

# The impact of bereavement on physical and mental health

PhD theses

**Dr. János Pilling**

Semmelweis University  
Mental Health Sciences Doctoral School



Supervisor: Dr. Mária Kopp, Ph.D., D.Sc., professor †

Opponents: Dr. Katalin Barabás, Ph.D., associate professor  
Dr. Szabolcs Török, Ph.D., associate professor

President of the final exam committee:  
Dr. Zoltán Rihmer, Ph.D., D.Sc., professor

Members of the final exam committee:  
Dr. János Réthelyi, Ph.D., assistant professor  
Dr. Katalin Varga, Ph.D., associate professor

Budapest  
2012

## INTRODUCTION

The death of a close relative is one of the most severe losses that we experience in life. The period of grief can be characterised by emotional and physical changes as well as changes in the way of thinking, relationships, and spirituality. These evolve in several phases: after the anticipatory grief period and shock, the bereaved go through a controlled, then a confrontation phase, reaching at processing grief.

This process, however, can be hindered by many factors in our modern age. While in previous centuries most people died at home, today the scene of death is usually the hospital. As a result, there is less interaction between patients and their relatives in this period, the family members do not participate in the care of the patient (which had been a sign of love and gratitude), and often the patients die among strangers, without their relatives around. At the same time, with the spread of urbanisation, traditions and rituals related to mourning have ceased to exist, whereas these provided a behavioural model and community support for the bereaved. Consequently, non-adaptive models and exorbitant expectations developed in relation to mourning and the bereaved (e.g. those are considered to mourn appropriately who control their emotions, and get over the events as soon as possible).

Due to the lack of rituals, behavioural models and community support more and more people have difficulties in processing grief. Many international research studies pointed out that certain somatic and mental disorders can be prevalent among the bereaved. According to the results of these studies there is an increase in the frequency of

seeking help from physicians, the number of prescriptions, and frequency of assignments to specialists' consultations. Certain physical symptoms (e.g. headache, chest pain, breathing difficulty, dizziness, digestive disorders, etc.) and somatic illnesses (e.g. high blood pressure) become prevalent in the bereaved, and there is a significant increase in the prevalence of psychological disorders (primarily depression, anxiety disorders, and alcohol related disorders). Beside the increased rates of morbidity, a higher mortality rate can also be proved. According to research studies a growing number of violent deaths (suicides and accidents), respectively alcohol related death, acute and chronic cardiovascular problems, an increased number of lung cancers can be found in the background.

## **OBJECTIVES**

The aim of my research is to study extensively the physical and mental health status of the bereaved from several aspects. When designing my study I aimed at eliminating those methodological problems that the authors of research papers on the morbidity rates of the bereaved mentioned as limitations. These are:

- low sample size in previous research studies;
- some studies were conducted in clinical samples, thus they provide no information on how prevalent the studied problems are among those who do not seek the help of physicians;
- most studies focused only on the first year of the bereavement, with the presumption that the impact of mourning ceases to exist within a year, therefore

there are few research results in connection with the following years;

- the results of most surveys do not distinguish between male and female;
- studies usually focus on one specific area, thus they do not provide a comprehensive picture about the somatic and mental state of the bereaved.

In order to avoid methodological problems I aimed at analysing the physical and mental state of the bereaved in a national representative sample in the first three years of mourning, differentiating between the effects of bereavement among men and among women. I chose the three-year period since studying a longer period than the first three years of mourning would have indicated less and smaller differences between the bereaved and the non-bereaved.

Based on scientific literature data, I aimed at analysing among the bereaved the prevalence of somatic symptoms and somatic diseases, the change in the number of accidents, respectively the prevalence of psychiatric treatments and the mental disorders in their background (depression, anxiety, suicidal thoughts and attempts, somatization, disorders related to alcohol consumption). My analysis extended to other areas as well, which were not or were very little covered by the scientific literature in this topic. This includes analysing the quality of dreams of the bereaved, exploring marital stress, respectively investigating the subjective evaluation of general well-being.

## METHODS

### *Survey sample*

My studies are based on the research data of the Hungarostudy Health Panel 2006 (HEP 2006). This survey is the second phase of a previous national representative survey (Hungarostudy 2002), a prospective longitudinal survey. Out of those participating in the Hungarostudy 2002, 8,008 interviewees gave their informed consent to participate in the follow-up study. From this group we managed to identify 7,321 people (91.4%) in the 2005-2006 follow-up study. Of these 318 people (4.3%) died, 1,738 people (23.7%) refused to participate, 741 people (10.1%) were not in a state to participate in the study (e.g. due to illness or severe alcohol abuse). Finally, 4,524 people were involved in the study.

After data collection the sample was weighted. The aim of weighting was to adjust the distribution of cases to reflect the larger population. Weighting was performed based on data related to sex, age, and regional distribution. Based on this, 4,329 people were included (1,694 men and 2,635 women).

The subgroup of the bereaved comprised those 473 people from the national representative sample who experienced the loss of a close relative (spouse, partner, mother, father) in the past three years. From the aspect of the period of loss the sample size of the subgroup of the bereaved is as follows: bereaved for the past one year: 185 people (76 men, 109 women); bereaved for the past two years: 129 people (57 men, 72 women); bereaved for the past three years: 159 people (60 men, 99 women). Of

bereaved persons, 85,7% experienced the loss of a parent, and 14,3% the loss of spouse or co-habiting partner. In the present study I compared the data of the bereaved to the results obtained in the non-bereaved group including 3.856 people (1.501 men, 2.355 women).

### *Measures*

In the course of my studies I used the following measures:

- for studying the physical symptoms experienced in the past month: Patient Health Questionnaire (PHQ-15);
- for analysing the treated illnesses and accidents in the past year: the HEP 2006 survey included data related to 14 somatic illnesses (e.g. diabetes, asthma, high blood pressure, rheumatism) and disease groups (e.g. tumour, cardiovascular disorders, allergy) indicating whether the interviewee had undergone treatment for the specific illness in the past year. Similarly, the survey provided information about treatment in the past year due to traffic accidents, or accidents at work or at home, respectively about outpatient or inpatient treatment for psychiatric illnesses in the past year;
- for measuring depression the Beck Depression Inventory was used;
- for the measurement of anxiety a self-evaluating question was used referring to the past two weeks;

- for suicidal thoughts and attempts direct questions were used asking about the existence of suicidal thoughts or attempts in the past three years;
- for analysing alcohol related disorders the Alcohol Use Disorders Identification Test (AUDIT) was used;
- for measuring the quality of dreams the Dream Quality Questionnaire (DQQ) was used;
- for the subjective evaluation of general well-being the WHO Well-being Questionnaire was used;
- for measuring marital stress the Marital Stress Scale was used.

### *Statistical analysis*

The statistical analysis was performed with the 15.0 version of the SPSS software. I conducted the analysis with respect to sex/gender-specific differences, and the results were controlled for age and level of education.

I analysed the dichotomous dependent variables with binary logistic regression, the more than 2-category dependent variables with multinomial logistic regression, and the non-normally distributed continuous dependent variables with general linear model. I used the following levels of significance:  $p < 0.05$  (\*),  $p < 0.01$  (\*\*), and  $p < 0.001$  (\*\*\*)

## RESULTS

### Somatic status of bereaved persons

#### *Somatic symptoms within one month*

In comparison to the non-bereaved male group, the prevalence of the following symptoms was significantly higher among men bereaved for one year:

- stomach pain ( $p = .006$ , OR = 2.04),
- headache ( $p = .047$ , OR = 1.62),
- breathing difficulty ( $p = .017$ , OR = 2.05),
- sexual disorders ( $p < .001$ , OR = 6.02),
- fatigue ( $p = .017$ , OR = 1.76),
- sleep disorders ( $p = .013$ , OR = 1.86).

In comparison to the control group, the prevalence of the following symptoms was significantly higher among women bereaved for one year:

- stomach pain ( $p = .035$ , OR = 1.56),
- chest pain ( $p = .003$ , OR = 2.08),
- heart palpitations ( $p = .040$ , OR = 1.53),
- back pain or low-back pain ( $p = .019$ , OR = 1.64),
- sexual disorders ( $p < .001$ , OR = 3.76).

No significant difference was found between persons bereaved for two years and those bereaved for three years.

#### *Somatic diseases in the past one year*

In most areas, my studies have not shown significant differences between those who experienced the loss of a close relative and those who did not. Differences were found neither in the prevalence of diseases, nor from the



aspect of diabetes, gastric and duodenal ulcer, other gastrointestinal diseases, kidney-, liver-, and heart diseases, cerebral diseases, respectively rheumatic and other locomotor disorders.

High blood pressure was the only disease from the questionnaire the prevalence of which was higher. The prevalence of blood pressure is significantly higher among bereaved women: 26.4% (622 women) is the prevalence among non-bereaved women, and 36.1% (39 women) among women bereaved for one year. The difference is significant ( $p = .009$ , OR = 1.78, 95%-os CI: 1.157-2.739, Wald: 6.871). Similar effect was not found neither among women bereaved for two or three years, nor among men.

### *Accidents*

The prevalence of accidents at home and at work didn't change in the studied groups. The prevalence of traffic accidents among people bereaved for one year did not changed either. However, the prevalence of medical treatments due to traffic accidents became higher in the male group bereaved for two ( $p = .016$ , OR = 5.83) or three years ( $p = .46$ , OR = 4.48).

## **Mental health status of the bereaved**

### *Treatment received for psychiatric problems within the past one year*

Prevalence of psychiatric treatment was significantly higher both in men and women bereaved for one year. Compared to the control groups, the odds coefficient is

4.21 ( $p < .001$ ) in case of men, and 2.40 ( $p = .003$ ) in case of women. Among those bereaved for two years, the odds of psychiatric treatment is higher only in the case of women ( $p = .025$ , OR = 2.27) when compared to the control group. No significant differences can be shown in those bereaved for three years, in comparison to the control group.

### *Depression*

Compared to the control groups, the BDI mean scores were significantly higher among both men and women bereaved for one year (men:  $p = .002$ ,  $F = 9.59$ , women:  $p = .038$ ,  $F = 1.156$ ), however, no significant differences can be shown between those bereaved for two or three years. In the next step multinomial logistic regression was performed in order to analyse the rates of those belonging to different severity levels (the reference category was the normal track). Results indicate that the rate of those suffering from severe depression significantly increased among men bereaved for one year ( $p = .003$ , OR = 2.72), while the prevalence of mild depression is higher among women bereaved for two years ( $p = .10$ , OR = 2.1). No further significant differences were found in other related areas.

### *Anxiety*

It is eight times more likely among men bereaved for one year to have experienced severe strain in the past two weeks ( $p < .001$ , OR = 8.34). Among women bereaved for one year, the rate of those who felt strained significantly increased: the likelihood for the *barely (slightly) characteristic* and *characteristic* responses doubled

(barely characteristic:  $p = .009$ , OR = 1.89; characteristic:  $p = .004$ , OR = 2.17), while the likelihood of the *most characteristic* response is three times higher in comparison to the control group ( $p = .003$ , OR = 3.17).

### *Suicidal thoughts and suicide attempts*

The examinations related to suicidal thoughts and suicide attempts in bereaved people are limited by the small sample size per group. Having taken this into account, the results can be evaluated. The outcomes show significant increase in suicide thoughts among women bereaved for one and two years (women bereaved for one year:  $p = .022$ , OR = 2.10, women bereaved for two years:  $p = .003$ , OR = 3.03), and men bereaved for three years ( $p = .011$ , OR = 3.07). From the aspect of the number of suicide attempts no significant difference was found between bereaved people and the control group.

### *Somatization*

The 10-point limit denotes the clinically significant level that indicates the likelihood that symptoms are functional in character, respectively the presence of somatoform disorders. According to my studies, the rate of those who manifest clinically significant symptoms among women bereaved for one year is significantly higher ( $p = .048$ , OR = 1.57). No difference was found in this respect among men bereaved for one year, respectively persons bereaved for two or three years.

### *Quality of dreams of bereaved persons*

Studies conducted with the Dream Quality Questionnaire indicate significant differences among those bereaved for one year, but not among those bereaved for two or three years. It is significantly more frequent among men bereaved for one year to consider their dreams depressing ( $p < .000$ , OR = 13.54) and to have nightmares ( $p < .001$ , OR = 3.67). Among women bereaved for one year it is significantly more frequent to consider their dreams depressing ( $p = .007$ , OR = 2.50), respectively waking up with a start and heart racing ( $p = .005$ , OR = 1.85).

### *Alcohol consumption*

The mean value of the total score on the AUDIT questionnaire assessing alcohol use disorder among men in all groups exceeds that of women. However, when compared to the control group, the AUDIT total scores show significant difference only among men bereaved for two years ( $p < .001$ , OR = 2,78). By examining the domains of the AUDIT, significant difference was found with respect to dependence symptoms ( $p < 0.005$ , OR = 2.07) and harmful alcohol use ( $p < 0.001$ , OR = 2.64) between men bereaved for one year and the non-bereaved. However, compared to the control persons, significant difference is shown in the values of all three AUDIT domains among men bereaved for two years (hazardous alcohol use:  $p < .001$ , OR = 1.94,), dependence symptoms:  $p < 0.001$ , OR = 3.45), harmful alcohol use:  $p < 0.05$ , OR = 2.45). I found no difference between men bereaved for three years and the non-bereaved. In case of women, there is no significant difference between the

bereaved and the non-bereaved as far as the AUDIT domains are concerned.

### *Marital stress*

Based on the results of the shortened marital stress scale significant increase was found in marital stress level among men bereaved for one year ( $p = .025$ ,  $F = 5.005$ ), however, there were no other differences in other areas between the bereaved persons and the control group.

### *General well-being*

According to the results of the WHO general well-being scale, the subjective quality of life of men and women bereaved for one year is significantly lower compared to that of the control group (men:  $p = .018$ ,  $F = 5.562$ ; women:  $p = .006$ ,  $F = 7.605$ ). In the second and third year of bereavement this effect can be demonstrated only among women (women bereaved for two years:  $p = .003$ ,  $F = 3.300$ , women bereaved for three years:  $p = .008$ ,  $F = 7.016$ ).

## CONCLUSIONS

The outcomes of my studies suggest that the period of mourning is a state of vulnerability, in the course of which the prevalence of both physical and mental disorders increases. The physical symptoms (e.g. headache, chest pain, breathing difficulty etc.) and somatic disorders (high blood pressure) may become more frequent in the various groups of bereaved people. The prevalence of treatments due to psychiatric problems

is increasing, in the background of which the prevalence of depression and anxiety may play a role. The rate of men suffering from severe alcohol problems and the prevalence of traffic accidents among men is increasing.

All these are a source of concern in themselves for the individual, the family and the society, and the prevalence of morbidity is associated with the increase of mortality in the bereaved people – as confirmed by other studies. Therefore the results of my studies draw attention to the necessity of screening and early identification of those belonging to at-risk groups, respectively providing adequate support for the bereaved people.

Unfortunately the organisational frame of bereavement support has not yet been developed in Hungary. In the UK and the USA the organisations providing bereavement support (e.g. Cruse Bereavement Care, Compassionate Friends, etc.) created a national network involving several hundreds of organisations, and their members provide help for many thousands of bereaved people per year. However, in Hungary such network has not been developed yet. The number of self-help groups organised for the bereaved people in Hungary is very low.

The psychology of bereavement, and the topic of bereavement support was completely absent from the training of doctors and specialists in Hungary, most physicians practicing today had not learnt about these issues. This topic is now included in the manuals used in the training of doctors and psychiatrists, however, considering its significance and prevalence, the topic of bereavement is still under-represented.

In order for the bereaved people to receive efficient support in processing their bereavement it would be important to turn currently running initiatives into a network, to increase the number of self-help groups, to widely distribute knowledge of the topic of bereavement, and to improve access to professional help. All these could contribute to improve the morbidity rates presented in my dissertation.

## LIST OF OWN PUBLICATIONS

*The author published 5 books, 17 book chapters and 7 studies closely related to the topic of the dissertation. The number of publications less closely related to the topic of the dissertation: 7 books, 20 book chapters, 16 studies. A detailed list of the publications is found in the dissertation. The present summary contains only the most important 10 closely related and 10 less closely related publications.*

### THE 10 MOST IMPORTANT PUBLICATIONS RELATED TO THE TOPIC OF THE DISSERTATION

#### **Books**

- Pilling János* (szerk.) (2010): A halál, a haldoklás és a gyász kultúrantropológiája és pszichológiája. Semmelweis Kiadó, Budapest
- Pilling János* (szerk.) (2003): Gyász. Medicina Könyvkiadó, Budapest
- Pilling János* (2001): Segítség a gyászban. Magyar Hospice-Palliatív Egyesület, Budapest

#### **Book chapters**

- Pilling János* (2009): Tanatológia – támasznyújtás a haldoklás és a gyász során. In: Füredi J. - Németh A. - Tariska P. (szerk.): A pszichiátria magyar kézikönyve. Negyedik kiadás. Medicina, Budapest, 795-802. (Korábbi kiadások: 1998, 2001, 2003)



- Pilling János* (2009): A gyász lélektana. A normál és a komplikált gyász folyamata, a támasznyújtás lehetőségei. In: Hegedűs Katalin (szerk.): A palliatív ellátás alapjai. Második kiadás. Semmelweis Egyetem, Budapest, 178-191. (Első kiadás: 2002)
- Pilling János* (2008): A haldoklás és a gyász lélektana. In: Kopp Mária, Berghammer Rita (szerk.): Orvosi pszichológia. Második kiadás. Medicina, Budapest, 437-449. (Első kiadás: 2005).
- Pilling János* (2006): A gyász hatása az életminőségre. In: Kopp Mária, Kovács Mónika Erika (szerk.): A magyar népesség életminősége az ezredfordulón. Semmelweis Kiadó, Budapest, 337-349.
- Pilling János* (2008): A gyász kettős arca: veszélyek és esélyek. In: Kopp Mária (szerk.): Magyar lelkiállapot 2008. Semmelweis Kiadó, Budapest, 469-476.

## **Studies**

- János Pilling, Barna Konkoly Thege, Zsolt Demetrovics, Mária S Kopp* (2012): Alcohol use in the first three years of bereavement: a national representative survey. *Substance Abuse Treatment, Prevention, and Policy*, 7:3, doi:10.1186/1747-597X-7-3, IF: 1.16
- Barna Konkoly Thege, János Pilling, Zoltán Cserhádi, Mária S. Kopp* (2012): Mediators between bereavement and somatic symptoms. *BMC Family Practice*, 13:59, doi:10.1186/1471-2296-13-59, IF: 1.80

## THE 10 MOST IMPORTANT PUBLICATIONS INDEPENDENT OF THE TOPIC OF THE DISSERTATION

### **Books**

- János Pilling (Ed.) (2011):* Medical Communication. Medicina Könyvkiadó, Budapest.
- János Pilling (Herausgeber) (2011):* Ärztliche Kommunikation. Medicina Könyvkiadó, Budapest.
- Pilling János (szerk.) (2008):* Orvosi kommunikáció. Második, átdolgozott kiadás. Medicina Könyvkiadó, Budapest (Első kiadás: 2004)
- Ács Géza - Pilling János - Zatik István (1992):* Meghaltam – és élek. Halál közeli élmények. Medicina Könyvkiadó, Budapest

### **Book chapters**

- Pilling János (2009):* A halál jelentései. In: Sinkó Dóra (szerk.): Lelkünk rajta. Saxum Kiadó, Budapest, 181-200.
- Pilling János (2008):* Az orvos-beteg konzultáció. In: Pilling János (szerk.): Orvosi kommunikáció. Medicina Könyvkiadó, Budapest, 46-66.
- Pilling János (2008):* Az agresszió megelőzésének és kommunikációs kezelésének lehetőségei. In: Pilling János (szerk.): Orvosi kommunikáció. Medicina Könyvkiadó, Budapest, 293-305.
- Pilling János (2008):* Rossz hírek közlése. In: Pilling János (szerk.): Orvosi kommunikáció. Medicina Könyvkiadó, Budapest, 306-334.

## **Studies**

*Pilling János, Tényi Tamás, Fehér László (2010): KOMP: szkizofrén betegek terápiás együttműködését segítő kommunikációs módszer. Psychiatria Hungarica, 25 (Supplementum) 1): 36-48.*

*Pilling János, Cserhádi Zoltán (2005): A szomatizáció kezelése a mindennapi orvosi gyakorlatban. Alkalmazott Pszichológia, 7 (2): 59-73.*