

## **PTSD prevalence among Polish World War II survivors**

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### **Summary**

**Aim.** Over the past decade research has been published in several Western European countries on the prevalence of PTSD among World War II survivors, mostly civilians. Prevalence rates ranged from 1.9% to 10.8 %. The aim of the study was to measure the frequency of PTSD occurrence among Polish WWII survivors.

**Method.** Data from 96 persons: 59 women and 37 men, aged 70–96 were analyzed. All participants were born before 1945. They completed Polish adaptations of: Posttraumatic

Diagnostic Scale (PDS), Impact of Events Scale (IES), Beck's Depression Inventory (BDI) and WWII trauma related questionnaire.

**Results.** Prevalence rate of potential PTSD was 32.3%. Mean values of both number and severity of symptoms of PTSD were significantly higher for respondents with at least one war related trauma comparing to the participants who did not relate any such trauma.

**Conclusions.** Comparing to other studies on WWII related PTSD the prevalence rate of possible PTSD was very high. Looking for possible explanation of such results seems to be an important challenge.

**Key words:** PTSD, posttraumatic stress disorder, prevalence, war trauma, World War II

### **Introduction**

The psychological effects of the World War II have been researched in Europe since the middle of the 20<sup>th</sup> century. The studies, which mainly centred around the

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The publication was partially funded by Minister of Science and Higher Education grant, decision No. 25504/E-560/S/2013-1 for Faculty of Psychology of University of Social Sciences and Humanities

concentration camps survivors, were conducted, for instance, in Denmark [1], the Netherlands [2], Norway [3] and Poland [4–7]. European studies concerning the level of posttraumatic symptoms among civilian population commenced in the late 90s of the 20<sup>th</sup> century. Those studies are primarily concerned with the prevalence of PTSD. The majority of such studies was carried out in Germany [e.g. 8, 9], but also in the Netherlands [10], Finland [11], Norway [12] and Austria [13]. Some of those studies were conducted on randomised population samples from the given age group. The study of representative nationwide sample of persons aged 60–85 was carried out in Germany in 2008. 5,033 subjects were examined. The rate of current PTSD prevalence according to DSM-IV reached 4.0% [9]. A similar study conducted in the Netherlands encompassed the sample of 10,662 persons born between 1920 and 1929 and randomly chosen from the registers of nine major cities of the country. The sample contained: (a) People who during the war were adolescents or young adults; (b) a large group of war veterans, including the survivors of the Dutch East Indies occupation from Japan (1942–1945) and the later Indonesian independence war (1945–1950). In general, 4.6% of examined subjects fulfilled the criteria of current PTSD, according to DSM-III-R. The highest rate (13%) was found among the “victims of persecution” (survivors of German concentration camps, subjects of Jewish origin who survived the war in hiding, survivors of Japanese camps). The lowest rates of PTSD (3%) were found in civilian war victims and in the members of resistance movement. The average rate of PTSD prevalence (7%) was found in war veterans [10].

In other studies conducted in Western European countries in the past decade, the rates of PTSD prevalence amount to from 1.9% in Austria [13] to 10.9% (children born in Germany) [8].

Polish study from 2012 [14] presents the results of the examination of 218 persons, born in years 1929–1945, aged 63–78. The research was carried out on the turn of the year 2007, in the Third Age University. PDS and IES scales were used to measure PTSD. The prevalence of the potential PTSD diagnosis, according to DSM-IV, with the use of PDS Scale, reached 29.4%. A similar PTSD prevalence rate was found in a previous Polish study [15] centring on persons of Jewish origin living in Poland, who survived the Holocaust as children. The current PTSD prevalence in this group amounted to 55.6%. The control group of the participants of Third Age University in Warsaw of non-Jewish origin exhibited 30.9% PTSD rate.

## Method

### Participants and procedure

96 persons were interviewed since June till October 2014. There were 59 women and 37 men born before 1945, aged 70–96 ( $M = 80.94$ ;  $SD = 6.56$ ). The study was carried out in different cities. The interviews took place in the participants’ homes, on the grounds of various societies and organisations and in residential homes.

### Research tools

1. A questionnaire especially designed for the purpose of this study, called “Events associated with WWII”. It consists of a list of traumatic experiences related to the war.
2. Posttraumatic Stress Diagnostic Scale (PDS) [16]. PDS allows a diagnosis of PTSD according to DSM-IV criteria, as well as the measurement of the strength of PTSD symptoms. In this study, PDS was used without its first part, which consists of questions regarding exposure to various traumatic events, for example, interpersonal violence. Instead, the list of traumatic war experiences was used. The original version of the tool is characterised by high indicators of internal consistency reliability ( $r = 0.92$ ) and good test-retest reliability ( $r = 0.74$  for the diagnosis of PTSD and  $r = 0.83$  for the severity of symptoms) [16]. Polish adaptation of the scale [17] also has good psychometric characteristics.
3. Impact of Event Scale (IES) [18], translated by: M. Lis-Turlejska and A. Łuszczynska [19]. IES allows for the measurement of posttraumatic symptoms of intrusions and avoidance. The scale consists of 15 items describing symptoms belonging to both categories. IES is believed to differentiate between people who acquire or who do not acquire the clinical PTSD diagnosis [20].
4. Beck Depression Inventory (BDI) [21], translated by M. Lewicka and J. Czapiński. BDI has 21 items and the responses are given on a 0 to 3 scale. The questionnaire is still widely used in many countries.

## Results

### Socio-demographic data

Most of the respondents were widowed (49.0%). 36.5% of the sample were married and 6.3% were divorced. Four subjects (4.6%) declared being single, one lived in an informal relationship. Three persons did not answer the question about marital status.

The majority of respondents had secondary (29.2%) or primary (27.1%) education. The remaining persons had vocational education (18.8%), started higher education (7.3%) or had higher education (17.7%).

### War-related traumatic events

Subjects pointed to from 0 to 19 war-related traumatic events ( $M = 7.03$ ;  $SD = 4.52$ ). Table 1 presents the frequency distribution of traumatic events experienced by the study's respondents. The majority of subjects pointed to 6 to 10 events.

Table 1. **The number of WWII-related traumatic events – frequency distribution**

Number of traumatic events	n	%
None	10	10.4
One	7	7.3

*table continued on the next page*

Two to five	16	16.7
Six to ten	43	44.8
More than ten	20	20.8
Total	96	100

n – numer of respondents

Circa 31% of the respondents lost their fathers during the war, 17.5% lost their mothers, and 39.6% lost another close person. The most often chosen traumatic events were surviving bombing (70.8%), witnessing a shooting of someone (56.3%), witnessing a murder or an execution (46.9%) and experiencing health or life threatening hunger (52.1%). Other often reported traumatic events are: witnessing somebody being heavily beaten (45.8%), remaining in hiding (45.8%), witnessing assault or persecution of Jews (39.6%) and being in Warsaw during the Warsaw Uprising (27.1%).

Some of the respondents were war veterans. Seven men (7.3% of the study sample) participated in combat on the front; another seven took part in guerrilla army. Eleven men and eight women actively participated in the Warsaw Uprising, constituting 19.8% of the research sample.

Table 2 shows a frequency distribution of the types of WWII-related traumatic events in the division by sex and for the whole sample. The comparison is complemented by the chi-squared test of independence. Statistically significant results are marked.

Table 2. **Frequency distribution of WWII-related traumatic events by sex**

Traumatic event	Group						Test		
	Women		Men		Total		c <sup>2</sup>	df	p
	N	%	N	%	N	%			
Loss of mother	12	20.3	5	13.5	17	17.7	0.39	1	0.532
Loss of father	15	25.4	15	40.5	30	31.3	3.05	1	0.081
Loss of another close person	24	40.7	14	37.8	38	39.6	0.14	1	0.706
Being in front line combat	0	0	7	18.9	7	7.3	12.75***	1	0.001
Being in guerilla army	0	0	7	18.9	7	7.3	12.38***	1	0.001
Being wounded	7	11.9	10	27.0	17	17.7	3.85*	1	0.05
Killing someone	1	1.7	11	29.7	12	12.5	17.44***	1	0.001
Being tortured	3	5.1	1	2.7	4	4.2	0.32	1	0.570
Being imprisoned in the Nazi concentration camp	3	5.1	4	10.8	7	7.3	1.1	1	0.294
Being imprisoned in Soviet camp	6	10.2	8	21.6	14	14.6	2.39	1	0.122
Being in ghetto	2	3.4	2	5.4	4	4.2	0.21	1	0.643

*table continued on the next page*

Being in Warsaw during the Warsaw Uprising	12	20.3	14	37.8	26	27.1	3.34	1	0.068
Participating in Warsaw Uprising	8	13.6	11	29.7	19	19.8	3.59	1	0.058
Experiencing rape or other form of sexual abuse	3	5.1	0	0	3	3.1	1.94	1	0.163
Surviving bombing	40	67.8	28	75.7	68	70.8	0.68	1	0.408
Remaining in hiding	23	39.0	21	56.8	44	45.8	3.37	1	0.067
Hiding Jews	3	5.1	1	2.7	4	4.2	0.34	1	0.559
Being forcibly relocated to Siberia	6	10.2	7	18.9	13	13.5	1.49	1	0.223
Being on forced labours	7	11.9	10	27.0	17	17.7	3.59	1	0.058
Experiencing health or life threatening cold	22	37.3	16	43.2	38	39.6	0.34	1	0.561
Experiencing health or life threatening hunger	27	45.8	23	62.2	50	52.1	2.45	1	0.117
Witnessing front line combat	20	33.9	21	56.8	41	42.7	4.86*	1	0.028
Witnessing somebody being shot	31	52.5	23	62.2	54	56.3	0.85	1	0.355
Witnessing execution or murder	27	45.8	18	48.6	45	46.9	0.08	1	0.783
Witnessing rape or other form of sexual abuse	5	8.5	9	24.3	14	14.6	4.59*	1	0.032
Witnessing somebody being heavily beaten	23	39.0	21	56.8	44	45.8	2.89	1	0.089
Witnessing an assault or persecution of Jews	21	35.6	17	45.9	38	39.6	1.02	1	0.313

n – number of respondents; % – percent of sample;  $\chi^2$  – test statistic; df – degree of freedom; p – statistical significance \* $p < 0.05$ ; \*\* $p < 0.005$ ; \*\*\* $p < 0.001$

Statistically significant differences were found between the participants' sex and participation in front line combat or guerrilla armies, being wounded, killing somebody, witnessing front line combat and witnessing rape or other form of sexual abuse. The first two were pointed to exclusively by men. Being wounded, killing somebody, witnessing front line combat and witnessing rape or other form of sexual abuse were more often declared by men than women.

#### The prevalence of posttraumatic symptoms

31 respondents (32.3%) fulfilled the diagnostic criteria of PTSD according to DSM-IV, as measured with PDS questionnaire. The severity of PTSD symptoms, measured with IES questionnaire, exceeded the generally adopted cut-off point of 35 points for 33 subjects (34.4%) [see: 19, 22].

### Traumatic events and severity of posttraumatic symptoms

According to information from Table 1, 10 subjects (10.4%) did not experience any traumatic war-related event. An analysis was conducted, comparing these respondents with respondents who pointed to at least one traumatic event, from the perspective of potential PTSD diagnosis and the severity of Intrusion and Avoidance symptoms. The analysis was possible only on the basis of results of the IES questionnaire. PDS questionnaire, which is constructed strictly by DSM-IV criteria, instructs the respondents who did not point to any event in the Part 1 (criterion A) not to fill the questionnaire further. The cut-off point of potential PTSD diagnosis was established at > 35 points. In the group of subjects who did not experience any war-related traumatic event, no one had a potential PTSD diagnosis. In the group of people who experienced at least one traumatic event, 31 respondents had a diagnosis (36.0%). Moreover, based on chi-squared test of independence, the relation between experiencing war trauma and the strength of PTSD symptoms enough for a diagnosis was statistically significant,  $\chi^2(1) = 5.32$ ,  $p < 0.05$ .

Table 3 presents average values of the severity of Intrusion and Avoidance symptoms of PTSD and the symptoms of depression in the division by experiencing at least one war trauma. The comparison was complemented by two-tailed independent samples Student's t-test.

**Table 3. Average values of severity of PTSD and depression symptoms in the group who did not experience any war trauma and in group who experienced at least one such event, together with the statistical significance test**

Variable	Number of traumatic events				t	df	p
	None		At least one				
	M	SD	M	SD			
Intrusions	2.83	3.43	14.76	10.15	-6.70***	12.79	0.001
Avoidance	3.00	3.46	14.06	9.33	-6.36***	11.26	0.001
IES total score	5.83	6.71	28.82	17.53	-6.90***	10.84	0.001
Depression	13.43	4.35	17.24	10.19	-0.98	90	0.331

M – mean value; SD – standard deviation; t – test statistic; df – degrees of freedom; p – two-tailed statistical significance; \*\*\*  $p < 0.001$

Statistically significant differences were noted in the range of PTSD symptoms severity, which were significantly more severe in the group which experienced at least one war-related traumatic event. No statistically significant difference was found in the level of depression symptoms.

Correlation analysis between the level of depression symptoms and a number and severity of PTSD symptoms from groups B, C and D (according to PDS) and level of Intrusion and Avoidance and total score in IES questionnaire, was also conducted. Table 4 presents the results of the analysis.

Table 4. **Pearson's r correlation coefficient between the severity of depression and PTSD symptoms**

PTSD symptoms	Depression
Number of symptoms in criterion B	0.254*
Number of symptoms in criterion C	0.254*
Number of symptoms in criterion D	0.241*
Number of symptoms in criteria B, C and D	0.279**
Strength of symptoms in criterion B	0.243*
Strength of symptoms in criterion C	0.304**
Strength of symptoms in criterion D	0.358**
Strength of symptoms in criteria B, C and D	0.345**
Intrusions	0.153
Avoidance	0.243*
IES total score	0.216*

\*  $p < 0.05$ ; \*\*  $p < 0.01$

Statistically significant positive correlations were found between the level of depression and all PTSD symptoms but for Intrusions.

Regression analysis in which experiencing at least one war-related traumatic event and the level of depression were treated as predictors, was also conducted. The IES total score acted as a dependent variable. Table 5 presents the regression coefficients found. Statistically significant dependencies were found between the level of depression and experiencing at least one war trauma and IES total score. Experiencing at least one war trauma explained 5.3% variance of PTSD symptoms severity, while the level of depression explained 11.1% of variance. Both experiencing at least one war trauma as well more severe depression were associated with more severe PTSD symptoms.

Table 5. **Values of regression coefficients**

Predictors	B	Beta	t	p
At least one war-related trauma	11.81	0.21	2.51*	0.013
Depression	0.50	0.33	3.98***	0.001

B – non-standardised regression coefficient; Beta – standardised regression coefficient; t – statistical significance test statistic; p – statistical significance; \*  $p < 0.05$ ; \*\*\*  $p < 0.001$

## Discussion

From the data presented above, especially noteworthy are: (1) high level of prevalence of potential PTSD diagnosis, (2) statistically significant difference between the severity of PTSD symptoms in the group which did not experience any war-related

traumatic event and in group which pointed to at least one such event, (3) high level of depression symptoms. The ratio of potential PTSD diagnosis, measured with the use of PDS questionnaire, reached 32%. According to IES with cut-off point at 35pts, 34.4% of subjects exhibit strong PTSD symptoms. Similar high ratios of potential PTSD diagnosis were found in other Polish studies of WWII survivors [15, 16]. E. Jackowska [23] describing research on Siberia survivors claims that 30% of subjects might potentially suffer from chronic PTSD. J. Heitzman and K. Rutkowski [24] presenting the results of research on current psychological state of persons persecuted for political reasons in Poland in years 1944–1955, state that PTSD was found in 71% of study subjects. Also, in first Polish studies of Auschwitz survivors, run in years 1959–1961 and lead by Professor A. Kępiński in Krakow, high prevalence of psychological disorders was found. For example, Szymusik [5] states that among 100 subjects 36 were free from deviation from psychological norm. The most commonly found syndromes were progressive asthenia (24 subjects), neurasthenic neurosis (10 subjects), encephalopathy (8 subjects). These diagnoses could probably nowadays be named as PTSD.

The prevalence rates of PTSD in Polish studies are significantly higher than the rates found in similar studies on WWII survivors conducted since approximately 15 years in other European countries. In majority of those studies [e.g. 9, 10, 13] the PTSD prevalence rates do not exceed 5%. In the study on representative across-Germany elderly sample, who survived WWII, the current prevalence of PTSD reached 4% [9]. In similar Dutch study, the result was 4.6% [10].

The results of Beck Depression Inventory also seem high. 30.2% of research sample acquired a score which indicates a “moderate to severe depression”, and 6.3% had a score indicating a “severe depression” [25].

Finding the reasons of so high rate of PTSD prevalence in studies done in Poland is an important challenge. The severity of Second World War-related stressors was much higher in Poland than in Western countries. However, in the light of available empirical data, this fact cannot be claimed to be the deciding factor responsible for the differences between results of Polish studies in comparison to other countries. In the already mentioned Dutch study [10] the found PTSD ratio amounted to 4% among civil war victims and members of resistance movement. But the study also encompassed war veterans including the survivors of Japanese concentration camps. PTSD ratio amounted to 13% in this group. The study by Favaro et al. [26] also should not be omitted. Their study concentrated on measurement of current and lifetime PTSD among Italian underground activists deported to Nazi concentration camps. The participants were 51 camp survivors and 47 resistance movement members who reported experiencing a traumatic event while on service. The rates of current PTSD prevalence reached 25.5% among deported concentration camp prisoners and 4.3% among resistance members. Both presented in this study PTSD prevalence ratios, which apply to people who experienced serious traumatisation, especially concentration camps survivors, are lower than analogous ratios found in the research presented here, were majority of the subjects were civilian survivors.



Except for the intensity of war-related stressors in Poland, other associated factors can be pointed to as potentially important in explaining high PTSD level found in the study presented here:

- (1) The disturbance of social memory mechanism. During the time of Polish People's Republic (PRL) certain narrations were blocked and/or distorted. Talking about close ones who died in Katyń or fought in the Home Army was dangerous for a long time. People who often heroically fought during the war were later on harassed or stigmatised (Home Army was portrayed on propaganda posters as "spittle-bespattered dwarf of reactionary forces").
- (2) Avoidance of addressing the Second World War trauma. The dominant narration present in public discourse only allows certain groups to suffer from war trauma (concentration camps survivors, soldiers coming back from missions in Iraq and Afghanistan). This phenomenon often applies to narrations on the family level.
- (3) Lack of social education. In current theories and therapy of PTSD, understanding of one's trauma-related problems and psychoeducation are much emphasised. Present-day knowledge of psychotraumatology is very helpful in this aspect. This knowledge is not spread and used enough in Poland.

It is worth noticing that the prevailing majority of theoretical conceptualisations of PTSD, until recently, focused on the analysis of intrapsychic and individual grounding of developing and sustaining PTSD. The works of such authors as Brewin [27], Ehlers and Clark [28], Foa and Kozak [29] significantly enlarged the understanding of this issue. Since the publication of, for example, results of meta-analyses of risk factors of chronic PTSD [30, 31], however, many authors pay attention to previously underrated environmental and interpersonal processes. According to Maercker and Horn [32], it can be expected that: "trauma victims who feel that their suffering is still acknowledged by society, even if they have not shared their experiences with their group, perceive their societal or cultural environment as more supportive and less stigmatising. This perception, in turn, may represent a protective factor that positively affects the victim's adaptation processes to the non-normative changes after a traumatic experience" (p. 9–10). Higher level of social acknowledgement is related to lower level of PTSD symptoms and is a factor easing the posttraumatic adaptation. This was presented with the help of already introduced instrument for measurement of "social acknowledgement of a person as a trauma victim" (Social Acknowledgement Questionnaire; SAQ) [33] in many studies [e.g. 34, 35]. The general lack of social acknowledgement can be a predictor of chronic PTSD symptoms.

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