



Article Symptoms of Anxiety and Depression in Polish Population in the Context of the War in Ukraine: Analysis of Risk Factors and Practical Implications

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Abstract: The aim of the study was to assess the intensity of depressive and anxiety symptoms in those indirectly affected by war in Ukraine and to identify a group of people at particular risk of developing these symptoms. The study encompassed 72 Poles (60 women and 12 men). The measurements were carried out at three time points: (1) in the first month after the outbreak of Russia's war against Ukraine, (2) in the second month and (3) after six months of the conflict. During the first and second month, the symptom severity of generalized anxiety (GAD-7) was 9.8 ± 5.2 and 7.0 ± 5.6 , state anxiety (STAI-X1) was 48.2 ± 10.4 and 45.2 ± 13.9 and depression (BDI) was 10.4 ± 7.5 and 15.4 ± 12.7 . After six months, the symptom severity was statistically significantly lower. Greater symptom severity was observed in women, people with low income, those without a job, those who did not have good relationships with people they were close to, those with sleep problems and those who frequently followed the news and talked about the war. This study indicates that in a crisis situation, mental health screening and the identification of people whose condition requires specialized interventions are necessary.

Keywords: depression; anxiety; war; crisis; conflict; primary care; Poland; Russian–Ukrainian War

1. Introduction

On 24 February 2022, the Russian–Ukrainian War (RUW) began. The war in Ukraine is causing a massive humanitarian crisis, the destruction of the country's economy and is a source of trauma for the population [1]. The immediate aftermath of the conflict is military and civilian casualties, suffering, death and maiming.

The war in Ukraine resulted in the largest refugee crisis in Europe since World War II. Poland was the main country to initially receive refugees [2] and thousands of Ukrainian citizens traveled to Poland in search of shelter and support. During the first ten weeks of the conflict, 2,377,000 refugees crossed Poland's borders, mostly women, children and the elderly [3,4]. This resulted in the emergence of spontaneous volunteering in Poland [5]. The first responders providing assistance and reception at the border (including hot meals and transportation to other centers) were in many cases volunteers. The Government of Poland, through the State Fire Brigade Service, the police, private carriers and the Polish State Railways, also organized free transport to arranged accommodation [6]. All Ukrainian citizens and their families who came to Poland as refugees from the conflict in Ukraine have obtained a wide range of rights [7]. Over 1.5 million Ukrainians received free access to public services, including healthcare, education, social assistance and the labor market [2,8].



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Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). In the first period of war, physical injuries are the most important issue, but war changes the lives of survivors forever [9]. The negative impact on the mental and physical health of people living in areas of armed conflict can result from exposure to warfare, forced displacement and experiences of violence [10]. These individuals show a higher risk of psychiatric disorders, including posttraumatic stress disorder (PTSD), anxiety and depression [11]. A recent World Health Organization (WHO) report confirms that people affected by armed conflict are at risk of developing mental disorders: it is estimated that 1 in 11 people (9.1%) who have experienced war or other armed conflict in the past 10 years exhibits a mental disorder of moderate or severe severity [12]. Recent studies indicate a deterioration in the mental health of the Ukrainian population, both the military and civilians involved in hostilities [13] and the civilian population [14]. A significant prevalence of symptoms of anxiety, depression and sleep disorders has been described among those who remained in Ukraine [14] and among refugees [15].

The effects of war spread over time and space [9] far from the places directly affected by armed conflict [16]. The risk of psychological consequences in those not directly affected by war is linked to, among other things, exposure to violence and suffering from accounts of war and images circulating on social media [16,17]. Since the outbreak of war in Ukraine, millions of people have been watching the conflict on social media [17]. The war therefore results in exposure to trauma not only among its participants and refugees but also wider groups influenced by the media coverage of the war. Also, residents of countries neighboring Russia or Ukraine and even geographically distant countries may experience psychological deterioration as a result of the war in Ukraine. It has been reported that citizens of Germany, Poland, the United Kingdom and the United States experienced feelings of threat, anger and anxiety related to Russia's onslaught and empathy towards Ukrainian citizens [18]. A study of a group of students from the Czech Republic [19] found that 34% of young adults experienced moderate and 40.7% severe levels of anxiety and depression after the outbreak of the RUW.

The need for research assessing the impact of the war in Ukraine on the mental health of individuals from different countries [20] and for supporting mental health during conflict is highlighted [10]. The aim of the study was to assess the intensity of depressive and anxiety symptoms in those indirectly affected by war in Ukraine and to identify a group of people at particular risk of developing these symptoms.

2. Materials and Methods

2.1. Research Procedure

The study was conducted as a longitudinal online survey via the Google Forms platform. Study participants were recruited by the first author from a population living in Greater Poland Voivodeship who had taken part in her previous studies. They received an initial e-mail invitation to take part in the study with a link to the questionnaire form. At subsequent time points, the participants were sent emails with requests to fill in the form again. The survey was made available at three time points: in the first month of the conflict—from 9 March 2022 to 24 March 2022; in the second month of the war—from 25 March 2022 to 24 April 2022; and after six months of the war in Ukraine, from 11 September 2022 to 14 October 2022.

The study has received confirmation from the Bioethics Committee of the Poznan University of Medical Sciences that it does not meet the criteria for a medical experiment.

2.2. Participants

The study covered 72 adults living in Poland. The exclusion criteria were being less than 18 years old and incompletely filling out the questionnaire. The results of 5 subjects were not included due to missing answers or choosing multiple answers in single-answer questions. The demographic characteristics of the respondents are presented in Table 1.

Characteristic	Characteristic Sur n =		vey 1 Su = 72 n		Sur n :	vey 3 = 22
	n	%	n	%	n	%
Sex						
Women	60	83.3	26	76.5	11	50.0
Men	12	16.7	8	23.5	11	50.0
Age						
≤39 years	55	76.4	27	79.4	13	59.1
>39 years	17	23.6	7	20.6	9	40.9
Place of residence						
\leq 50,000 inhabitants	28	38.9	16	47.1	11	50.0
>50,000 inhabitants	44	61.1	18	52.9	11	50.0
Education						
No education, primary, secondary	21	29.2	15	44.1	5	22.7
Higher	51	70.8	19	55.9	17	77.3
Employment						
Yes	56	77.8	22	64.7	22	100.0
No	16	22.2	12	35.3	0	0.0
Monthly income per person in the family						
≤2000 PLN	12	16.7	5	14.7	0	0.0
>2000 PLN	60	83.3	29	85.3	22	100.0
Marital status						
Single	35	48.6	16	47.1	8	36.4
In a relationship	37	51.4	18	52.9	14	63.6
Living						
Alone	7	9.7	2	5.9	5	22.7
With others	65	90.3	32	94.1	17	77.3
History of psychiatric treatment						
Yes	13	18.1	6	17.6	4	18.2
No	59	81.9	28	82.4	18	81.8

Table 1. Characteristics of the study group.

2.3. Research Tools

- Generalized Anxiety Disorder Questionnaire (GAD-7) [21]. This is a self-report scale used to assess the severity of anxiety and the risk of generalized anxiety disorder (GAD). The scale contains 7 items, the scoring range is 0–21 points. Scores of 5, 10, 15 are defined as cut-off values for the presence of mild, moderate and severe severity of anxiety, respectively [21].
- Beck Depression Inventory (BDI). This is a screening tool used to assess the presence and severity of depressive symptoms. It consists of 21 statements scored from 0 to 3 points. The following cut-off points are used: 0–9 no depression, 10–18 mild to moderate symptom severity, 19–29 moderate to severe and 30–63 severe depression [22,23].
- State-Trait Anxiety Inventory (STAI X-1). This is an instrument used to measure anxiety understood as a transient and situationally conditioned state of the individual [24,25]. The X-1 inventory consists of 20 questions.
- The abovementioned questionnaires are validated and have good psychometric properties.
- A questionnaire including demographic data, questions on relationships with close people, diet, physical activity, sleep, history of psychiatric treatment, alcohol consumption, time spent by respondents watching the news and conducting conversations

about Russia's war with Ukraine, fear of an armed attack on Poland, impact of war on the sense of security and concerns about the deterioration of their financial situation due to war. The survey was designed by our team on the basis of literature data regarding mental health symptoms in previous disasters. Questions concerning putative factors associated with mental health were either Likert-like (items A–G) or dichotomous (items H-J). For the purpose of statistical analysis, the Likert-like items were dichotomized (1–2 vs. 3–4). The questionnaire is presented in Supplementary Materials.

2.4. Statistical Analysis

Due to the fact that for some variables the condition of normality of distribution (assessed by the Shapiro–Wilk test) was not met, non-parametric tests were used for the analyses, i.e., the Mann–Whitney U test, the Kruskal–Wallis test, Spearman's rank correlation coefficient significance test and Pearson's chi-square test. A value of p < 0.05 was considered statistically significant. Statistical calculations were performed using the STATISTICA 10 PL statistical package.

3. Results

3.1. Severity of Symptoms of Anxiety and Depression—Changes over Time

The severity of anxiety and depression at each time point is shown in Table 2.

Table 2. Changes in symptom severity of generalized anxiety (GAD-7), state anxiety (STAI X1) and depression (BDI)—ANOVA Kruskal–Wallis test.

Scale	Severity of Symptoms			p			
	Survey 1 (S1)	Survey 2 (S2)	Survey 3 (S3)	S1 vs. S2	S1 vs. S3	S2 vs. S3	
GAD-7	9.8 ± 5.2	7.0 ± 5.6	3.5 ± 3.5	0.038 *	<0.001 *	0.054	
STAI X1	48.2 ± 10.4	45.2 ± 13.9	36.2 ± 11.1	0.802	0.001 *	0.036 *	
BDI	10.4 ± 7.5	15.4 ± 12.7	6.1 ± 7.2	0.463	0.040 *	0.003 *	

Results are presented as mean \pm standard deviation. S1 vs. S2—comparison of test results in the first and second month. S1 vs. S3—comparison of test results in the first month and after 6 months. S2 vs. S3—comparison of test results in the second month and after 6 months. * p < 0.05.

Anxiety severity (GAD-7) was significantly lower in the second month of the war and after 6 months of the conflict than in the first survey. The highest severity of depressive symptoms (BDI) was observed in the second month, and it was significantly lower after 6 months. The severity of state anxiety (STAI X-1) was significantly lower after six months as compared to the first two surveys.

In the first month of the war, anxiety symptoms measured using GAD-7 were observed in 83.8% of the subjects, and in the second month, this was 65.6%. As time passed, the proportion of those who experienced no anxiety increased, from 16.2% in the first month to 70.0% after six months. The percentage of those with moderate anxiety and those with high anxiety decreased, from 35.3% in the first month to 5.0% after six months and from 17.6% in the first month to 0, respectively (Figure 1).

In the first and second months of the war, 47.2% and 35.3% of respondents, respectively, had no symptoms of depression (BDI), a percentage that increased to 72.7% in the survey after six months (Figure 2).

In the first month of the war, only 6.3% of respondents were found to have low anxiety (STAI-X1), while after six months, low anxiety was present in 42.1% of respondents (Figure 3).



Figure 1. Percentage of respondents with no anxiety and low, medium and high intensity of anxiety symptoms measured via the Generalized Anxiety Disorder Questionnaire (GAD-7) at three time points.



Figure 2. Percentage of respondents with no depression, mild to medium and severe intensity of depressive symptoms measured via the Beck Depression Inventory at three time points.



Figure 3. Percentage of respondents with low, medium and high intensity of anxiety symptoms measured via the State Anxiety Inventory (STAI X-1) at three time points.

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3.2. Determinants of Depression and Anxiety Severity

Table 3 presents the factors showing an association with the severity of anxiety and depression symptoms.

Table 3. Analysis of factors associated with the severity of generalized anxiety (GAD-7), state anxiety (STAI X1) and depression (BDI) in the study group—Mann–Whitney test.

Factor		GAD		STAI X-1		BDI	
		$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	р	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	р	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	р
Gender	Female Male	$\begin{array}{c}9.2\pm5.4\\4.1\pm4.3\end{array}$	<0.001 *	$\begin{array}{c} 47.4 \pm 11.6 \\ 39.4 \pm 12.5 \end{array}$	0.004 *	$\begin{array}{c} 12.2\pm9.6\\ 7.3\pm8.6\end{array}$	0.004 *
Income >2000 PLN #	No Yes	$\begin{array}{c} 10.9\pm5.4\\ 7.5\pm5.5\end{array}$	0.020 *	$\begin{array}{c} 51.9\pm9.9\\ 44.2\pm12.4\end{array}$	0.020 *	$17.6 \pm 9.9 \\ 9.9 \pm 9.1$	0.002 *
Employment	No Yes	$\begin{array}{c}9.3\pm6.0\\7.6\pm5.4\end{array}$	0.188	$\begin{array}{c} 51.2\pm10.9\\ 43.4\pm12.2\end{array}$	0.004 *	$\begin{array}{c} 16.4 \pm 11.2 \\ 9.5 \pm 8.5 \end{array}$	0.002 *
History of psychiatric treatment	Yes No	$\begin{array}{c} 10.1\pm6.9\\ 7.5\pm5.1\end{array}$	0.103	$\begin{array}{c} 49.7 \pm 14.5 \\ 44.3 \pm 11.6 \end{array}$	0.074	$15.6 \pm 13.0 \\ 9.9 \pm 8.3$	0.103
Good quality of sleep	No Yes	$\begin{array}{c} 10.3\pm5.8\\ 7.1\pm5.2 \end{array}$	0.007 *	$\begin{array}{c} 52.2 \pm 10.3 \\ 42.6 \pm 12.0 \end{array}$	< 0.001 *	$\begin{array}{c} 18.2\pm9.8\\ 8.1\pm7.8\end{array}$	< 0.001 *
Daily tracking of war news	Yes No	$\begin{array}{c} 9.8 \pm 5.5 \\ 5.5 \pm 4.7 \end{array}$	<0.001 *	$\begin{array}{c} 49.1 \pm 11.2 \\ 40.5 \pm 12.1 \end{array}$	<0.001 *	$\begin{array}{c} 12.8 \pm 10.1 \\ 8.6 \pm 8.3 \end{array}$	<0.011 *
Daily conversations about war	Yes No	$\begin{array}{c} 9.9\pm5.4\\ 6.4\pm5.3\end{array}$	<0.001 *	$\begin{array}{c} 49.8 \pm 10.1 \\ 42.1 \pm 12.8 \end{array}$	0.001 *	$\begin{array}{c} 12.5\pm9.1\\ 9.8\pm9.8\end{array}$	< 0.024 *
Good relations with close people	No Yes	$\begin{array}{c} 7.8\pm4.9\\ 8.0\pm5.8\end{array}$	0.920	$\begin{array}{c} 48.9 \pm 10.9 \\ 43.8 \pm 12.6 \end{array}$	0.015 *	$\begin{array}{c} 16.4\pm9.9\\ 8.9\pm8.6\end{array}$	<0.001 *
Fear of an armed attack on Poland	Yes No	$\begin{array}{c} 10.4\pm5.4\\ 5.8\pm4.8\end{array}$	<0.001 *	$\begin{array}{c} 51.1\pm9.6\\ 40.3\pm12.3\end{array}$	< 0.001 *	$\begin{array}{c} 13.8\pm9.8\\ 8.5\pm8.7\end{array}$	< 0.001 *
Impact of war on the sense of security	Yes No	$\begin{array}{c} 11.0 \pm 5.2 \\ 5.0 \pm 4.2 \end{array}$	< 0.001 *	$\begin{array}{c} 50.6\pm9.5\\ 41.0\pm12.7\end{array}$	< 0.001 *	$\begin{array}{c} 12.7\pm8.9\\ 9.4\pm9.8\end{array}$	< 0.004 *
Concerns about worsening of financial situation due to war	Yes No	$\begin{array}{c} 8.2\pm5.6\\ 5.8\pm4.9\end{array}$	0.132	$\begin{array}{c} 46.2\pm12.4\\ 38.7\pm9.4 \end{array}$	0.031 *	$\frac{11.6 \pm 9.6}{5.2 \pm 6.9}$	<0.006 *

M \pm SD—mean \pm standard deviation. # Monthly income per person in the family. * *p* < 0.05.

Higher levels of anxiety and depressive symptoms were exhibited by:

- women;
- persons with lower income per family member;
- persons declaring poor quality of sleep;
- persons who were more likely to read information about the war and to discuss it with others;
- persons who feared the immediate consequences of the war for Poland and themselves;
- persons whose sense of security was impacted by war.

Higher levels of anxiety assessed via STAI X-1 and depressive symptoms but not anxiety symptoms measured using GAD-7 were experienced by:

- unemployed persons;
- people who declared a lack of good relations with close people;
- people concerned about the worsening of their financial situation due to war.

No association was found between alcohol consumption, quality of diet, physical activity and the intensity of depressive or anxiety symptoms.

4. Discussion

4.1. Severity of Symptoms of Anxiety and Depression in People Indirectly Affected by War

The results of our study show a significant prevalence of anxiety and depression symptoms in the first two months of the war—anxiety symptoms as measured using the GAD-7 questionnaire were observed in 83.3% of respondents in the first month of the war and 65.6% in the second month, and depression symptoms (BDI) were seen in 52.8% of respondents in the first month and 64.7% in the second month of the war in Ukraine.

Our results are in line with those of the study by Bragiel and Gabin [26], in which more than half of 110 adults living in Poland reported an increase in symptoms of sadness and depression since the outbreak of war in Ukraine. The impact of the war on the psychological state of Polish residents was also found in an international study [27], in which the severity of depression, anxiety and stress symptoms assessed using the Depression, Anxiety, Stress Scale (DASS) was slightly lower in respondents from Poland than in those from Ukraine [27]. We confirmed the opinion of Kossowska et al. [28] and Chudzicka-Czupała [27] that in Poland—a country with numerous connections (historic, economic etc.) to Russia and Ukraine—people developed fears concerning their future involvement in the war and are convinced that 'sooner or later we will be next' [27,28]. The results of our study are also consistent with the findings of research conducted in the Czech Republic [19] and in Romania [29], indicating the impact of the war in Ukraine on the mental health of those indirectly affected by the conflict. Also, people in Germany reacted to the Russian–Ukrainian war with significant stress, surpassing the reactions observed during the strictest restrictions of the COVID-19 pandemic [30].

4.2. Short- and Long-Term Effects for Those Indirectly Affected by the Consequences of War

In our study, assessments were carried out in the first and second month of the war and after six months of the war. In the third survey, the severity of depression and anxiety symptoms decreased significantly. After 6 months, no depressive symptoms were observed in 72.7% of the subjects and no generalized anxiety symptoms in 70%. In the study group, lower levels of anxiety and depression symptoms were observed over time. Most studies are conducted in populations directly affected by war and conflict, and they indicate the long-term impact of trauma on mental health [31]. Our study focused on people indirectly exposed to the impact of war, with the results suggesting that for most people in this group, the stress response is transient.

4.3. Identification of Individuals at Risk of Anxiety and Depressive Symptoms

The results of our study are consistent with findings of other researchers, indicating that female sex is a risk factor for experiencing the symptoms of generalized anxiety, state anxiety and depression [19,32,33].

In our study, people who declared poorer sleep quality had a greater intensity of symptoms of anxiety and depression. A review of the literature by Pandi-Perumal et al. [34] also indicated that people with sleep disturbances are at a higher risk of depression than those without sleep complaints. Sleep disturbance constitutes a modifiable risk factor associated with mental health problems after the exposure to a public health emergency [35]. In a prospective study of earthquake survivors, sleep disturbance could predict the development and persistence of posttraumatic stress disorder and depression after controlling for demographics and earthquake exposure [36]. The results of our study support the statement that assessing sleep quality may constitute a way to screen the risk of depression and that the early recognition and treatment of sleep disturbances may be an important strategy for the prevention and intervention of mental disorders in individuals after exposure to a public health emergency [35].

Our results also confirmed the observation of Chudzicka-Czupała [32] that people living outside a war zone can develop mental health problems through viewing war news and scenes via television and social media. The association between time spent tracking war information and anxiety was also reported by Surzykiewicz et al. [37]. Also, in a study in

Czech university students, the higher frequency of following the news and social media use were associated with higher levels of anxiety and depressive symptoms [19]. Additionally, exposure to media coverage of the COVID-19 was a risk factor for individual mental health during outbreaks [38]. In a review by Pfefferbaum et al. [39], the majority of studies found significant associations between disaster television viewing and psychological outcomes, including depression, PTSD and stress reactions.

A significantly higher severity of anxiety and depressive symptoms were also observed in people who were afraid of an armed attack on Poland and whose sense of security was impacted by war. Fear of an armed attack on Poland had a significant impact on anxiety in a study by Skwirczynska et al. [33].

In our study, participants who declared a lack of good relations with people close to them had a significantly higher intensity state of anxiety and depressive symptoms. People with low perceived social support were found to be about five times more likely than individuals with high perceived social support to have anxiety and depressive symptoms in a study by Ma et al. [38]. The presence of social support was significantly associated with a lower total score of Depression Anxiety Stress Scale 21 (DASS-21) [32].

Respondents who had undergone prior mental health treatment in our study had numerically higher scores in anxiety and depression scales than those with no history of mental treatment, but no significant difference was noted between these two groups. This finding is inconsistent with the results of other authors [32,40]. It is noteworthy that psychiatric patients are a heterogenous group and may show various reactions to the threat of the war [40], a stressful situation may be associated with worsening of symptoms or result even in the improved functioning of the individual and the decreased intensity of symptoms [40,41].

We did not find any association between physical activity and intensity of symptoms, although physical activity is one of the predictors of depressive symptoms [42]. Also, no association was found between symptoms anxiety and depression and diet of respondents, which may be partially explained by the fact that no specific dietary patterns were assessed.

4.4. Practical Implications

In recent years, societies have been confronted with crises caused by armed conflicts, epidemics, natural disasters and other catastrophes [43]. These affect human health and challenge the ability of communities to prepare, respond and recover [44]. The COVID-19 pandemic, climate change, natural resource depletion and the war in Ukraine are referred to as 21st century concerns [45].

It is necessary to be prepared for the occurrence of further public health threats in the future. Crises have a significant negative impact on the mental health status of the affected population. On the other hand, it is indicated that crises can be an opportunity to build sustainable public health systems [12]. Assessing the impact of a crisis situation on mental health provides a basis for developing disaster interventions [46]. It should be noted that research on the indirect consequences of the war in Ukraine is scarce, and thus, the experience of interventions for people affected by other disasters (COVID-19 pandemic, earthquakes) is valuable [47–49].

Over the last four years, Polish society has experienced two crises, i.e., those caused by the COVID-19 pandemic and the war in Ukraine. It appears that risk, uncertainty and insecurity will continue to accompany us in the future. It is therefore important to learn from the crises to date. The results of our study suggest that most people indirectly affected by war have experienced a temporary stress response. For these people, interventions at the national or regional societal level—actual information about the threat, information about the stress response and ways of coping—may be useful. Psychoeducational interventions should explain the impact of crisis on mental health and point out the need for early intervention and the treatment of mental disorders, as the stigma of these disorders can result in delayed help-seeking [50,51]. In some individuals, trauma may contribute to the development of psychiatric disorders. It is therefore necessary to conduct screening procedures, identify these individuals and implement appropriate therapy [52,53]. In a crisis situation, mental health screening and the identification of people whose condition requires specialist intervention and the development of a support model for people showing symptoms of anxiety and depression are essential.

Primary care professionals can play a significant role in mental health recovery, especially as mental health support is particularly needed in the early stages of crisis situations. They can discuss simple behavioral interventions with patients in healthcare settings since 'simple' coping behaviors can protect against anxiety and depressive symptoms during a crisis [54]. The primary intervention for both people with increased stress symptoms and the general population is to view stress as part of normal experience. Effective intervention involves understanding that the stress response is a normal reaction to an abnormal situation and not a sign of illness [46,55]. We observed a lower severity of psychopathological symptoms in subjects six months after the start of the war, which may suggest the transient nature of the symptoms.

Monitoring symptoms of anxiety and depression at appointments can help distinguish between a transient reaction and the onset of a mental disorder, especially in those at risk. According to our research, the groups most at risk of developing depression and anxiety are women, people with low incomes or no job and people who do not have good relationships with people close to them. It should be noted that at-risk groups for the development of clinical disorders also include adolescents, older people, people with chronic illnesses or pregnant women [56,57].

It is worth discussing the issue of watching disaster content on television with patients during visits [58]. The results of our study and the work of other authors [30,37] indicate that exposure to news in the media is associated with a risk of mental health deterioration. Thus, a reduction in the frequency of exposure to news about warfare should be recommended for some patients. People with high levels of anxiety symptoms can also be encouraged to reduce the frequency and duration of discussions about the crisis situation if there is a significant focus on this topic.

Healthy sleep habits should be promoted, such as maintaining a regular sleep schedule, adequate sleep length and taking care of sleep hygiene [59,60]. It is also important to promote other elements of a healthy lifestyle, taking into consideration that diet, among other things, influences sleep quality [61] and inappropriate eating behaviors are associated with symptoms of anxiety and depression [54,62,63]. Encouraging activities associated with positive emotions can also have a beneficial effect [46] and contribute to better coping with stress or traumatic experiences [64] as physically active people with hobbies show lower levels of anxiety in a crisis situation [54], while the loss of daily routines/daily activities causes frustration and increases stress symptoms [65].

Community support is important for mental health in traumatic situations [46,57]. Spending time with family and conversations or shared rituals are vital. It is also advisable to strengthen social support networks [66], especially for those with insufficient family support.

4.5. Limitations

Our study has several limitations. The first is the lack of data on the severity of anxiety and depression symptoms in the study group before the outbreak of war. The study group was small despite the fact that we sent invitations to take part in a study to a clearly defined population and pre-contacted potential participants, which positively impacts the online survey response rate [67]. The attrition rate was high despite our sending emails inviting participants to subsequent stages of the study. However, longitudinal studies are important in public health research for identifying risk factors related to negative health outcomes, even considering substantial attrition rates [68]. We did not validate our survey questionnaire to start the research at the very beginning of the war. We collected data using an online form. Although studies are increasingly using this method, data collected in this way may include people who are better educated and more familiar with technology.

Possible confounding factors, such as negative life events, were not considered in our study, which could also impact the current results. For these reasons, caution should be taken when generalizing these data to the general population. Additionally, our study looked at three time points: in the first and second months of the war and six months after the invasion, and so it identifies trends rather than long-term mental health consequences in people indirectly affected by the armed conflict. Therefore, further research should focus on the long-term impact of war on mental health and the effectiveness of interventions and support programs for those indirectly affected by armed conflict.

5. Conclusions

In our study, the severity of anxiety and depression was significant in the first months after the outbreak of war. After six months of the war, the majority of subjects did not show symptoms, suggesting the transient nature of the symptoms in most people indirectly affected by the war. Women, people with low incomes, people without jobs, people who do not have good relationships with people close to them and people experiencing sleep problems showed a higher severity of symptoms. Risk factors for anxiety and depression symptoms included the active following of information about the war and frequent conversations about it, anxiety regarding the possibility of an expansion of the area of warfare and an attack on Poland and the impact of the war on individuals' sense of security.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/su151914230/s1, Survey S1: Impact of Russian–Ukrainian War on mental health of Poles. A longitudinal study on depressive and anxiety symptoms.

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