Community Ment Health J (2013) 49:822–830
DOI 10.1007/s10597-013-9619-1

ORIGINAL PAPER

# Proposal for a Short Version of the Beck Hopelessness Scale Based on a National Representative Survey in Hungary

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Received: 13 July 2011 / Accepted: 29 May 2013 / Published online: 12 June 2013


**Abstract** In our study we assessed the frequency of reported hopelessness and suicide attempts in the national representative survey Hungarostudy 2002. The randomly selected sample consisted of 14,000 individuals over the age of 18. We created a short version of the widely used Beck Hopelessness Scale for screening purposes in suicide prevention. The short version of the BHS consists of four items and has high internal consistency (Cronbach's alpha = 0.85). Moreover, we conducted an investigation into psychological, somatic, sociological and socio-economic as well as cultural variables that show a positive or negative correlation with hopelessness and important predictors of suicide. The following psychological variables showing a positive correlation with hopelessness were identified: dysfunctional attitudes, exhaustion, psychological distress, hostility, lack of life goals and inability to cope emotionally. Sense of coherence, social support, perceived self-efficiency, subjective well-being and problem-solving coping showed a negative correlation with hopelessness. Concerning the relationship between hopelessness and suicide attempts, we found that participants who attempted suicide in the last year scored higher (mean = 4.86) than participants who attempted suicide more than 3 years ago (mean = 3.57). These results indicate that applying the short version of the BHS could be very useful in general practice and in psychiatric care.

**Keywords** Beck Hopelessness scale · Short version · Psychometric properties · Suicide prevention

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## Introduction

Though the rate of suicide has decreased remarkably in Hungary, it still ranks among the highest suicide rates in the world. According to the most recent data, the number of completed suicides in Hungary decreased to 24.6 per 100,000 in the total population in 2009, with 10.6 per 100,000 for females and an alarmingly high 40.0 per 100,000 for males (WHO 2009). This data is encouraging compared to the extremely high 45.1 per 100,000 overall rate recorded in 1987. However, in light of the world average of 14.5 per 100,000, Hungary still holds a rather "exclusive" standing in comparison to the rest of the world. Several outstanding national analyses and even international comparisons have been made regarding the Hungarian conditions and the assumed background processes and reasons (Bozsonyi et al. 2003, 2005; Fekete and Osváth 2004; Rihmer 2001, 2005). Zonda and Veres (2004) carried out a convincing analysis of the suicide statistics between 1970 and 2000, revealing that the enormous socio-economic and valuation changes since 1989 may have played quite an important role in the significant decline in suicide rates. The suicide rate was relatively low in the years of the Rákosi dictatorship, and started to increase progressively after the defeat of the Revolution from 1958 to 1959 (23.4 and 26.3 per 100,000) up to the

record rate of 1987 (45.1 per 100,000). A significant decrease occurred in 1988 (41.3 per 100,000) which continued until figures fell below the critical rate of 30 per 100,000 in 2002. According to Zonda and Veres (2004), such a large decrease in suicidal disposition can be attributed primarily to the socio-economic changes, and this theory is also reinforced by similar tendencies observed in the other former socialist countries (WHO 2009). They also point out the high correlation between alcoholism and suicide and suggest that prevention of alcohol consumption should be an essential part of suicide prevention, as the increase among suicide rates and alcohol consumption is almost parallel.

Rihmer (2001), from the field of biological psychiatry, points out that the increasing diagnosis rate of depression and the threefold increase of antidepressant consumption might also be important factors in the decline of suicidal mortality. While Kézdi (2000) reveals the socio-cultural embeddedness of suicides, Fekete and Osváth (2004) are notable for their research in Baranya county (South Hungary) and for taking part in the international WHO/EURO survey. They performed a questionnaire analysis with 1,158 suicide attempters on the relation between choice of methods for suicide, psychosocial environmental factors, life events and medical services. Their findings show that, compared to other European countries, the proportion of middle-aged and elderly people among suicide attempters was much higher in Hungary. Hungarian people aged over 65 were still "world record holders" in terms of completed suicide (males: 9.47 per 100,000, females: 26.19 per 100,000; WHO 2006). However, these elderly people lived in families in most cases, thus it may not have been the loneliness but conflicts within the family relationships that might have played an important role in their suicide (Fekete and Osváth 2004). Their research also reveals that depression was not the only risk factor for suicide, as the presence of psychiatric disorders, especially personality disorders, also bore an increased risk. International surveys seem to share the standpoint that psychiatric disorders, primarily chronic psychiatric disorders, such as depression, borderline personality disorder and psychotic states, are indeed serious risk factors in the development of suicide threat. In addition, the study corroborated a well-known phenomenon in suicidology, namely that a previous suicide attempt increases the risk for subsequent suicide attempts: 53.3 % of men and 52.1 % of women had attempted suicide shortly before and approximately one quarter (25.8 %) of participants had attempted suicide within a year of testing. The fact that Hungarian patients spend many more days hospitalized after suicide attempts than in any other European country draws attention primarily to the deficiencies of the medical service and the need for effective psychological and psychotherapeutic intervention (Fekete and Osváth 2004). Regarding the assessment of modifiable or non-modifiable risk factors, most of the Hungarian studies reviewed above merely revealed the role of non-modifiable or hardly modifiable risk factors in suicide, over which individuals have no or little control, such as old age, socio-economic changes following 1989 and the socio-cultural acceptance of suicide.

A smaller number of studies investigate the role of modifiable risk factors, which are of great importance in regard to prevention. Kopp and her colleagues performed a survey on suicide threat of 21,000 people in their national representative research in 1996 (Kopp et al. 2000). Twenty-two percent of the participants reported suicidal thoughts, 4 % attempted suicide, 2 % were under medical treatment after suicide attempts and 1.1 % were repeaters. They also managed to identify the most important psychosocial factors in the Hungarian population related to binge eating in stressful situations, increased alcohol consumption, smoking, drug abuse, coexistence of several serious symptoms of depression, lack of life goals and decrease of social network. While Zonda and Veres (2004) suggest that decreasing the rate of alcoholism and introducing more efficient psychotherapeutic strategies would make suicide prevention more efficient, Rihmer (2005) emphasizes the importance of a better recognition of depression in primary care and the use of antidepressive medication.

Research on suicide has pointed out that in the presence of physical or mental disease it is not the illness that leads directly to suicide but the coexistence of several psychological factors that leads to hopelessness, such as permissive positive attitudes to suicide, negative self-image, and low level of problem-solving skills (Beck et al. 1979; O'Connor et al. 2006; Pollock and Williams 2004). Hopelessness can be described as a negative expectation regarding the future and a negative emotional state characterized by the lack of finding a solution for one's problems. This negative perspective called hopelessness leads to suicidality (Beck et al. 1990; Kovács et al. 1975; Perczel Forintos 2001). As hopelessness can be dissolved with appropriate methods of psychotherapy, its recognition plays an important role in prevention (Wasserman and Wasserman 2009).

## The Hopelessness Scale

Fast and reliable instruments with which specialists can properly screen a suicide threat play a prominent role in suicide prevention. One of the most widely accepted instruments is the Beck Hopelessness Scale (BHS) (Beck et al. 1974), which has been translated and adapted to numerous languages, even Chinese (Yip and Cheung 2006). The BHS was translated into Hungarian in 2001 and

its psychometric analysis on a clinical sample of 300 individuals suffering from depression was also performed (Perczel Forintos et al. 2001). In addition, data was also collected both from the normal population and psychotic patients and put through further analysis. According to these results, BHS produced high internal consistency (Cronbach's $\alpha = 0.91$) in every examined group (Ajtay et al. 2008; Perczel Forintos and Tóth 2005).

## The Short Version of BHS

Filling in questionnaires applied in clinical investigations and screening is often very time-consuming and exhausting and reduces respondent willingness. Patients may not fill in the last parts of the questionnaire at all or only partially, thus decreasing the reliability of the survey. It was pointed out by several previous methodological surveys that some questionnaires can be shortened by 70 % without detriment to the original reliability and validity levels (Moran et al. 2001; Shout and Yager 1989). In certain situations, for instance in a crisis or in stages of severe anxiety or depression, it can be a demanding task for the patient to fill in an instrument of 20–30 items, not to mention screenings when several questionnaires have to be filled in consecutively. Clinicians should consider this issue especially in such an important field in public health as suicide prevention. Furthermore, it is a well-known phenomenon from several surveys that individuals at risk of suicide visit their family doctors with various complaints, or "pretenses," 1–2 weeks before they commit suicide (Rihmer et al. 1996). As they rarely report suicide intent directly, an informative screening instrument that can be used reliably and quickly in the general practice is highly desirable.

The surveys of Aish and colleagues (Aish et al. 2001) suggest that most of the BHS items measure a single factor. Thus, a single item such as "My future seems dark to me" (#7) would be sufficient to measure hopelessness. According to them, this sentence is outstanding in summing up the phenomenon: the perception of a menacingly ambiguous future and hopelessness. This was reinforced by our own findings; moreover, in our survey this item showed the highest item residue correlation ($r = 0.75$) as a result of detailed item analysis, i.e. the highest correlation with hopelessness (Perczel Forintos et al. 2001).

Based on confirmatory factor analysis, Aish et al. (2001) suggested that a four-item scale produced an excellent fit. The four suggested items are the following: "In the future I expect to succeed in what concerns me most" (#6); "My future seems dark to me" (#7); "I just don't get the breaks and there is no reason to believe I will in the future" (#9); and "I have great faith in the future" (#15). In their publication, Yip and Cheung (2006) applied this shortened four-item version of the BHS in a cross-sectional survey of some 2000 individuals in Hong Kong. They reported a high correlation ($r = 0.88$) between the original 20 items and the shortened version of four items, suggesting that the short scale can reliably be applied instead of the original long version.

Furthermore, French, Japanese (Bouvard et al. 1992; Tanaka et al. 1998), and Hungarian researchers indicated that even only three different items out of the original 20 would properly represent the scale, meaning that it could be a valid measure of hopelessness. Those three items are the following: "My future seems dark to me" (#7); "Things just won't work out the way I want them to" (#14); and "There's no use in really trying to get something I want because I probably won't get it" (#20). We proposed the short version of the BHS in 2001 based on a clinical sample of 300 individuals (Perczel Forintos et al. 2001). Even with this small sample, the short version produced a high correlation with the original scale ($r = 0.88$), and the internal consistency of the items also proved to be relatively high (Cronbach's $\alpha$ coefficient: $r = 0.80$) (Perczel Forintos et al. 2001).

Based on previous empirical results a three-item short version of the Hopelessness Scale was developed out of the original 20 items. The three most significant items were selected that showed a high correlation with the total scale, but item 2 from the BDI—also referring to hopelessness—was also added to increase reliability. Thus the short scale includes all the affective (#7), cognitive (#14, BDI #2) and motivational components of hopelessness (#20) (Table 1). In this study we show our results with this new questionnaire.

## Aims of the Study

Our objective with this study was to evaluate the level of hopelessness in a normal population sample via an extensive nationally representative survey—the Hungarostudy 2002—applying the short version of the Hopelessness Scale. We further aimed to investigate its correlation with other important factors related to suicide upon a psychometric analysis. The reason for creating a short scale was

**Table 1** The four items used in the Hungarostudy 2002 survey

| | |
|---|---|
| Item from the short Beck Depression Inventory | |
| 2. | I feel that the future is hopeless and that things cannot improve. |
| Items from the Hopelessness Scale | |
| 7. | My future seems dark to me. |
| 14. | Things just won't work out the way I want them to. |
| 20. | There's no use in really trying to get something I want because I probably won't get it. |

based on reasons of practicality: besides ease of use in research it could play a crucial role in suicide prevention and could also be used as an efficient and fast screening measure in general practice. We also hoped to find out in what aspects the low and high hopelessness score groups differed from each other.

## Methods

The survey on hopelessness led by Maria Kopp was part of the Hungarostudy 2002, a broad national representative health survey that accomplished the overall investigation of the physical and mental state of the Hungarian population, the problems and needs related to medical service and the psychosocial risk factors. It is not our intention here to give a detailed review of the aim of the survey, the preparations, the main organizational steps, the sampling strategy, the measure used in the survey or the general methodology as this has been done previously and is available from several sources (Rózsa et al. 2003).

The refusal rate (17.6 %) was adequate and acceptable in the Hungarostudy compared with results of other epidemiological surveys. Gender, age and territory distribution of the sample are representative and the scales of the instrument used in the survey have moderate to high internal consistency (Cronbach's α: 0.60–0.91). Consequently, the survey proved to be suitable for extending and generalizing the results of our research (e.g. hopelessness, background protective and risk factors, quality of life indices) to the whole Hungarian population (Rózsa et al. 2003).

*Sample size and sampling strategy:* The Hungarian Central Statistical Office created a proportionately and randomly selected sample of 14,000 individuals (+14,000 individuals as reserve) that represented 0.18 % of the Hungarian population over the age of 18. The sampling proportionately represents the three basic age groups (18–39, 40–59 years and 60 and over) by gender and gives grounds for estimation on territorial terms (county or smaller unit) as well.

*The development of the test battery of the HUNGAROSTUDY 2002*: Based on the experience of previous surveys (Kopp et al. 2000) a test battery of 700 questions was designed by the team. The questionnaire includes the following groups of questions: personal data, habitation and home, workplace, household, parents, health condition, psychological factors, stress and health behavior, religion and ethnic background. Since our previous surveys proved that willingness to participate is considerably affected by the length of the questionnaire, a short version of the scales was used during interviews, lasting altogether 45–60 min. Psychometric results of our previous surveys and other national reviews were considered during the development of almost every short scale. Our test battery contains the following scales: *Chicago Collective Efficacy Scale, Illness-burden Index*, *WHO (Ten) Well-Being Index, Hospital Anxiety Scale, short form of the Beck Depression Inventory, short version of the BHS, type D Scale-16 (DS16), short version of the Dysfunctional Attitude Scale, Self-efficacy, short version of the Cook-Medley Hostility scale, Purpose in Life scale, short version of the Cooperation and Self-Transcendence scales* from the Temperament and Character Inventory (TCI), *Ways of Coping, Sense of coherence and Life Meaning scales from the Brief Stress and Coping Inventory, Athens Insomnia Scale, CAGE-H (screening for alcohol abuse), short version of the Maastricht scale.*

The response formats of several scales including the Hopelessness Scale were standardized for reasons of transparency. Participants had to respond on a four-point Likert scale: 0–not typical; 1–rarely typical; 2–typical; 3–very typical.

## Results

### Descriptive Statistics

Our first objective was to measure the hopelessness level of the Hungarian population with the application and psychometric analysis of the short version of the Hopelessness Scale. According to our results, the four-item Hopelessness Scale shows excellent internal consistency (Cronbach's α: 0.85) with similar item weights and a corrected item-total correlation between 0.64 and 0.72. A Cronbach's α below 0.7 is considered poor; 0.7–0.8 is considered acceptable; and above 0.8 is good. The four items are the following: "My future seems dark to me" (#7); "Things just won't work out the way I want them to" (#14), "There's no use in really trying to get something I want because I probably won't get it" (#20) and "I feel that the future is hopeless and that things cannot improve" (#2 statement of the short form of the Beck Depression Inventory). On each item, zero to three points could be obtained, thus resulting in a maximum of 12 points on the four items in total. On the original 20-item scale, Beck and colleagues suggest that the risk for suicide should be seriously considered over nine points and above, i.e. in a negative response to half of the items (Beck et al. 1985, 1990; Minkoff et al. 1973). As half of the maximum score is 6 in the short version, it seems to be a realistic cut-off criterion.

The frequency distribution table of the Hopelessness Scale shows the hopelessness level on the total sample (Table 2). Each item scored between zero and three points, thus the four items together scored from 0 to 12. Frequency indicates the percentage of participants scoring a particular value: for example, 45.68 % of the total sample scored 0 and 0.86 % scored the maximum.

**Table 2** Descriptive statistics of the short version of the Hopelessness Scale

| Score | Females (%) | Males (%) | Total (%) |
|---|---|---|---|
| 0 | 43.11 | 48.86 | 45.68 |
| 1 | 15.06 | 14.59 | 14.86 |
| 2 | 10.63 | 10.06 | 10.37 |
| 3 | 7.87 | 6.83 | 7.40 |
| 4 | 6.64 | 6.08 | 6.39 |
| 5 | 4.14 | 3.81 | 3.99 |
| 6 | 3.22 | 2.57 | 2.94 |
| 7 | 2.41 | 1.88 | 2.18 |
| 8 | 2.37 | 1.98 | 2.19 |
| 9 | 1.55 | 1.34 | 1.45 |
| 10 | 0.99 | 0.67 | 0.84 |
| 11 | 1.08 | 0.54 | 0.84 |
| 12 | 0.93 | 0.78 | 0.86 |
| Mean | 2.09 | 1.77 | 1.95 |
| SD | 2.78 | 2.57 | 2.69 |
| Cronbach's α | 0.88 | 0.83 | 0.85 |

The mean of the sample items on the four-item scale is 1.95 (SD: 2.69). Females scored significantly higher ($p < 0.001$, effect size $= 0.059$) on this scale than males did.

## Comparison Between Groups

Our second objective was to identify groups with high and low hopelessness level within the sample (Table 3). Comparison of age groups clearly shows an increasing hopelessness level with increasing age. The correlation between hopelessness and age is: $r = 0.24$, $p < 0.001$. Participants with lower education scored higher (mean = 3.06) on the short version of the Hopelessness Scale than participants with a university or college education (mean = 1.10). The difference in hopelessness between education groups indicates moderately better outcomes for the group with more education than for the group with only primary or lower education.

According to grouping by marital status, widowed individuals and divorcees scored the highest, while singles scored the lowest on the short version of the Hopelessness Scale. We controlled for age effects, too.

Individuals living on disability pension reported significantly higher levels of hopelessness than the other groups based on current activity, while students and entrepreneurs scored the lowest.

Comparison of groups based on subjective health evaluation shows that with the declining ability to work the rate of hopelessness increases. The mean of the total score on the short version of the Hopelessness Scale was above 6 in the group of bedridden or wheelchair-bound individuals.

Religiosity, a well-known protective factor for maintaining mental health, could modify hopelessness in principle (Hitlin 2007; James and Wells 2003). Surprisingly, hopelessness and religion showed a significant positive correlation in the representative sample based on the results of the survey: religious and irreligious participants showed an equal level of hopelessness. For those individuals for whom religion is important, particular quality of life indicators are inferior, such as diminished ability to work or presence of depressive symptoms (Kopp et al. 2005). However, if hopelessness is controlled by age, gender and socio-economic status, there is a low or negative correlation with religion in the case of regular worship.

## Depression, Suicide Attempts and Hopelessness

In the case of individuals who were not treated for depression the hopelessness level was increased. Hopelessness is well defined by the severity (whether outpatient or inpatient treatment was needed) and timing (whether or not it occurred in the last year or earlier) of depression. Concerning the relationship between hopelessness and suicide attempts, we found that participants who attempted suicide in the last year scored higher (mean = 4.86) than participants who attempted suicide in the last 2.5 years (mean = 4.31) or earlier (mean = 3.57). Analyzing hopelessness depending on the time elapsed since the latest suicide attempts, no significant difference was found between the hopelessness level of individuals with suicide attempts in the past year or in the last 2.5 years, and the hopelessness of individuals with suicide attempts in the last 2.5 years or earlier; all the three groups could be characterized by a similarly high level of hopelessness. According to our results, hopelessness shows a slight decrease with time elapsed after suicide attempts. This phenomenon might also suggest that the BHS is a proper measure to differentiate between suicide and non-suicide groups, but it is less suitable for intergroup differentiation in the suicide arm. Thus, concordant with literature data (Beck et al. 1985, 1990; Smith et al. 2006; Vörös et al. 2009) it is an important result of our survey that hopelessness and suicide attempts also show a high correlation in the Hungarian population as a whole.

Our third goal was to define the correlation between hopelessness and other variables (Table 4). Strong significant correlations were found between hopelessness, sociodemographic and household factors, subjective health state and current pain level. Hopelessness increases significantly with age, number of children, and financial and living problems, while hopelessness is decreased by good social conditions and high income. A high negative correlation was found between hopelessness and health state evaluation: the better participants found their own state of health

**Table 3** Means, standard deviations and statistics for the demographic variables, lifestyle and clinical variables

| | N | Mean | SD | Statistics (ANOVA F, *p*) |
|---|---|---|---|---|
| *Age groups* (*age*) | | | | 137.88*** |
| 18–20 | 398 | 1.11 | 1.90 | |
| 21–30 | 2,374 | 1.16 | 1.95 | |
| 31–40 | 2,137 | 1.36 | 2.17 | |
| 41–50 | 2,353 | 1.97 | 2.64 | |
| 51–60 | 2,096 | 2.40 | 2.96 | |
| 61–98 | 3,292 | 2.75 | 3.13 | |
| *Highest qualification* | | | | 484.97*** |
| Primary school (8 years or less) | 3,843 | 3.06 | 3.25 | |
| Secondary (secondary/technical school) | 6,997 | 1.57 | 2.35 | |
| Third level (university, college) | 1,758 | 1.10 | 1.83 | |
| *Marital status* | | | | 107.48*** |
| Unmarried, single | 2,275 | 1.41 | 2.25 | |
| Married/live together/partner | 7,694 | 1.81 | 2.58 | |
| Separated | 220 | 2.22 | 2.98 | |
| Divorced | 890 | 2.50 | 2.96 | |
| Widowed | 1,567 | 3.14 | 3.27 | |
| *Current activity* | | | | 155.65*** |
| Employee, jobholder | 4,960 | 1.31 | 2.01 | |
| Entrepreneur | 837 | 0.99 | 1.77 | |
| Casual laborer | 173 | 2.41 | 2.85 | |
| Unemployed | 528 | 2.28 | 2.87 | |
| Retired | 3,469 | 2.66 | 3.05 | |
| Living on disability | 909 | 4.06 | 3.53 | |
| Student | 592 | 0.92 | 1.72 | |
| Homemaker | 165 | 2.32 | 3.15 | |
| Childcare allowance, maternity allowance | 559 | 1.45 | 2.29 | |
| *Subjective health evaluation* | | | | 488.93*** |
| No decline in ability to work | 6,985 | 1.17 | 1.94 | |
| Gentle decline in ability to work | 1,943 | 1.95 | 2.46 | |
| Moderate decline in ability to work | 1,869 | 2.76 | 2.91 | |
| Serious decline in ability to work | 792 | 4.69 | 3.54 | |
| Unable to get paid job | 636 | 4.72 | 3.56 | |
| Chair or wheelchair bound | 71 | 6.27 | 3.30 | |
| Bedridden | 38 | 7.56 | 3.76 | |
| *Ever been treated for depression before* | | | | |
| No | 10,270 | 1.79 | 2.55 | 191.15*** |
| Yes, formerly (more than 1 year ago) | 547 | 3.45 | 3.40 | |
| In the past year, as an outpatient | 240 | 4.59 | 3.52 | |
| In the past year, as an inpatient | 56 | 5.66 | 3.47 | |
| *Suicide attempts* | | | | 63.15*** |
| None | 11,138 | 1.90 | 2.65 | |
| Within 1 year | 44 | 4.86 | 3.89 | |
| In the last 2.5 years (between 1 and 2.5 years ago) | 61 | 4.31 | 3.32 | |
| Formerly | 233 | 3.57 | 3.43 | |
| *Worship* | | | | 21.55*** |
| Not religious | 3,031 | 1.76 | 2.56 | |
| Doesn't practice religion | 2,076 | 1.76 | 2.55 | |
| In one's own way | 3,199 | 2.32 | 2.99 | |
| In a church, infrequently | 2,056 | 1.93 | 2.60 | |
| In a church, regularly | 1,494 | 1.87 | 2.56 | |

*** $p < 0.001$

compared with their contemporaries, the lower level of hopelessness they had experienced. Pain and hopelessness show a high positive correlation, and joint and limb pains seem to lead to serious hopelessness.

Finally, we found it highly important to identify psychological variables showing a positive correlation with hopelessness as modifiable risk factors in suicide. These are the following: dysfunctional attitudes, exhaustion, psychological distress, hostility, lack of life goals and emotion-centered coping skills. On the other hand, sense of coherence, social support, perceived self-efficiency, subjective well-being, and problem-solving coping skills showed a negative correlation with hopelessness.

## Discussion and Conclusion

For the very first time, we had the opportunity to evaluate the Beck Hopelessness Scale, a widely known and used measure in suicide prevention, in a Hungarian representative sample via the Hungarostudy 2002 survey. For the survey, a short version of the BHS was created which was used to evaluate correlations with socio-demographic and quality of life indices and psychological variables.

Our focus was to identify modifiable risk factors representing a high importance in suicide prevention and to assess the possibility of introducing the short version in general practitioner consultations.

Several studies have confirmed that the full version of the Beck Hopelessness Scale (BHS) is a good predictor of

suicidal thoughts and behavior. For example, in a survey of 289 psychiatrically hospitalized, suicidal youth (Huth-Bocks et al. 2007) showed that the BHS predicted suicidal thoughts and suicide attempts across a 1–6-month follow-up after hospital discharge. Klonsky et al. (2012) found that hopelessness measured by the BHS was a predictor of attempted suicide among first admission patients with psychosis. The BHS has a good sensitivity and specificity (Cochrane-Brink et al. 2000), thus this scale is suitable for the screening of suicidal behavior. However, as we pointed out above, in clinical practice its shorter version would be more useful to apply.

According to our results, the short (four-item) BHS has excellent psychometric properties compared with the original 20-item scale and its internal consistency is excellent (Cronbach's α: 0.85). Regarding cut-off points for suicidal risk, on the original scale Beck and colleagues suggest that suicide risk emerges over nine points, i.e. negative response to half of the items (Beck et al. 1985, 1990; Minkoff et al. 1973). Since half of the maximum score is 6 in the short version and it is reached by 10 % of the normative scale, it seems to be a realistic cut-off criterion (thus rating 10 % of the total sample as threatened by suicide). A score of 10 might seem to be a somewhat high score for a cut-off, but there is no golden rule for cut-off criteria: if it is too high, suicide risk could stay undetected (sensitivity); however, if it is too low, several non-threatened individuals could be included (specificity). The original scale plotted out 16 of the 17 individuals who committed suicide subsequently in a large sample study applying a nine-point cut-off criterion (Beck et al. 1990). However, in our study it can also be seen that in a clinical sample of 1958 individuals only 16 scored higher than nine. Based on this percentage rate, we suggest that the cut-off be set at around 9–10 points.

Considering all the above-mentioned aspects, we would rather argue for diagnosing suicide threat above the score of 6. This will detect individuals without serious suicide threat, but will screen all the individuals at risk. As our objective by developing the short version of the BHS is to create a stable and highly sensitive screening measure, it is recommended to take a score of 6 into consideration as the limit value in designing suicide prevention programs.

Comparing groups of low and high hopelessness levels—in line with other studies—in our study we also confirmed the findings that lower education level, bad social conditions, unemployment, bad health status, solitude and loneliness correlate with high hopelessness. Furthermore, several psychological factors also show a close positive correlation with hopelessness, such as subjective evaluation of health status and pain, dysfunctional attitudes, vital exhaustion, hostility, lack of goals in life and emotional coping.

Gilbody et al. (2006) draw attention to an important risk with depression-screening programs. Some people may be depressed due to current life events; however, these symptoms can be resolved within 2–4 weeks, thus resulting in false positive answers in the screening. With this in mind, it must be emphasized that the Hopelessness Scale does not provide a diagnosis, but draws clinicians' attention to the risk of suicide. Clinicians should always carefully consider the reason behind hopelessness.

The representative survey of the Hungarostudy 2002 proved that hopelessness among depressed patients is increased in the wider Hungarian population as well. Moreover, according to the analysis of the relationship between hopelessness and suicide attempts, individuals with a suicide attempt within 1 year of the screening scored higher than those with an earlier attempt. Thus, hopelessness, depression and suicide risk are closely related, therefore assessing hopelessness is an important and essential part of suicide prevention. According to extensive literature data (Hawton 2005; Kuyken 2004; Williams 2001,), hopelessness is a modifiable risk factor that can be diminished by appropriate psychotherapeutic interventions. As Fekete and Osváth pointed out in their survey (Fekete and Osváth 2004; Vörös et al. 2009), what really matters is not only the number of days spent in hospital after a suicide attempt, the quality of treatment and appropriate selection of focus of the therapy are also crucial. Problem-solving training and problem-solving therapy are effective in decreasing suicide risk according to evidence-based

**Table 4** Correlations between hopelessness and other variables

| | The short version of the BHS |
|---|---|
| Age | 0.23** |
| Number of children | 0.13** |
| Subjective opinion on financial status | −0.29** |
| Subjective health evaluation | −0.43** |
| Degree of current pain | 0.27** |
| Beck depression scale | 0.74** |
| Dysfunctional attitude scale | 0.23** |
| Maastricht scale | 0.59** |
| Hospital anxiety | 0.55** |
| Hostility | 0.31** |
| Purpose in life | 0.58** |
| Self-efficiency | −0.32** |
| Social network | −0.15** |
| WHO Well-being scale | −0.42** |
| Problem-solving coping | −0.14** |
| Emotional coping | 0.21** |

** $p < 0.01$

treatment studies (Pollock and Williams 2004; D'Zurilla and Chang 1995).

The strength of our study is that it included a national, representative sample. However, the limitation of the study is its cross-sectional nature, as it cannot verify causal relationships. A further limitation of the study is the self-rating method applied, which means that responses may not be altogether objective. For example, therapy due to depression and suicidality are sensitive questions, as some people may be tempted to deny this. Although we deem the six-point cut-off score to be appropriate based on our investigations, further longitudinal studies are needed to support this claim. Additionally, precisely because of its shortness, a detailed assessment of suicidality cannot be completed with the short BHS. However, there are several benefits to the short version: it can be used not only for research purposes but also as a quick screening tool in general practice and in emergency settings, mental health or crisis hotlines to assess and prevent suicide attempts.

We conclude that the short form of the BHS described above can be completed and evaluated quickly, and suicide risk and the necessary preventive measures should be taken into consideration over a score of 6. In sum, the four-item short version of the Beck Hopelessness Scale may signify a great leap forward in general practice in recognizing suicide risk.

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