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Are we able to evaluate suicide risk?

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Summary

Suicide is not only a medical but also a social problem. It seems important to be able to evaluate the risk of suicide in order to introduce appropriate preventive actions. Several instruments (scales) for the evaluation of the suicide risk may be of a help to the physician, however, they do not allow for a more precise measurement of such a risk. For the evaluation of suicide risk the following factors seem to play important role: severe depressive symptoms coexisting with substance abuse, feeling that there is no escape (entrapment), more arguments for suicide that against it, earlier suicidal thoughts/tendencies/attempts, active preparations for a suicide.

Key words: risk, suicide, prediction

Suicide as a medical problem

Suicide is both a social and medical problem. According to the WHO, 800,000 individuals commit suicide every year and the number of suicide attempts is even 20 times higher. It is estimated that every 40 seconds an individual commits suicide worldwide [1]. The World Bank estimates the prevalence of suicide to be at 10.5/100,000, much more frequently among males (16.3/100,000) than females (4.6/100,000). There is a higher prevalence of suicide in highly developed countries – 11.64/100,000, than in mid developed countries – 7.93/100,000 [2].

The problem of suicide does not only concern psychiatry, but is closely related to it. The lifetime clinical experience allows for a critical view on various mental health problems, which are encountered by a psychiatrist in his/her everyday practice. These problems include, for instance, circumstances of mandatory admission to a psychiatric hospital, an evaluation of the potential danger posed by a patient with mental problems to himself/herself or to others. From the legal point of view, these issues are regulated by the Polish Mental Health Act of 1994 [3]; however, some formulations included in the Act require a more detailed description, for instance, "immediate threat to self or others (article 21.1) or "the person with mental illness" (article 23.1).

In the past, I tried to elucidate the term "mental illness" [4]. It is hard to know what the results of such efforts were because the longer I work in the field of mental health, the more I long for a precise description of many mental health definitions and I become more skeptical of the notion that within the field of psychiatry nothing is sure, measurable, and objectively verifiable, which is endorsed by many Colleagues. In comparison to other medical disciplines, one may think that it is true, but it needs to be taken into account that, quite often, we face clinical situations where the process of decision-making requires a justification and confrontation with the consequences of such a decision. A good example is an evaluation whether the person admitted to a psychiatric ward fulfils the criteria of a "mentally ill person" or the criteria for the "immediate" threat to self or to others. In my opinion, the stronger the arguments that support such a decision, the more reasonable this decision becomes also for persons not directly involved in the decision-making process, such as a judge who evaluates the psychiatrist's decision. However, I have a full understanding for those of my Colleagues who have a different opinion.

During my career as a psychiatrist many times I encountered the need to make a decision, or to evaluate the decision of my Collegues, which regarded the potential risk of suicide caused by mental health problems. Lately, I was involved in this kind of decision-making process, which encouraged me to try to summarize my thoughts concerning the real possibilities of evaluating the risk of suicide among psychiatric patients.

Case report

First, a brief illustration of the clinical problem I have recently encountered. It needs to be mentioned that some of the data have been changed in order not to allow the recognition of this patient. It was a 60 years old male office worker, married with a stable family situation. For many years he was treated in outpatient clinics and hospitalized in several academic centers in the country due to bipolar disorder. He was treated with average doses of various medications, both mood stabilizers and antidepressants. The patient was admitted to a psychiatric ward (he consented his admission) because of the feeling of despondence, mild dyssomnia, and some problems with his memory.

At the moment of the admission, a slightly lowered mood was found with neither psychotic symptoms nor suicidal thoughts. His drive was slightly slowed and his cognitive functioning was untouched. At the beginning of hospitalization he was found to be calm, well oriented, cooperative, and he observed the rules on the ward. He was treated with lithium salts (1,000 mg/day), valproic acid (600 mg/day) and clomipramine (150 mg/day). He did not cause any behavioral problems, he communicated with other patients without problems, walked around the building, watched TV, read books/newspapers. Because he was in quite a stable state, a temporal leave from the hospital became possible, but he refused.

His family visited him quite often on the ward and also got in contact with the personnel. During these contacts, messages regarding the apparently severe state of the patient were conveyed to the physicians; the family demanded more precise diagnostic tests and skeptic comments of the current pharmacotherapy were given. A CT of the head, Doppler of the brain vessels and a detailed neurological examination revealed no pathology. Due to the reported problems with memory, a psychological examination was performed in which the patient eagerly took part. The examination revealed no cognitive problems at all. The patient said that he understood the result of the tests, however, he still had the feeling that his memory does not work properly. After two weeks of hospitalization, he started to ask ward personnel how long he would stay in the hospital. The patient's family asked the same question, but with comments stating that the patient cannot be discharged "in such condition" and that the care of this particular patient is inadequate. The head of the ward and the manager of the hospital were informed by the patient's family about this matter. The family demanded electroconvulsive treatment and when they were informed by the treatment team that there are no indications for such a therapy they accused the staff of inadequacy in treating the patient..

The disparity regarding the patient's condition, stable and relatively good, between the treatment team and the patient and his family became more obvious. The patient demanded an increase of the clomipramine dose because he was once treated with this drug in a higher dose. He was disappointed by the fact that the attending physician denied to increase the clomipramine dose, and the same opinion was shared by consulting internist, who emphasized the risk of increasing the dose of this medicine. When the patient was informed about the results of psychological tests, in a conversation with a psychologist, he stated that "now he will definitely be discharged from the ward". The patient's family intervened in order to cancel the possible discharge from the hospital. Therefore, taking into account the patient's stable and relatively good mental state (in the opinion of physicians, psychologists, and other medical staff), the indisputable diagnosis and adequate treatment, it became obvious that the patient and his family want him to stay in the hospital for long.

In the meantime, a letter from the court arrived at the ward inquiring information for how long the patient will be hospitalized and whether his health allows him to participate in legal procedures. It turned out that this patient has some legal problems – he and his family did not notify the ward personnel about it. At that time, the patient said to the attending physician that he does not feel well and he revealed some suicidal thoughts. When he was asked why he did not reveal these thoughts previously, he answered that he has not considered this as important, and that before this hospitalization, he experienced the presence of such thoughts from time to time. Nothing other than the patient's statement confirmed these complaints. However, the patient's family immediately intervened at the hospital's management, demanding intensive treatment of the patient and accusing the doctors of wanting to discharge the patient with suicidal tendencies from the hospital. The observation of the patient and

conversations with him did not reveal the deterioration of his mental state, nevertheless he claimed that suicidal thoughts persist. The patient admitted that the longer stay in the hospital seems to be beneficial for him. He still demanded an increase of the clomipramine dose.

At this moment, the case conference was organized with the presence of psychiatrists and psychologists. This conference revealed a rather good and stable mental state, the absence of psychotic symptoms, neutral mood, vivid affect adequate to the situation, and normal drive. He admitted that he has some suicidal thoughts, but was not sure whether this are suicidal intentions or not. In conclusion, the conference confirmed that the diagnosis of bipolar disorder with current mild depressive episode is correct, the pharmacological treatment is adequate to patient's state, and the patient may be discharged from the hospital. Outpatient care and a continuation of psychopharmacology were recommended. The patient accepted this decision, however, the patient's family formulated a list of objections to this decision and threatened ward personnel with serious consequences.

This case illustrates the need for a careful evaluation of the potential risk for suicide in a person with mental health problems, but also indicates a thorough medical documentation of the decisions made during hospitalization in a rather difficult situation that the patient encounters. From the follow-up, we know that there has been no dangerous situation after the discharge of this patient from the ward, but the criteria of the evaluation of suicide risk should be carefully reviewed.

Factors contributing to the risk of suicide

Various factors contribute to suicidal thoughts and intentions: individual factors, interpersonal relations and social factors. Mutual interrelations of those factors make the evaluation of suicide risk even more difficult [5, 6]. Pużyński [7] indicates several groups of such factors: features of depressive syndrome, demographic characteristics, social situation, medical history, other factors (somatic factors, personality factors, alcohol abuse).

The short-term risk factors considered by Młodożeniec [8] include stressful life events, hopelessness and intoxication, while environmental factors include suicide of a loved one, problems at school, possession of firearms. The long-term suicide risk factors are mental disorders, substance abuse, co-morbidity, lifetime suicidal attempts, history of sexual harassment, suicidal behaviors in family, while the environmental factors include dysfunctional family, access to deadly instruments, stigmatization because of mental disorder, insufficient access to social protection factors.

In the evaluation of the potential risk of suicide, the first question to be raised should be whether the overt expression of suicidal thoughts or ideations causes the risk to be immediate or not? Further on, is the risk of suicide low when the patient does not say anything about suicide? Does every patient reporting suicide thoughts/intentions require psychiatric hospitalization? Does hospitalization prevent a poten-

tial suicide attempt? It is obvious that the majority of psychiatrists have encountered such problems in their practice; therefore, the attempt to determine whether and how one can evaluate the risk of suicide in individuals suffering from mental disorders, can be made.

Diagnosis

The risk of suicide seems to be higher in those who suffer from affective disorders in comparison to persons diagnosed with other mental health problems. However, it should be taken into account that the risk of suicide pertains also people with, e.g., schizophrenia, where it ranges between 9 and 13% [4]. Młodożeniec [8] reports the prevalence of suicidal thoughts among schizophrenia patients to be as high as 20–40%. The suicide risk is also quite high in patients with severe anxiety disorders, substance abuse disorders and personality disorders. This causes the diagnosis of particular mental health problem to be a relative risk for suicide.

Present mental health status

The risk for suicide depends mainly on the present symptoms, independent of the diagnosis. Some symptoms may increase such a risk. Such symptoms include imperative auditory hallucinations (so-called directive voices), treatment-resistant bothering cenesthetic hallucination, for instance, the feeling that one's body or internal organs fall apart, or persecutory delusions. Suicide risk may be increased by severe anxiety disorder, including obsessions and compulsions, panic attacks, social phobias. The risk is higher when the present symptoms are persistent, treatment-resistant or the treatment procedures cause bothersome side effects.

Concomitant disorders

The risk for suicide increases when psychiatric disorders are accompanied by other medical conditions, especially those considered as "severe", "serious' or "life-threatening". Such a risk varies from one condition to other, but it should be regarded as more serious in the presence of life-threatening disorders, such as cancer, cardiovascular diseases, HIV etc. The risk is also serious in chronic diseases, which cause disability of a patient and make him/her dependent on the care of others etc. The most frequently mentioned medical condition is, however, concomitant substance abuse disorder. It is estimated that the risk of suicide increases two – to threefold in such cases [9].

Demographic factors

Although depression (most often identified with the suicide risk) is more prevalent among middle-aged females, the risk for suicide is not particularly low among men, or

among young or older people. Młodożeniec [8] indicates that although depression is more frequent in women than in men, suicide attempts more frequently regard males; this is supported by the above-mentioned WHO report [1]. Previous suicide attempts or lifetime suicide thoughts increase the risk for suicide at present. In addition, the coincidence of several factors increases this risk. Those factors include the patient's present family situation (the more satisfying and stable it is, the lower the risk), occupational situation (unemployment, the risk of being fired etc. increase the suicide risk), social situation. The latter regards social support experienced by a patient. Feeling of being alienated from the social environment, specific social attitudes or lifestyle, affiliation with specific social group etc. may be considered as aggravating factors, but as far as the risk for suicide is concerned, it depends mainly on the patient's feeling of being rejected from his/her environment. Therefore, it cannot be unequivocally stated that, for example, being a member of a specific community poses a risk of committing suicide.

Life events

This is a group of serious risk factors. Independently from the diagnosis and treatment of mental health problem, the occurrence of a traumatic life event should be considered as a factor which increases the risk of a suicide. Obviously, the risk depends on the patient's attitude toward this event, to what extent this particular event is taken as a traumatic experience by the patient in his/her present situation. For instance, the loss of a loved one is always considered as a very traumatic life event, but it does not mean that such an event dramatically increases suicide risk. This risk depends on several factors, for instance, what the relations between the patient and the person who passed away were, how and to what extent the death of the loved one changes the present situation of the patient, and finally how the patient copes with the loss of the loved one. Another option regarding the role of life events is also possible: a trivial (from the objective point of view) event may be considered as very traumatic by the patient and therefore may increase suicide risk. I know some examples of young people who have considered a suicide attempt because of trifling reasons. These include suicidal thoughts of a teenage patient who was forbidden to wear modern fashionable clothes approved by a peer group, or of another one whose parents could not afford to buy the newest model of a smartphone, which, in the mind of this patient, was considered an unacceptable deviation from the peer group standards. This is why a careful evaluation whether the particular life event should be considered (or not) as contributing to the risk of suicide to this particular patient in this particular situation, not for us who have more "objective" view of the problem, is crucial.

Verbalization

When it comes to verbalization of suicidal thoughts/tendencies, it should be assessed whether the suicide risk increases when the person with mental disorders

overtly informs about such thoughts/tendencies, or not. Suicidal thoughts/tendencies should never be disregarded. Detailed information about the moment they appear, their persistence (or resolution), intensity, context, and the patient's attitude toward them should always be collected. The more information regarding suicidal thoughts/tendencies will be collected, the better the possibility to evaluate the risk of suicide. Sometimes physicians hesitate to ask direct questions about suicidal thoughts/tendencies, which seems to be understandable because such a direct question may cause a certain negative consequences for the patient (e.g., "Do you suggest I should think about suicide?" or "Do you suggest I should kill myself?"). It seems to be more useful to ask the question in a less direct form, e.g., "Some people think that it makes no sense to continue living, have you ever had such thoughts?" or "Have you ever thought that all this does not make sense and it should be somehow terminated?". Clinical experience suggests that such wording is more easily accepted by the patients. Galynker et al. [10], who have considered the feelings of entrapment (see further in the study) to be a significant predictor of suicidal behavior after the discharge from the psychiatric hospital, suggest the following formulations: "Do you feel there is no escape?", "Do you feel there are good solutions to your problems?", "Do you feel powerless to stop thoughts that are upsetting?" (i.e., that your situation is a trap without an exit – MJ's note).

Indirect conclusions

If the patient does not overtly express suicidal thoughts/ideations or denies them, it does not mean that the suicide risk is none. Indirect conclusions are also possible. The patient's behavior should be carefully evaluated. Such signs as staying away from the others, refusal to participate in certain therapeutic activities, meetings, conversations, the avoidance of response to questions pertaining the patient's state of being, plans for the future, personal or family situation, refusal of meals or indifference to nutrition, may suggest the risk for suicide, but obviously they may also result from other health problems. The direct preparation of suicide attempts, which may involve unreasonable putting in order some personal affairs, drawing up a will, unreasonable getting rid of valuable personal items, writing suicide notes (or other forms of information exchange, e.g., electronic ones) to people with whom the patient maintains close contact or rarely communicated, selection and collection of means (e.g., medications), all indicate a high risk of suicide. In the age of the Internet, visiting websites that provide tips on how to deal with a difficult life situation, searching for "suicide", "death" etc., are obvious signs of an increased risk of suicide.

The methods to evaluate the risk of suicide and their usefulness

It seems relatively easy to objectively evaluate the above-mentioned suicide risk factors. I say "relatively" because few of them are easy to verify – except for age and

sex of course. I mention this because there are scales to evaluate the risk of suicide, but they rely on criteria, which may be difficult to verify objectively.

One of the first and most widely used tools for the evaluation of suicide risk, and specifically for "evaluation of the severity of current suicidal intentions", is the Beck's Scale for Suicidal Ideation (SSI). It consists of 19 items, each scored from 0 (absent) to 2 (severe). Therefore, the total score may vary from 0 to 38 points. Beck et al. [11] point out that when creating this scale the main hypothesis they tested was the assumption that the feeling of hopelessness is more tightly associated with suicidal thoughts than the severity of depression. Therefore, regardless of the fact that the psychometric analysis proved the weakness of several items, such as "suicide notes", "preparations for a suicide" and the "concealment of suicidal thoughts", the authors have considered these items to be prognostic and too important to be deleted from the scale.

The scale dedicated to a selected population is, for example, the InterSePT scale [12] for the evaluation of suicide risk in schizophrenia patients. It includes 12 items, each of a different level of verification, and it proved to be a useful clinical tool [8].

The systematic review of methods used to evaluate the attitudes toward suicide, based on more than 2000 publications and made by Kodaka et al. [13], suggests that all the scales have their own characteristics and may be useful for research purposes. However, 3 scales deserve particular attention: the Suicide Opinion Questionnaire (SSQ) [14], the Suicide Attitude Questionnaire (SUIATT) [15] and the Attitudes Toward Suicide (ATTS) [16]. Kreuze and Lamis [5], in their review of tools used to evaluate suicide risk, have identified 16 scales with appropriate psychometric properties, but they did not judge whether these scales are more or less useful in the clinical practice. They stated, however, providing the fact that 90% of unplanned suicides and 60% of first prearranged suicide attempts occur within the first year from the presence of suicidal thoughts, the need to use a reliable tool to measure the risk of suicide is very important. For the evaluation of such a risk, the WHO [1] recommends following factors:

- present emotional state (distress);
- early identification of mental problems;
- alcohol abuse;
- access to tools most frequently used to commit suicide.

In the US, the National Guideline Clearinghouse, an institution involved in providing guidance based on evidence-based clinical practices, recommends for the evaluation of the suicide risk, the following [6]:

- clinical history;
- Back's scales of hopelessness, suicidal thoughts, ideations;
- Beck Depression Inventory;
- Hamilton Rating Scale for Depression.

Polish authors have built a scale for the evaluation of suicide in patients hospitalized in psychiatric wards. This scale is brief and may be a useful tool in psychiatric patients [17]. T. Koweszko underlines, however, that such instruments are more useful in the evaluation of attitudes toward suicide than for helping to foresee suicide. The Suicide Crisis Inventory (SCI) [10], a scale to evaluate the intensity of the Suicidal Crisis Syndrome, proved to be a useful tool to assess the risk of suicide among patients discharged from a psychiatric ward – especially in the period just after the discharge from the hospital. This scale differs from other tools designated for the evaluation of suicide risk in the long-term perspective. The factors which need to be considered in the long-term perspective of suicidal risk, are as follows:

- past suicidal attempts or at the time of admission;
- the severity of suicidal thoughts at admission;
- depression at admission;
- feeling of hopelessness;
- state and trait anxiety at admission and at discharge;
- diagnosis;
- coexistence of substance use disorders;
- demographic factors: age, gender, race, ethnicity.

Such symptoms as depressed mood, suicidal thoughts and state and trait anxiety are more strongly associated with such a risk. The authors have judged the SCI to be a useful tool to predict the risk of a suicide. The most important predictor proved to be the entrapment subscale; it was stronger than suicidal ruminations, the fear of death, panic attacks, or dissocial behavior [10].

The Columbia-Suicide Severity Rating Scale (C-SSRS) is also noteworthy. It consists of two parts defined as “suicidal thoughts” and “suicidal behavior”. Posner et al. [18] write that in studies on adolescents, a high score of suicidal thoughts on this scale allowed for the prediction of a suicide attempt.

Chan et al. [19] estimated the risk of suicide in persons with self-harm behavior. They identified 4 risk factors:

1) previous episodes of self-harm;
2) suicidal intention;
3) physical health problems;
4) male gender.

They stated, however, that those factors are not of an important value because they are common in other clinical populations. They also indicate that no instrument (scale) is really suitable for suicide risk assessment. Moreover, the use of these scales may provide false results, which is potentially dangerous. The comprehensive assessment of psychosocial factors regarding the patient, seems to be crucial [19].

When psychiatrists [20] were asked about the problems related to estimation of the suicide risk, three main areas were identified:

1) understanding the patient's difficult situation;
2) understanding one's own reactions;
3) understanding how the doctor-patient relationship influence risk assessment and management decisions.

Physicians, who are aware of problems associated with the use of scales and risk factors, when trying to assess the risk of suicide, stressed the semi-intuitive nature of their assessments and admit that this could cause physical and emotional symptoms of anxiety [20].

The technological progress allows to foresee that the evaluation of suicide risk may be supported by modern technology (e.g., mobile phone applications, IT in learning – so-called machine learning [21].

Is there a need for instrumental to evaluation of the suicide risk

The aim of the present paper is to estimate whether an objective evaluation of suicide risk is possible and what are the contributing factors, which may by appropriately verified. It has to be mentioned that some researchers vote for the abandonment of suicide risk assessment. Murray [22] suggests that such an assessment should be replaced by efforts to improve the availability of benefits for people in crisis. He states that the term "suicide" should be reserved only for those who want to take their lives. Noteworthy is that the majority of patients with suicidal thoughts, feelings or behaviors do not want to die, but they want to end their pain related to crisis and psychological problems. Murray also mentions 4 reasons why suicide risk should not be assessed:

1. Suicide is uncommon even in psychiatric patients.
2. There is the lack of predictive validity of suicide risk factors
3. Statistical predictions of human behavior are superior to clinical assessments because the latter – even when carried out by experienced practitioners – are reliable only under relatively stable conditions.
4. Determining whether suicide occurred is not easy and appropriate services may not confirm the suspicion that death occurred as a result of suicide.

Such critical approach to the problem of suicide prediction among psychiatric patients has been known for years. In the 1980s, Pokorny [23] assessed suicide risk with the use of different tools among 4,800 individuals admitted to psychiatric wards. Attempts to identify specific subjects at suicide risk were unsuccessful. Moreover, these studies did not allow for the prediction of suicide: more than half of the suicides occurred in the low-risk group and the number of false positive results was huge: 96.3% [23, 24].

Some psychiatrists are skeptic regarding the use of the suicide risk measurements, pointing out that:

– the tools are inaccurate to be useful;
– suicide-specific treatments are unavailable or there is no evidence that they are effective;
– over-emphasis on risk management might lead to defensive medicine [25].

The use of programs aimed at the assistance for those at risk of suicide, such as *The Collaborative Assessment and Management of Suicidality* (CAMS), improves the patient–clinician alliance, builds motivation and allows to avoid hospitalization. Another program, *The Therapeutic Risk Management* (TRM) allows selection of suicide risk assessment, evaluation of this risk (low, medium, high, direct, persistent) as well as helps to jointly develop a plan to remedy the problem [25].

Recapitulation

The evaluation of suicide risk among persons with mental health problems is difficult and needs to take into account several factors – not only patient's mental status but also his/her personal situation, social support, co-morbidity etc. One of the most important factors is the feeling of being in a position from which there is no escape (being trapped). The verbalization of suicidal thoughts/tendencies is not the most important risk factor for suicide; however, it should never be disregarded. The use of specific tools for the evaluation of suicide risk may be helpful for the clinician, but none of such measurements possess a high predictive validity. When the risk of suicide needs to be estimated, an undisputable presence of at least one of the following allows to judge such a risk as high:

– severe depressive symptoms + substance use;
– feeling of being in the situation with no escape (trapped);
– estimation, whether the arguments for suicide outweigh the arguments for life;
– early suicide thoughts, tendencies, attempts;
– active preparation for a suicide.

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