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Prolonged grief disorder in ICD-11 and DSM-5-TR: Factor structure, and psychosocial and loss-related correlates in a sample of widowed persons

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Summary

Aim. This study sought to determine whether the symptoms of prolonged grief disorder (PGD) according to ICD-11 and DSM-5-TR have a unifactorial structure. Second, we sought to determine the sociodemographic and loss-related correlates of PGD symptom severity according to ICD-11 and DSM-5-TR.

Material and methods. People who had lost a spouse (N = 144) in the past six months were examined using the Polish versions of the *Prolonged Grief Disorder-13* scale (PG-13) and *Inventory of Complicated Grief* (ICG). Selected PG-13 and ICG items were included in the analyses to cover the PGD criteria according to ICD-11 and DSM-5-TR.

Results. Confirmatory factor analyses supported the one-dimensional structure of both sets of symptoms of the disorder. Briefer time since loss and loss due to an accident were associated with PGD symptom severity according to both ICD-11 and DSM-5-TR.

Conclusions. PGD is a one-dimensional and internally consistent psychopathological syndrome. Widows and widowers who have recently lost their spouse due to an accident may be at especially heightened risk of developing severe levels of PGD symptoms.

Key words: prolonged grief disorder, bereavement, widows and widowers

Introduction

For over a hundred years, clinicians have been describing various psychopathological responses to loss of a loved one, manifested by chronic and severe separation distress (an aggravated form of stress) and various forms of emotional pain [1, 2].

Prolonged, intense and disabling grief was diagnosed as a form of depressive disorder for most of the 20th century [3, 4]. However, from the 1990s onwards, more and more studies began to appear indicating that pathological grief may be a specific mental disorder [5].

Pathological grief meets the criteria of a mental disorder because it is a clinically significant syndrome that is associated with distress and disrupts the functioning of the individual [6, 7]. Research has shown that the symptomatology of pathological grief differs from the symptoms of normal grief [8, 9]. It is also distinct from depressive disorders – it has different symptoms, specific predictors (such as emotional closeness with the deceased before death and the intensity of interpersonal dependence [10, 11]), as well as a variety of indicators of neurophysiological activity [12] and distinct forms of effective treatment [13, 14]. It has also been shown that the symptoms of pathological grief constitute one factor [15, 16], which suggests that the symptoms of the disorder represent a coherent, homogeneous syndrome. It has been empirically confirmed that the factor created by the symptoms of pathological grief is separate from the symptoms of normal grief [8, 9], depression, anxiety, and post-traumatic stress disorder [17–19].

Taking into account the accumulation of research supporting the distinction of pathological grief as a separate mental disorder [20], in 2013, the condition defined as *Persistent Complex Bereavement Disorder* (PCBD) was included in the DSM-5 [21], Section III (subsection "Conditions for further study"). In 2018, ICD-11 Working Group on Stress-related Disorders included *Prolonged Grief Disorder* (PGD) in the first [22] and subsequent versions of the ICD-11 [7] as a new diagnosis. Subsequently, the American Psychiatric Association modified the PCBD criteria and in 2020 approved the inclusion of pathological grief under the name PGD as a disorder in the DSM-5-TR [6] – the current version of DSM, released in March 2022.

In Table 1, we present the description of PGD in ICD-11 and the criteria for this disorder included in DSM-5-TR. The PGD criteria in both classifications are similar, although there are also some differences between them. According to ICD-11 and DSM-5-TR, in order to diagnose PGD, a person must experience a persistent grief reaction after the death of a loved one, manifested by longing for the deceased person or preoccupation with the loss of the deceased person. Moreover, in both classifications, in order to diagnose PGD, grief reaction is expected to cause a significant impairment or disruption of functioning in the social, professional, or other domains of function. In both ICD-11 and DSM-5-TR, in order to diagnose PGD, the length and intensity of grief reactions must clearly exceed social, cultural and religious norms appropriate to the culture and context in which the individual lives [6, 7, 23, 24].

Table 1. **Prolonged Grief Disorder in the International Classification of Diseases 11th Revision, and the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision**

PGD according to ICD-11 [7]	PGD according to DSM-5-TR [6]
Prolonged grief disorder is a disturbance in which, following the death of a partner, parent, child, or other person close to the bereaved, there is persistent and pervasive grief response characterised by longing for the deceased or persistent preoccupation with the deceased accompanied by intense emotional pain (e.g., sadness, guilt, anger, denial, blame, difficulty accepting the death, feeling one has lost a part of one's self, an inability to experience positive mood, emotional numbness, difficulty in engaging with social or other activities). The grief response has persisted for an atypically long period of time following the loss (more than 6 months at a minimum) and clearly exceeds expected social, cultural or religious norms for the individual's culture and context. Grief reactions that have persisted for longer periods that are within a normative period of grieving given the person's cultural and religious context are viewed as normal bereavement responses and are not assigned a diagnosis. The disturbance causes significant impairment in personal, family, social, educational, occupational or other important areas of functioning.	A. The death, at least 12 months ago, of a person who was close to the bereaved (for children and adolescents, at least 6 months ago). B. Since the death, there has been a grief response characterised by one or both of the following, to a clinically significant degree, nearly every day or more often for at least the last month: 1. Intense yearning/longing for the deceased person 2. Preoccupation with thoughts or memories of the deceased person (in children and adolescents, preoccupation may focus on the circumstances of the death) C. As a result of the death, at least 3 of the following 8 symptoms have been experienced to a clinically significant degree since the death, including nearly every day or more often for at least the last month: 1. Identity disruption (e.g., feeling as though part of oneself has died) 2. Marked sense of disbelief about the death 3. Avoidance of reminders that the person is dead (in children and adolescents, may be characterised by efforts to avoid reminders) 4. Intense emotional pain (e.g., anger, bitterness, sorrow) related to the death 5. Difficulty with reintegration into life after the death (e.g., problems engaging with friends, pursuing interests, planning for the future) 6. Emotional numbness (i.e., absence or marked reduction in the intensity of emotion, feeling stunned) as a result of the death 7. Feeling that life is meaningless as a result of the death 8. Intense loneliness (i.e., feeling alone or detached from others) as a result of the death D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning. E. The duration and severity of the bereavement reaction clearly exceeds expected social, cultural, or religious norms for the individual's culture and context. F. The symptoms are not better explained by major depressive disorder, post-traumatic stress disorder, or another mental disorder, or attributable to the physiological effects of a substance (e.g., medication, alcohol) or another medical condition.

Although the criteria of "yearning/longing or preoccupation" and "disruption of functioning" are practically the same in ICD-11 and DSM-5-TR, the criteria clearly differ from each other: the criterion of "time since loss" (ICD-11 – 6 months; DSM-5-TR – at least 12 months in adults, and in children and adolescents – 6 months after the loss); and the presence of "certain additional symptoms of grief" apart from yearning/

longing or preoccupation (ICD-11 – intense loss-related emotional pain in the form of: sadness, guilt, anger, denial; difficulty accepting death, feeling one has lost a part of the self, inability to experience a positive mood, emotional numbness, and/or difficulties in engaging in social or other activities [7, 23]; DSM-5-TR – a person must display – to a clinically significant degree – at least three of the following eight grief symptoms: identity disruption, disbelief in the death of a loved one; avoiding reminders that the loved one is dead; intense emotional pain (e.g., anger, bitterness, sadness), difficulty with social reintegration, emotional numbness, a feeling that life is meaningless, and/or a sense of loneliness [6, 24]. PGD criteria according to DSM-5-TR appear to be more restrictive than those included in ICD-11. In the latter, a shorter period of time since loss is necessary to diagnose PGD than in DSM-5-TR. Moreover, according to DSM-5-TR a person must experience three additional symptoms of grief (apart from yearning/longing or preoccupation), while according to ICD – one additional grief symptom.

Prior studies of the prevalence of PGD according to these two sets of criteria indicate that in the general German population, PGD criteria according to ICD-11 were met by 4.2% of people who lost a close person within life, and according to DSM-5-TR – by 3.3% [25]. However, it remains unclear what the prevalence of PGD may be in people who have lost a spouse. Taking into account the aging of the world population and the fact that according to the National Census of 2021, widowed people constitute over 8.5% of the population over 15 in Poland [26], disturbances in the bereavement after the death of a spouse may constitute a serious social problem. Therefore, conducting research in this area seems important and justified.

The first aim of the current study was to test whether sets of PGD symptoms according to ICD-11 and DSM-5-TR would have a unifactorial structure in people who have lost a spouse. Prior studies showed that PGD symptoms form a single factor [15, 16]. Second, for exploratory purposes, it was tested whether and what sociodemographic variables and variables related to the loss and the lost person would make it possible to robustly predict PGD symptom severity according to ICD – 11 and DSM-5-TR.

Material and methods

The survey was conducted in the Lubelskie and Swietokrzyskie regions in Poland. Information about the study was disseminated by trained research assistants in seniors' clubs, church groups and other places where bereaved spouses were expected to be found. The inclusion/exclusion criteria were: age over 18. death of the spouse at least six months before the survey and fluency in Polish. Among the inclusion/exclusion criteria, the maximum time since loss was not specified because PGD is a disorder in which an intense and disruptive grief reaction persists sometimes many years after the loss [20, 24, 25]. An anonymous and voluntary paper-and-pencil survey was carried out individually during a pre-arranged meeting, after giving consent to the study. The study was approved by the Institutional Review Board of the Maria Curie-Skłodowska University in Lublin, Poland.

The study used the Polish versions of two self-report screening tools for measuring pathological grief – the *Prolonged Grief Disorder-13 scale* (PG-13) [20, 27, 28]

and the *Inventory of Complicated Grief* (ICG) [29, 30]. Previous studies have supported the good psychometric properties of the Polish versions of both of these scales [11, 27, 30]. Both questionnaires measure the severity of the symptoms of pathological grief on a 5-point scale. The Likert scale of 0–4 in the ICG was recoded to 1–5 format, conforming to the PG-13. Using a table developed by Sękowski and Prigerson [27], PG-13 items which measure PGD criteria according to ICD-11 and DSM-5-TR, respectively, were identified. If a given symptom was measured by the ICG only, the selected PG-13 items were supplemented by relevant ICG items to measure the final result. The contents of the relevant items can be found in the above-mentioned table [27]. When assessing PGD according to ICD-11 we took into account: items 1, 4, 6, 7, 11, 10 from the PG-13; items 6 and 16 from the ICG; one symptom was measured by two items – #2 with the PG-13 and #1 with the ICG. When assessing PGD according to DSM-5-TR we took into account: items 1, 4, 6, 10, 12 from the PG-13; items 1, 7 and 19 from the ICG; one symptom was measured by two items from the PG-13 (5 and 11); one symptom was measured by two items from the PG-13 (#2 and 9) and one from the ICG (#6). In the case of measuring one symptom with several items, the result was averaged. Thanks to the use of the PG-13, supplemented with selected ICG items, it was possible to take into account all the symptoms of PGD according to DSM-5-TR. All symptoms according to ICD-11 were also measured, except for sadness and the inability to experience positive mood (these symptoms overlap with those of depression). The severity of PGD symptoms was the sum of the severity of individual symptoms of the disorder.

Results

Characteristics of the sample

SPSS.27 and AMOS.27 programmes were used to carry out statistical analyses. Missing data in the responses to individual items did not exceed 3.5% and the missing responses were replaced with the means from all completed items of the scale. One hundred forty-four people between 26 and 86 years of age (M = 59.36; SD = 12.04; Me = 60.00) were examined. The time from the death of the spouse ranged from 0.5 to 38 years (M = 9.11; SD = 8.58; Me = 6.00). The age of the spouse at death was between 25 and 80 years (M = 52.20; SD = 13.09; Me = 53.00). The duration of the marriage before the loss ranged from one year to 55 years (M = 26.50; SD = 12.95; Me = 26.50). Table 2 presents the detailed characteristics of the respondents in terms of sociodemographic variables and variables related to the loss of a spouse.

Table 2. **Sociodemographic and loss-related variables in the study sample (N = 244)**

		n (%)
Gender	Women	119 (82.6%)
	Men	25 (17.4%)
Residence	Rural	78 (54.2%)

table continued on the next page

	City up to 50,000 People	28 (19.4%)
	City with 50,000–150,000 People	20 (13.9%)
	City with Over 150,000 People	16 (11.1%)
Level of Education	Elementary or Vocational	54 (37.5%)
	Secondary	56 (38.9%)
	Undergraduate	1 (0.7%)
	Higher	33 (22.9%)
Professional Status	Professional work	63 (43.8%)
	Retired	72 (50.0%)
	Unemployed	4 (2.8%)
	Other	4 (2.8%)
Unexpected Death	Yes	60 (41.7%)
	No	84 (58.3%)
Death as a result of an accident	Yes	26 (18.1%)
	No	118 (81.9%)
Death after a long illness	Yes	54 (37.5%)
	No	90 (62.5%)

Testing the unifactorial structure of PGD symptoms according to ICD-11 and DSM-5-TR

In our sample of 144 people, all respondents lost a spouse at least six months before the study (so they met the time criterion according to ICD-11) and therefore all respondents were included in the assessment of PGD symptom severity according to the ICD-11 criteria. However, four respondents lost their spouse 6–11 months before the survey; these people do not meet the DSM-5-TR time criterion (at least 12 months from death) and therefore, when assessing PGD symptom severity according to DSM-5-TR, $n = 140$ respondents were included, i.e., only those who lost a husband or wife at least a year before the study.

Using CFA, the unifactorial structure of PGD symptoms was tested separately for the symptoms listed in ICD-11 and DSM-5-TR. The unifactorial model of PGD according to ICD-11 (tested on the entire sample $N = 144$), initially did not fit the data acceptably ($\chi^2 = 100.173$; $df = 27$; $p < 0.001$; Comparative Fit Index (CFI) = 0.871; Tucker-Lewis Index (TLI) = 0.828, Root Mean Square Error of Approximation (RMSEA) = 0.138). However, after taking into account the correlation between the residuals of the items that measure longing for the deceased and preoccupation with thoughts about the deceased, the one factor model turned out to fit the data in an acceptable way ($\chi^2 = 43.764$; $df = 26$; $p < 0.016$; CFI = 0.969; TLI = 0.957; RMSEA = 0.069). The correlation between the residuals was suggested by the AMOS programme and had

theoretical justification – the unresolved longing for someone may be closely related to preoccupation with thoughts about that person. The internal consistency of PGD symptoms according to ICD-11, measured with our tool, was $\alpha = 0.86$.

When testing the unifactorial model of PGD according to DSM-5-TR, the results of CFA (on a subsample of individuals who lost a spouse at least 12 months prior to the study) indicated a borderline acceptability of the fit of the original model to the data ($\chi^2 = 82.794$; $df = 35$; $p < 0.001$; CFI = 0.932; TLI = 0.913; RMSEA = 0.099). In order to obtain, at the same time, an acceptable and possibly simple and conclusive model, we decided not to modify the original model by taking into account the correlations between the residuals of selected items suggested by AMOS. The internal consistency of PGD symptoms described in DSM-5-TR was $\alpha = 0.90$.

Associations of sociodemographic and loss-related variables and PGD symptom severity

Two regression analyses were performed in which PGD symptom severity according to ICD-11 and DSM-5-TR, respectively, was explained by sociodemographic and loss-related variables. These were exploratory analyses. To identify the strongest correlates and to obtain conclusive results, the backward stepwise elimination method was used; based on the weakest partial correlation with the outcome variable, the programme removed the weakest predictors in subsequent steps. Nominal and ordinal variables were dichotomized: lower than secondary education was coded as "0" and upper secondary – as "1"; professional work was coded as "1", and non-performance of work – as "0"; living in the city was coded as "1" and living in the countryside – as "0". Eleven predictors were initially introduced to the analyses: age, gender, level of education, place of residence, work status, time since loss, age of the spouse at the time of death, the duration of the marriage, sudden/unexpected death, death as a result of an accident, death preceded by a long illness. Since variance inflation factor (VIF) suggested a strong correlation of selected predictors (VIF >2.5), the predictors with the highest VIF values were removed from the analysis until acceptable VIF values for each predictor were reached. After removing the variables "age of the spouse at death" (VIF = 9.22) and "age of a respondent" (VIF = 8.15), which were strongly and positively related to the duration of the marriage ($r = 0.692$ and $r = 0.897$), the VIF values for each of the remaining predictors were acceptable (VIF <2.5).

First, the explanatory model for PGD according to ICD-11 symptoms severity was tested on a sample of respondents who lost a spouse at least six months before the study ($N = 144$). Then, the model explaining PGD symptoms according to DSM-5-TR was tested on a subgroup of individuals who had lost a spouse at least 12 months before the study ($n = 140$). Both the first ($F(3,140) = 7.202$; $p < 0.001$) and the second ($F(2,137) = 8.897$; $p < 0.001$) regression models fit the data well. The results for the final regression models are summarized in Table 3. The value of R^2 coefficient for both final models was 0.13 and 0.12. The strongest predictors of PGD symptom severity (both according to ICD-11 and DSM-5-TR) were two variables: shorter time since loss; and death due to an accident. In addition, gender (female) was included in the

final model explaining the greater severity of PGD symptoms according to ICD-11, but the relationship between these variables was not statistically significant ($p = 0.086$).

Table 3. **Summary of the final results of regression analysis explaining PGD symptom severity**

Outcome: PGD according to ICD-11	B	SE	**B**	p
Gender (female)	2.816	1.630	0.137	0.086
Time since loss	-0.284	0.073	-0.311	>0.001
Death caused by an accident	4.015	1.615	0.198	0.014
Outcome: PGD according to DSM-5-TR	B	SE	**B**	p
Time since loss	-0.036	0.011	-0.274	>0.001
Death caused by an accident	0.693	0.235	0.239	0.004

Discussion

We sought to test the factor structure of PGD symptoms included in ICD-11 and DSM-5-TR, and to check which of the sociodemographic and loss-related variables were the most robust predictors of PGD symptom severity according to both classifications. Since people after the loss of a spouse/partner are the group of bereaved persons most at risk of developing PGD right after those who have lost a child [31, 32], there is a special need for better understanding of the structure and correlates of PGD in this group of mourners.

Our study confirmed the unifactorial structure of PGD symptoms – both of the symptoms of pathological grief listed in ICD-11 and in DSM-5-TR. Internal consistency indices for both sets of symptoms were very good. Most previous studies have also shown that PGD symptoms form a single factor [15, 16]. Our results therefore support the view that PGD is a disorder that consists of coexisting, coherent and structurally related symptoms of grief that can potentially appear months and years after the death of a loved one, including a spouse. Since the PG-13 and ICG are validated questionnaires measuring symptoms of pathological grief [11, 27, 29, 30], and our measures of PGD included selected PG-13 items supplemented with ICG items, a unifactorial solution for PGD in our study, both according to ICD – 11 and DSM-5-TR, also supports the validity of our method of measuring PGD. Our scale measures a one-dimensional and internally consistent construct, which is pathological grief, however, the tool we used requires further adaptation research.

We also show the robust sociodemographic and loss-related correlates explaining the severity of symptoms of PGD according to ICD-11 and DSM-5-TR in our sample. In the case of both outcome variables, the same variables made it possible to predict PGD symptom severity: shorter time since loss and the death of a spouse in an accident. These results are consistent with most previous studies on sociodemographic and loss-related PGD correlates. So far researchers reported either weak and negative [27, 33] or an insignificant [34] relationship between time since loss and PGD. Both of these results in people who lost a spouse many years or months earlier indicate that PGD is a disorder characterised by prolonged grief symptoms, the severity of which decreases

slightly with the time that has passed since the loss [20, 24]. We also showed that the loss of a spouse in an accident is positively associated with PGD symptom severity in our sample. This result is consistent with the results of the meta-analysis, which showed a very high (49%) prevalence of PGD in people who experienced unnatural loss [35]. As noted by the authors of the above-mentioned meta-analysis, in comparison with the loss due to natural death, unnatural loss (for example, in an accident) causes more serious psychological distress, potentially because it is more difficult to integrate it into the autobiographical memory, and it severely disrupts the basic positive assumptions on the world as a safe and predictable place [35].

Our study had some limitations. First, we tested a subclinical group and our sample was non-random. The respondents included more women than men. Although the percentage of widows is nearly five times higher than the percentage of widowers [26], the possibility of generalising our results to men is limited. Second, a cross-sectional study was conducted, which makes it difficult to determine the directions of the relationships shown in the regression analyses. Third, the measures used to assess PGD are the source of limitations in our study. We used self-report questionnaires. In the future, the criterion validity of our PGD measures should be tested, for example, by comparing their results with the results of a clinical interview measuring the presence of PGD and the severity of PGD symptoms. Although the combined use of the PG-13 and ICG in the study allowed us to measure the severity of all PGD symptoms according to DSM-5-TR and the vast majority of PGD symptoms according to ICD-11, the PG-13 and ICG were constructed prior to the publication of formal PGD symptom lists in ICD and DSM. Therefore, the expressions used in some items of the questionnaires may differ to varying degrees from those in the descriptions of PGD symptoms currently included in ICD-11 and DSM-5-TR. Future research on PGD in bereaved spouses should be carried out on representative and random samples, be of a longitudinal nature, take into account other significant losses in the life of the respondents, measure the presence of other mental disorders, and also use an interview-based PGD measures apart from self-report questionnaires.

Conclusions

1. PGD is a one-dimensional and internally consistent set of loss-related psychopathological symptoms.
2. Important correlates of the severity of PGD symptoms in widowed people may be: shorter time since loss and loss of a spouse in an accident.
3. These conclusions apply to the symptoms of PGD described in both ICD-11 and DSM-5-TR.

Conflict of interest
We wish to confirm that there are no conflicts of interest associated with this publication.

Contribution Statement
Marcin Sękowski: conceptualization, methodology, formal analysis, writing – original draft preparation; Karolina Ludwikowska-Świeboda: methodology, investigation, writing – review & editing; Holly G. Prigerson: writing – review & editing

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