The Hungarian Adaptation of the M.I.N.I. and M.I.N.I. Plus Interviews and Using them in Research-Psychiatric Investigation of Suicide Attempters

Judit Balázs M.D.

Semmelweis University, School of Ph.D. Studies Mentalhealth Sciences

Chief Coordinator: Professor Péter Rajna, M.D., D.Sc.
Tutor: Professor László Tringer, M.D., C.Sc.

Budapest, 2002
I. INTRODUCTION

My Ph.D. research is divided into two parts. In the first part I worked on the adaptation of a short, structured psychiatric diagnostic interview, the Mini International Neuropsychiatric Interview (M.I.N.I.) and its extended version (M.I.N.I. Plus). The main objectives of the authors - Sheehan (USA) and Lecrubier (France) – were to create a shorter interview than the structured interviews used before; simple, clear and easy to administer, that is why it needs only brief training time; highly sensitive; specific; able to capture subthreshold diagnoses – which don’t meet all criteria listed by the international classification manuals. The studies supported the validity and reliability of the M.I.N.I.. The administration of the M.I.N.I. took much shorter time, than the administration of other structured interviews used before.

In the second part of my work I examined suicide attempters using the valid Hungarian version of the M.I.N.I.. Numerous studies have shown that suicide attempters or completers have a high rate of mental disorders; the most common were affective disorders, substance-related disorders and schizophrenia. Comorbidity of mental disorders is also frequently reported in individuals who have made suicide attempts or died by suicide. During the past 15 years the interest in subthreshold forms of mental disorders has increased. The definition of the subthreshold forms of mental disorders doesn’t require all DSM-IV criteria, still the symptoms make the person suffering. Large scale of epidemiological studies have demonstrated high prevalence of these disorders in the general population. Patients suffering from subthreshold depressive symptoms report more medical comorbidity, more days lost from work, more medical and mental health visits, suicide attempts and poorer functioning than do individuals without these symptoms. Studies focusing on subthreshold forms of other mental disorders, such as panic, generalized anxiety, alcohol and drug dependence demonstrate association with significant impairment and medical morbidity.

II. AIMS

II.1. The Hungarian adaptation of the M.I.N.I. and the M.I.N.I. Plus Interviews
The purpose of this study was adapting a short, structured interview, which can be useful as a diagnostic screening tool for psychiatric clinical practice and research:

II.1.1. To prepare the reliable and valid Hungarian versions of the M.I.N.I. and the M.I.N.I. Plus.
II.1.2. To investigate the validity of the M.I.N.I. in relation to different diagnostic standards.

II.2. Psychiatric investigation of suicide attempters

II.2.1. The purpose of this study was to investigate the most frequently described risk factors of suicide and the prevalence psychiatric disorders among suicide attempters in Hungary, specifically:

II.2.1.1. The prevalence of DSM-IV Axis I disorders.
II.2.1.2. The prevalence of subthreshold forms of DSM-IV Axis I disorders.
II.2.1.3. The comorbidity of mental disorders.
II.2.1.4. The emphasis was on affective disorders.

II.2.2. My aim was to investigate the medical and psychiatric treatment of suicide attempters.

III. METHODS

III.1. The Hungarian adaptation of the M.I.N.I. and the M.I.N.I. Plus Interviews

III.1.1. Study I.: Agreement with the admission diagnosis and interrater reliability

One hundred patients were administered the M.I.N.I. Plus in the Department of Psychiatry and Psychotherapy of the Semmelweis University in Budapest. Two psychiatrists for interrater reliability rated the M.I.N.I. Plus. The admission diagnoses of the patients were unknown to both interviewers. To test the criterion validity of the M.I.N.I. Plus diagnoses I compared them with the admission diagnoses of the patients.

III.1.2. Study II.: Agreement with the „best estimate” diagnosis

We examined all the documentation of 80 patients enrolled into the Study I. in the Department of Psychiatry and Psychotherapy of the Semmelweis University. An independent psychiatrist diagnosed the patients according
to ICD-10 based on their documentation (=„best estimate” diagnoses). The „best estimate” diagnoses were compared with the M.I.N.I. Plus diagnoses.

**III.1.3. Study III.: Agreement with the DIS**
The M.I.N.I. Plus was compared with another structured interview, with the Diagnostic Interview Schedule (DIS). Altogether 200 patients were enrolled in the study. Two psychologists and three psychiatrists participated in data collection after training. The subjects were administered the mood and anxiety disorders diagnostic parts of the two interviews.

**III.2. Psychiatric investigation of suicide attempters**

**III.2.1. Subjects**
The study population was a consecutive series of 100 individuals aged between 18 years and 65 years who were admitted to the central “suicide-emergency unit” of Budapest. We registered the number of those subjects, who refused participation, or were not interviewed because of the severity of their medical condition.

**III.2.2. Data collection**
Individuals who met the criteria for inclusion in the study were interviewed in the hospital within 24 hours of their suicide attempts. We used the M.I.N.I. - which was presented in the first part of my theses - to determine Axis I psychiatric diagnoses and their subthreshold forms. A semistructured interview was administered to evaluate background information. Two trained psychiatrists performed the interviews.

**III.2.3. Statistical analysis**
Descriptive statistical methods and chi-square test (X²) were used and first suicide attempters were compared to repeaters by using the chi-square test. A probability level of < 0.05 was considered significant. Altogether 100 subjects were drawn into this study, that is why the percent and the number of subjects are equal. In my theses I use only the percentages.

**III.2.4. Diagnostic definitions**
In the rest of my theses I labeled the disorder with the full DSM-IV symptom profile as threshold diagnosis. We defined subthreshold diagnoses, that the symptoms should be present as long as DSM-IV
requires them and the key symptoms of the disorders should be present, but the presence of less additional symptoms is enough.

IV. RESULTS

IV.1. The Hungarian adaptation of the M.I.N.I. and the M.I.N.I. Plus Interviews

IV.1.1. Study I.: The results of comparison of the M.I.N.I. Plus with the admission diagnoses are summarized in Table 1.

Table 1. The result of study I. (comparison of the M.I.N.I. Plus with the admission diagnoses) (n=100)

<table>
<thead>
<tr>
<th>Interrater reliability</th>
<th>K ( ? ) 0.96</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion validity</td>
<td>0.17 &lt; K &lt; 0.62</td>
</tr>
<tr>
<td>Average duration</td>
<td>23 minutes</td>
</tr>
</tbody>
</table>

K: Cohen kappa

IV.1.2. Study II.: The results of the comparison of the M.I.N.I. Plus with the „best estimate” diagnoses are summarized in Table 2.

Table 2. The result of study II. (Comparison of the M.I.N.I. Plus with the „best estimate” diagnoses) (n=80)

<table>
<thead>
<tr>
<th>M.I.N.I. Plus: number of diagnoses / subject</th>
<th>2.56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent psychiatrist: number of diagnoses / subject</td>
<td>1.16</td>
</tr>
<tr>
<td>Sensitivity - each disorder separately</td>
<td>?0.8 except personality disorders: ?0.5</td>
</tr>
<tr>
<td>Specificity- each disorder separately</td>
<td>?0.6</td>
</tr>
</tbody>
</table>
IV.1.3. *Study III.*: The results of comparison of the M.I.N.I. Plus with the DIS diagnoses are summarized in Table 3.

*Table 3. The results of study III. (Comparison of the M.I.N.I. Plus with the DIS diagnoses) (n=200)*

| M.I.N.I. Plus: number of diagnoses / subject | 2.4 |
| DIS: number of diagnoses / subject         | 2.3 |
| Criterion validity                        | K / Y ? 0.6  
  Except Ge. Anx.: k = 0.49 |

K: Cohen kappa  
Y: Yule’s Colligation Coefficient

IV.2. *Psychiatric investigation of suicide attempters*

IV.2.1. *Prevalence of psychiatric disorders*

IV.2.1.1. *Prevalence of threshold psychiatric disorders*

Eighty-eight percent of the suicide attempters received at least one current threshold diagnosis on Axis I and 92% of them had at least one lifetime threshold Axis I diagnosis. The most frequent current threshold diagnosis was major depressive episode (69%), followed by generalized anxiety disorder (62%), substance dependence and abuse (53%) (alcohol dependence / abuse = 33%, non-alcohol dependence / abuse = 20%), social phobia (14%) and psychotic disorders (13%).

IV.2.1.2. *Prevalence of subthreshold psychiatric disorders*

Seventy-seven percent of the suicide attempters received at least one current subthreshold diagnosis on Axis I and 82% of them had at least one lifetime threshold Axis I diagnosis. The most frequent current threshold diagnosis was substance dependence and abuse (39%) (alcohol
dependence / abuse = 6%, non-alcohol dependence / abuse = 33%), followed by dysthymic disorder (33%) and eating disorders (27%).

**IV.2.1.3. Comorbidity of threshold and subthreshold mental disorders**

Seventy percent of the subjects received two or more current threshold diagnoses on Axis I. Among patients with comorbid threshold diagnoses, 30% had two, 26% three and 44% more than three diagnoses. Thirty-nine percent of the individuals had two or more subthreshold diagnoses at the time of their suicide attempts. Figure 1. presents the comorbidity of subthreshold and threshold disorders.

Figure 1. The comorbidity of subthreshold and threshold disorders 

(n=100)

![Figure 1](image)

**IV.2.1.4. Major Depressive Episode – Bipolar Disorders**

Among suicide attempters who received a diagnosis of current major depressive episode 60% had their first major depressive episode. More than one-third (35%) of the patients with current major depressive episode had had hypomanic (N=19) or manic (N=5) episodes in the past.
More than three-quarters (82%) of the bipolar patients belonged to the bipolar II group. The ratio of patients with bipolar I and II disorders are shown in Figure 2.

*Figure 2. The ratio of patients with bipolar I and II disorders (n=28)*

IV.2.2. *Medical facility visit, psychiatric treatment*

Within the week prior to their suicide attempts 24% of the attempters had visited a health professional, two-thirds of them (N=16) were psychiatrists. Within the month before their suicide attempts 66% of the subjects (N=66) had contacted health care facilities and exactly two-thirds of them (N=44) were psychiatrists. Within the 3 months before their suicide attempts 79% of the subjects had visited a health professional and nearly two-thirds of them (N=65) were psychiatrist. Fifty-nine percent of the subjects were receiving one or more psychotropic drugs at the time of their suicide attempts. Twenty-four percent of the subjects were receiving antidepressant treatments. Nine percent of the suicide attempters were taking prophylactic treatment, which was carbamazepine in all cases (two subjects with bipolar I diagnoses; nobody among the subjects with bipolar II diagnoses).
V. DISCUSSION

V.1. The Hungarian adaptation of the M.I.N.I. and the M.I.N.I. Plus Interviews

V.1.1. The results of Study I. suggest that the M.I.N.I. Plus can be administrated in short time. The duration of the administration of the Hungarian version of the interview is in agreement with the international data; much shorter time is needed than for the structured interviews used before. Interrater results were very good. During the criterion validity examination - when M.I.N.I. Plus diagnoses were compared with the admission diagnoses - the kappa values were low for most diagnoses. It calls for further studies, to examine, if the reliability of the M.I.N.I. Plus is poor, or the use of admission diagnoses as criterion is the cause of the low kappa.

V.1.2. In Study II the M.I.N.I. Plus diagnosed more than twice as much disorders as the independent psychiatrist. The M.I.N.I. Plus missed very few real-positive cases as compared to the independent psychiatrist that resulted in very good sensitivity. The M.I.N.I. Plus assigned more fals-positive diagnoses as compared to the independent psychiatrist. The high number of the fals-positive diagnoses and the high number of all assigned diagnoses compared to the clinical routine can be among the reasons of the low kappa of the criterion validity in Study I.. The high number of fals-positive diagnoses raises the idea, that these are diagnoses, which the patients really suffers from and the clinicians missed them. Another explanation for the fals-positive diagnoses can be the subthreshold diagnoses, which the patient suffers from and the M.I.N.I. Plus measures them because of its high sensitivity. A third reason for the high prevalence of fals-positive diagnoses can be suicidal behavior, which is mot included in ICD-10, but it exists in the M.I.N.I. Plus as a category.

V.1.3. Both the M.I.N.I. Plus and the DIS found approximately twice as much diagnoses per patient as the clinicians did. It confirms the result of the previous parts of my study: the M.I.N.I. Plus is more sensitive on the comorbid diagnoses as the clinical routine is. The data support that the M.I.N.I. Plus is a valid interview.
V.2. Psychiatric investigation of suicide attempters

V.2.1. Prevalence of psychiatric disorders

V.2.1.1. The results of this study confirm those previous findings showing high rates of mental disorders among suicide attempters. As expected, the most frequent diagnosis was major depressive episode.

V.2.1.2. To our knowledge, this is the first study examining the prevalence of subthreshold diagnoses among suicide attempters. More than three-quarters (77%) of the subjects had at least one subthreshold diagnosis at the time of their suicide attempts. The results of the present study emphasize the importance of subthreshold diagnoses among the risk factors of suicide attempts.

V.2.1.3. Our findings are similar to previous studies that have shown high rates of comorbid mental disorders among individuals making suicide attempts. More than two-thirds (70%) of the subjects enrolled in our study met the criteria for two or more threshold disorders. In 70% of the subjects both subthreshold and threshold disorder were diagnosed at the time of their suicide attempts.

V.2.1.4. A very important result of our study is, that 60% of suicide attempters with major depressive episode had had no previous episode. Therefore they attempted suicide during the first major depressive episode of their life. To our knowledge, this is the first study in which the rate of first major depressive episode among suicide attempters has been examined. Another important finding of our study is the high prevalence of bipolar disorders. Several studies have confirmed the importance of bipolar disorder as a risk factor for suicide. In comparison to previous studies, which have identified bipolar disorder in 10-15% of suicide victims or suicide attempters, in the present study the prevalence of bipolar disorders was somewhat higher, at 28%. More than one-third (35%) of patients with current major depressive episode belonged to the bipolar group. Future studies have to address whether the high proportion of patients with bipolar disorders is something special about the Hungarian population including suicide attempters. Among the bipolar patients 86% belonged to the bipolar II group.

V.2.2. Although 88% of the subjects had at least one current threshold psychiatric disorders according to the M.I.N.I., only 59% of them were receiving any psychotropic drug at the time of their suicide attempts,
though within the week prior to their suicide attempts almost a quarter (24%) of the attempters had visited a health professional, within the month before their suicide attempts 66% of the subjects had contacted health care facilities and within the 3 months before their suicide attempts 79% of the subjects had visited a health professional. Although 69% of the subjects had a current major depressive episode, only 37.3% (n=22) of them were receiving antidepressant treatment. Nine subjects were prescribed prophylactic treatment (carbamazepine), including only 2 out of the 28 bipolar patients; these two patients belonged to the bipolar I group and no patient in the bipolar II group was receiving prophylactic treatment. Diagnosing bipolar II disorder can be more difficult, than diagnosing bipolar I disorder.

VI. CONCLUSIONS

VI.1. The Hungarian adaptation of the M.I.N.I. and the M.I.N.I. Plus Interviews
VI.1.1. Based on our data I suggested the use of the M.I.N.I. Plus in clinical psychiatry and research setting because it can be administered in a short time in a simple way, that is why it is much easier for the patients and interviewers as well. The data of the validation studies suggest that the M.I.N.I. Plus succeeds in reliably and validly eliciting symptom criteria used in making DSM-IV and ICD-10 diagnoses and it can diagnose the comorbid disorders in a more sensitive way, than done in clinical settings, so it helps for the clinicians to work in a more careful way.

VI.1.2. The use of several diagnostic standards gave different results. It razes the question, which diagnostic standard can be considered as the “gold standard”: the admission diagnoses, the “best estimate” diagnoses or the DIS diagnoses? It razes questions as well, that the patients suffer from disorders, which are fals-positive diagnoses in my study; if the diagnostic standard is objective or if there is at all an ”objective truth”? But I think during the validation studies of a new instrument all information coming from the clinical setting is important since this is the starting point of clinical research. And we have important information
comparing an instrument under development with an already known and valid one.

VI.2. **Psychiatric investigation of suicide attempters**

VI.2.1. In conclusion, this study underlines the importance of early detection and treatment of psychiatric disorders for the prevention of suicidal behavior. The most striking findings of this study were the very high prevalence of first episodes of depression and of bipolar II disorders among suicide attempters.

VI.2.2. Subthreshold forms of mental disorders need to be taken into account in suicide prevention.

**ACKNOWLEDGEMENTS**

I would like to thank my tutor, Professor László Tringer for supporting me during my Ph.D. studies. I would like to thank all colleagues in the Department of Psychiatry and Psychotherapy of the Semmelweis University for their helping. I acknowledge the contributions of Drs. Nóra Csiszér, Erika Szádóczky and György Ostorharics. I thank Dr. Zsuzsa Czenner for correcting the translation of the M.I.N.I. with great patient and preciseness. For the administration of the interviews I would like to thank Drs. Csilla Bolyós, Ilona Smidt Horváthné, Katalin Hideg, Kitty Kiss, János Koszták, Ágnes Kovács, Katalin Laczkó, Piroska Szörényi Palasicsné and Judit Szabó. I would like to thank Ms. Kozáry Katalin and Ms. Mónika Nagy for helping me the data entry. I would like to thank Professor Rene Kahn for giving me the opportunity to spend one year in his department and to learn a lot about research techniques, and I wish thank his team for helping me during the one year in my work and in my every day life in a foreign country. I wish to thank Professor Yves Lecrubier and Professor David Sheehan for their valuable help. I’m very grateful to my parents and brother, that I can feel always in my life, that they stand next to me. I would like to thank Dr. István Bitter, that since the beginning of my Ph.D. work in a different way, but always he is a reliable and now a real partner to me. And I would like to thank my little daughter, that she was born during this period and now I can spend my days with her.
PUBLICATIONS

Publications linked to the theme:

Presentation linked to the theme:


Posters linked to the theme:


Balázs J., Bitter I., Lecrubier Y., Csiszér N., Koszták J. Prevalence of Mental Disorders and Their Subthreshold Forms in Suicide Attempters in Hungary. 13th ECNP Cong. 9-13 September, 2000 - Munich, Germany.