015a) the potential danger of future suicidal behaviour might be predictable even before the

first suicidal act. This should be the position of suicide prediction and prevention in the XXIth century, as detection of suicide risk in persons who are acutely suicidal or made attempt in the past has been an easy task everytime.

Restricting of general access to dangerous means is also effective in preventing suicide both on individual and population level but unfortunately these methods are underutilized. Because guns and highly lethal pesticides are common methods used for suicide, particularly in rural areas, more intensive and widespread restriction of them and other means is also promising for the future (Brent & Bridge, 2003; Mann et al, 2005; Kong & Zhang, 2010). Regular physical activity, probable with its biological and social "mechanism of actions", and healthy lifestyle are also contributing factors in improving depression and reducing suicide risk (Taliaferro et al, 2008; Miller and Hoffman, 2009) but unfortunately professionals rarely recommend these, as supplementary interventions, for their depressed (suicidal) patients. On the other hand, however, a hard core of data is now available for the efficacy of ketamine, an NMDA receptor antagonist, in the treatment of resistant, frequently suicidal depression (Serafini et al, 2015; Ionescu et al, 2016). To explore the role of dietary factors as well as low lithium and high arsenic in drinking water in suicidal behaviour is also the task of future research (Voracek & Tran, 2007; Rihmer et al, 2015b; Vita et al, 2015).

IV. "T" Threats

Current anti-psychiatric and particularly "anti-antidepressant" campaigns in sensational media and internet, as well as the suicide-promoting materials on the web represent the most important threats regarding our efforts for appropriate care of our patients including suicide prevention. The misunderstanding and misinterpretation of the complex relationship between antidepressants and suicide, directed and presented mostly by non-psychiatrists and non-professionals, resulted in a widely distributed misbelief that "antidepressants cause suicide", or "antidepressants increase the risk of suicide". However, in contrast to this, the correct formulation is that "appropriate use of antidepressants in unipolar major depression significantly decreases the risk of suicide and suicide attempts in the vast majority of depressives, but antidepressants can worsen depression and consequently increase the risk of suicidality in a very small, vulnerable

subpopulation of them" (Musil et al, 2013; Rihmer & Gonda, 2013; Rihmer et al, 2015a).

Antidepressant-associated suicidality and antidepressant-caused suicidality are not the same. The relatively few number of suicidal events among depressed patients taking antidepressant develops relatively more frequently in the first 2 weeks of the treatment, before the onset of action of antidepressants, and later mostly among nonresponders. However, there are growing body of evidences that antidepressant monotherapy, unprotected by mood stabilizers or atypical antipsychotics in bipolar and bipolar spectrum patients can produce not only (hypo)manic switches and rapid cycling, but also generate de novo mixed conditions or worsen the preexisting depressive mixed states, resulting in treatment resistance, destabilization of the mood disorder, worsening the depression, and, consequently, in few cases suicidal behaviour. The rarely observed causal antidepressant-suicidality link appears mediated by agitated, excited depressive mixed states (Jick et al, 2004; Akiskal és Benazzi, 2005; Musil et al, 2013; Rihmer & Gonda 2013; Rihmer et al, 2015a; Takeshima and Oka, 2013), and concomitant use of mood stabilizers and/or atypical antipsychotics in such cases could prevent this unwanted effect in this high-risk population. The correct identification of the bipolar background (types I or II, or NOS) as well as to detect the „covert” bipolar nature of the given depressive episode, as reflected in mixed/agitated clinical presentation, early onset, or in positive bipolar family history, might help for delineating the vulnerable subgroup and selecting the most appropriate treatment (Rihmer, 2007; Rihmer et al, 2015a; Musil et al, 2013; Takeshima and Oka, 2013) because our responsibility is to treat rather than to be a threat to the health of our patients.

The steadily increased use of antidepressants in the last 20-30 years in Europe has been accompanied by a continuous and substantial decline in national suicide rates suggesting that better treatment of depression was *one* of the main contributing factors and showing that the general statement "antidepressants increase suicide mortality" is basically wrong (Gusmao et al, 2013; Jagodic et al, 2013a). However, as the consequence of the FDA Black Box Warning, the decreased use of antidepressants after 2004 in children and adolescents seen in USA, The Netherlands, Canada and Sweden has been accompanied by a concurrent increase in suicide rates in that age-groups while in middle-aged and old persons, where the utilization of

antidepressants increased continuously the suicide rates further decreased (Isaccson & Ahlner, 2014). In contrast to this, in Hungary where the prescription of antidepressants and lithium among persons under age of 20 further increased by 8-fold between 1998 and 2006, the suicide rate decreased by 11 percent (Otuyelu et al, 2016). On the other hand, data from United Kingdom between 1999 and 2005 do not show that reduction in antidepressant use under 18s have led to an increase in suicidal behaviour (Wheeler et al, 2008). However, considering all the above, these findings provided support for the beneficial effect of better treatment of depression on suicide rates, even among young persons, and shows that the Warning, contrary to its intention, resulted in increasing number of young depressives who did not receive antidepressants and the suicide mortality in this age group increased in at least four (Isaccson & Ahlner, 2014) but not in one (Wheeler et al, 2008) country.

We are, of course, unable to prevent all suicides. Nevertheless, our present theoretical knowledge and the available treatment strategies are sufficient to prevent many, probably most, of them. To bridge the gap between theory and practice eg. translation of our best knowledge into the everyday clinical practice is possible and urgently needed. Brain scientist say that we use only a small proportion of the capacity of our brain; unfortunately, the same rate is true regarding to the implementation of the available knowledge on suicidology in the daily practice. However, in addition to SWOT *analysis*, our future task regarding suicide prevention is to work according to a SOWT *strategy*, i.e. to Strengthen the Opportunities and to Weaken the Threats.

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