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## Review Paper

# The social and health consequences of the war for Ukrainian children and adolescents: a rapid systematic review

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## ABSTRACT

**Background:** Despite the growing interest on the Russian-Ukrainian war and its repercussion on the children's health, there is no previous systematic review compiling the current evidence on this topic.

**Objective:** This study conducted a rapid systematic review to investigate the current findings concerning the impact of the Ukraine war on the social and health aspects of the Ukrainian pediatric population.

**Methods:** PubMed, Scopus, CINAHL, PsycINFO, Web of Science, and Virtual Health Library (BVS Spain) were searched between February and April 2023. In addition, high-impact journals and institutions focused on pediatric health and human rights were also consulted. All relevant original articles, letters, editorials, and policy papers assessing the health and social repercussions of the war on Ukrainian children were included.

**Results:** From 134 publications matching the search criteria, 23 were included. These publications were categorized into three distinct domains: 'Public health challenges for the physical and mental health of children and adolescents', 'Lack of Healthcare resources and initiatives to mitigate suffering', and 'Policies, Government, and Children's rights'. Our findings revealed that the war is seriously impacting the life and the health of Ukrainian children, resulting in worse physical and mental health outcomes and perpetrating a deprived situation. To overcome such problems, several initiatives have been proposed by European and non-European countries, relying mostly on receiving refugees, providing mental health support, complementing lack of resources, and establishing policies to improve health care.

**Conclusion:** It could help health professionals, policy makers, and governments to plan preventive, promotive, and therapeutic strategies for Ukrainian children.

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"Every war is a war against children"

Eglantyne Jebb (founder of Save the Children)

## Introduction

War is one of the most devastating events that humanity can experience, violating the rights of all age groups, including children and adolescents. In recent decades, armed conflicts have affected many countries around the world, such as Afghanistan, Ethiopia, Democratic Republic of the Congo, Syria, and, more recently, Ukraine.

Recently, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) estimated that approximately 20 million children and adolescents have been displaced from their country of origin as refugees in the year 2023.<sup>1</sup> According to the Office of the United Nations High Commissioner for Refugees

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(UNHCR), these children should be protected by international law, avoiding them from being expelled or returned where their lives are in danger.<sup>2</sup>

Among several conflicts that are happening worldwide, the invasion of Ukrainian territory by Russian troops stands out. This war, which began on February 24, 2022, constitutes the longest armed conflict in the history of Europe after the Second World War. Although it has led to a serious migratory crisis from Ukraine to other countries (i.e., more than 14 million people moved to other countries), not all civilians had the opportunity to leave Ukraine,<sup>3</sup> leading to serious public health problems.

Unfortunately, these problems have emerged in a very vulnerable country. According to previous studies, in 2019, Ukraine already had the fourth highest rate of people infected with tuberculosis in Europe, with around 260 thousand people living with HIV and only 152 thousand receiving antiretroviral therapy (The Joint United Nations Programme on HIV/AIDS).<sup>4,5</sup> In 2020, Ukraine suffered from the COVID-19 pandemic and more than 100 thousand people lost their lives. This problematic scenario was deeply aggravated by the lack of medical supplies imposed by the war. The deterioration of the health of the Ukrainian population as well as the cessation of vaccination campaigns against different viruses such as polio, influenza, and COVID-19 resulted in the rejection of Ukrainian refugees to be admitted in other countries.<sup>6</sup>

Another important impact of the war in Ukraine was the significant repercussions on mental health, which were similar to those individuals who were victims of terrorism. Since the beginning of the war, psychosocial stress and anxiety have drastically increased, resulting in a great prevalence of depression, post-traumatic stress syndrome, and suicidality.<sup>7</sup>

In this context, Ukrainian health systems are facing serious difficulties for accessing and distributing medical equipment and for allocating health personnel due to the high cost, limited possibility of transportation, and lack of infrastructure (airstrikes by Russian troops have destroyed bridges, power plants, educational and health facilities).<sup>8</sup> Therefore, ensuring quality care is challenging for vulnerable groups, such as pregnant women, older individuals, patients with chronic diseases, end-of-life patients, and children and adolescents.<sup>9</sup>

Focusing more specifically on children, the risk involved in accessing health services makes it difficult to cover the medical needs of newborns and pregnant women. There are many Ukrainian children who left their homes, suffering the direct and indirect consequences of the war, such as the murder or kidnapping of their acquaintances and relatives, the loss of their homes, and the lack of access for basic needs due to the limitation of drinking water, having electricity, and freedom to use the Internet and communicate to others.<sup>1</sup> In addition, thousands of children with chronic diseases have suffered disruptions in their treatment and quality of life because of the military conflict.<sup>10</sup>

However, the impact was not only felt inside Ukraine. Outside the country, international societies are urging for solutions regarding the care of Ukrainian refugee children who are in situations of special vulnerability in the countries they were admitted.

Despite the media coverage, the recognition of international organizations, and several editorials that discussed the repercussions of the Ukrainian war on children and adolescents, to our knowledge, there is no previous systematic review compiling the current evidence on this topic. The purpose of this study is to bridge this gap by summarizing and updating the current findings about the repercussions of the Ukraine war on this population. To achieve these goals, the present study aims to:

- Identify and summarize key articles addressing the social and health consequences of the Ukraine war on the younger

Ukrainian population (i.e., children and adolescents), both living in their home country and as well as refugees;

- Identify and describe which interventions were carried out to mitigate this problem, highlighting the gaps in the research evidence.

## Methods

This is a rapid systematic review of the available current evidence about the repercussions of the Russia–Ukraine war on the Ukrainian younger population (under 18 years old). The option for carrying out a rapid review relied on the recommendation of the WHO, which suggests rapid reviews to obtain fast and reliable evidence aiming to support political decisions on health during evolving crises or urgent situations.<sup>11</sup> To ensure a high-quality review, we have followed the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines.

### Participants and scope of the review

Currently, there are approximately 8.1 million Ukrainian refugees all over Europe and 5.1 million internally displaced people, in which, most of them are in vulnerable conditions. Other individuals are still living in Ukraine and facing several shortages of supply, especially children and adolescents, since more than 800 attacks on health care services and more than 2500 on educational facilities were carried out since the beginning of the war.<sup>3</sup> The present review will therefore focus on both vulnerable individuals – children still living in Ukraine and children living as refugees in other countries.

### Search strategy

This review was conducted a year after the beginning of the war, using the following electronic databases between February and April 2023: PubMed, Scopus, CINAHL, PsycINFO, Web of Science, and Virtual Health Library (BVS Spain). In addition, further information was searched in Pediatrics high-impact journals with impact factors ranging between 1.7 and 168.9 (according to the Journal of Citation Reports 2022) and in international institutions focused on pediatric health and human rights (i.e., ‘The Office of the United Nations High Commissioner for Refugees’ (UNHCR), ‘Save The Children’, and UNICEF).

The searches were performed independently by two researchers between 23 February 2023 and 13 March 2023 and used the following search strategy: (child\* OR adolescent\*) AND ("Ukraine war" OR "Ukrainian war" OR "Russian war" OR "Russia war" OR "Russia–Ukraine war" OR "Ukraine crisis" OR "Ukrainian crisis" OR "Ukraine conflict" OR "Ukrainian conflict" OR "Russia–Ukraine conflict").

### Eligibility criteria

All articles published concerning the Russian war against Ukraine between January 2022 and March 2023 were included. Articles were included if they evaluated the repercussions of the current war on the social aspects, health, and quality of life of the young Ukrainian population (i.e., children and adolescents) and if they included individuals living in Ukraine or living as refugees or asylum seekers. Inclusion also relied on the following criteria: (a) articles published in peer-reviewed journals; (b) articles published during the hostilities between Russia and Ukraine in 2022 and 2023; and (c) articles published in any language.

Since we are dealing with an evolving situation and the evidence is limited, other non-original articles and commentaries

were also considered as a means of providing needed information to the body of literature. In that way, editorials or opinion essays were accepted, provided they focused directly or indirectly on the children's health in Ukraine.

Finally, we excluded studies with the following criteria: (a) duplicate publications; (b) articles not in full text; (c) studies based on the consequences of the conflict between Russia and Ukraine worldwide; and (d) study participants not children.

#### Data extraction and management

The initial screening was carried out by two reviewers independently reading titles and abstracts. In this phase, duplicate publications were excluded. Subsequently, the selected articles were read in full text. After this inclusion process, four researchers independently discussed all articles and merged the main ideas into categories or themes.

A thematic analysis approach was taken.<sup>12</sup> The reviewers participating in searches, selection, article assessment, and data extraction organized descriptive labels, focusing on emerging or persistent codes. Any disagreements about the codes and categories were resolved between the authors through discussions until reaching a final consensus.

#### Results and discussion

The search process identified 134 publications that matched the search criteria (Fig. 1). After removing duplicates, 69 articles remained, of which another 27 articles were excluded after screening the titles and abstracts. A total of 42 articles underwent full-text analysis, and the final sample included 23 reports.

#### Study characteristics

All 23 references included in this rapid review were published between 2022 and 2023, the years in which the war between Russia and Ukraine has started and is still ongoing. Most references (74%; n = 17) showed the consequences and challenges of the conflict on health care; 15 reports (65.2%) analyzed the negative repercussions of the war for the children's health; and 15 references (65.2%) described possible political and governmental actions (on many occasions with the collaboration of civil society organizations), aiming to guarantee the rights of children, such as health and education.

Based on the included articles, three domains were chosen to represent our results: 'Public health challenges for the physical and mental health of children and adolescents', 'Lack of Healthcare resources and initiatives to mitigate suffering', and 'Policies, Government, and Children's rights'. Finally, the main characteristics for each article were extracted as follows: reference, type of article, purpose, methods (if necessary), and salient findings (Table 1). The summary table was assessed by four reviewers independently and later discussed to reach the final description.

**Theme 1.** Public health challenges for the physical and mental health of children and adolescents.

As a consequence of the war, the health of Ukrainian children has been affected in many different aspects. The most recognized effects are related to the direct consequences of the war. Children are more likely to suffer burns or injuries that can lead to death, as well as to be victims of violence<sup>13,14</sup>; the war is impacting early children's height and weight due to the lack of consultations and limited resources<sup>15</sup>; there are poor health conditions in the places where Ukrainian minors are sheltered<sup>16</sup>; and a lack of sanitary

measures, which can lead to an increase in serious diseases transmitted by food or water.<sup>15</sup>

In addition to these circumstances, there is an increased risk of the development of respiratory diseases in children due to the breathing of ash, smoke, and air pollutants from fires and explosions.<sup>15,17</sup> Likewise, in Ukraine, the COVID-19 pandemic is not well controlled due to the low vaccination rate and the lack of protective equipment.<sup>15,18</sup>

Despite the physical health problems, it is worrisome the mental health problems that a war could cause in children.<sup>17–19</sup> The possible causes for these mental health problems are classified by some authors as: premigration (war, violence, torture, and poverty), perimigration (exposure to traumatic events such as sexual abuse and exploitation), and postmigration factors (education, social support, and parental mental health).<sup>15</sup> In these circumstances, the emotional response of children corresponds to the phases of grief as an adaptive mechanism for dealing with the loss, a sense of a foreshortened future, and feelings of a life unlive.<sup>20</sup>

In this context, it is estimated that 3.5 million Ukrainian children will develop PTSD, depression, and its consequences after the war,<sup>15</sup> and this could be transmitted to future generations.<sup>21</sup> Traumatic events are experienced from threats to physical safety (e.g., proximity to shelled/bombed areas, battlegrounds), from disruption of routines (e.g., interruption of school, transition to virtual mode), and from the separation from family members.<sup>20</sup>

In order to cope with these problems, some authors have proposed that children should continue to do simple activities such as playing and visiting their friends, as well as allowing them to contribute to the situation by, for example, allowing them to raise money.<sup>22</sup> Hallingberg et al.<sup>23</sup> have highlighted in a letter to the editor that it is helpful for children to spend time with their families and that parents should create a safe space that allows them to listen to their children. Although Ukrainian minors have used some coping strategies that foster resilience, based on external pillars such as family or community, some adolescents found comfort in talking to others, continuous schooling, and internal capabilities such as self-regulation of emotions by avoiding negative news consumption.<sup>20</sup>

Finally, Lopatovska et al.<sup>20</sup> in a qualitative study found that technology has played a pivotal role during this war, allowing children and adolescents to keep in touch with friends and family, helping them to understand the situation, and serving as a distraction from stressful moments.

**Theme 2.** Lack of healthcare resources and initiatives to mitigate suffering.

During the conflict, not only the health of children deteriorates, but also the health system itself and the resources to provide quality medical care for them. One of the main problems is the lack of resources, both human and material, and the disabling of infrastructures. More than 100 medical facilities and 40 medical vehicles in Ukraine have been destroyed by Russian attacks.<sup>16,24</sup> In addition, health services in the besieged cities of Ukraine have collapsed, resulting in a shortage of health professionals and a focus on the victims of the war to the detriment of elective consultations.<sup>14,15</sup> As a result, treatments for children with cancer or surgeries have been discontinued, forcing children and their families to seek care in other countries.<sup>15</sup> Services such as vaccination programmes, cord blood banking, and pediatric primary care consultations have also been drastically affected.<sup>14,25</sup>

The increasing number of refugees to other European countries has resulted in a pressure on other countries healthcare systems and stimulated several initiatives. Although some countries are committed to the reception and treatment of these children (such



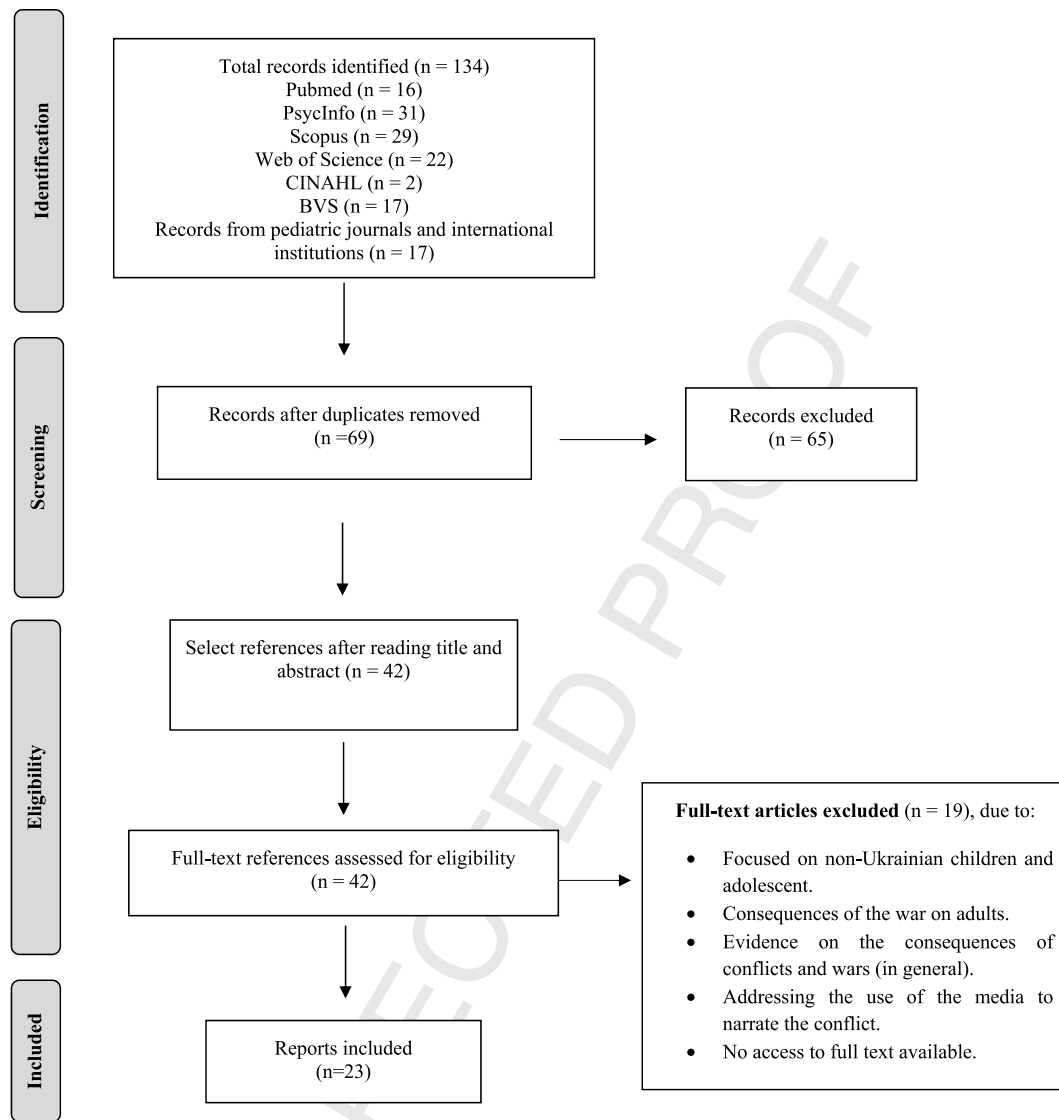


Fig. 1. Flowchart for the selection of articles for the systematic review.

as the case of Italy), incomplete medical histories, problems identifying stressors, the lack of psychological support,<sup>26</sup> the language barriers,<sup>23</sup> and the lack of COVID-19 vaccination are potential challenges to provide a more comprehensive care.<sup>26</sup>

Several initiatives have been established, such as the case of Poland, which is facilitating care in transit through medical points at Ukrainian-Polish border crossings, providing a first aid by doctors, nurses, paramedics, and volunteers.<sup>27</sup> This initiative is responsible for providing Ukrainian children treatment for infectious diseases, free medication, and vaccination against COVID-19 and other communicable diseases.<sup>27</sup> Poland has also been responsible for allocating Ukrainian minors with chronic kidney disease into Polish family houses, aiming to continue their dialysis treatment.<sup>28</sup> Another proposed initiative is the PORUCH Project. The United Nations Children's Fund (UNICEF), together with the Ministry of Education and Science of Ukraine, the Ukrainian Institute of Cognitive Behavioral Therapy and the All-Ukrainian Public Center, launched a mental health support group targeting the negatively impacted children and their parents by the war in Ukraine. Using free face-to-face and online sessions under the supervision of professional psychologists and specialists, young people can share their fears, anxious thoughts, and worries about war. Some of the

topics covered are how to support yourself and your family members, how to manage emotions, or how to plan in times of uncertainty.<sup>21</sup> Other initiatives have also been proposed aiming to mitigate children's suffering, such as cognitive-behavioral therapy and narrative exposure therapy adapted to children.<sup>29</sup>

### Theme 3. Policies, government, and children's rights

Another consequence derived from the war is the violation of children's rights, which is promoting political changes in Ukraine and other countries. According to data published by The Lancet Child Adolescent Health,<sup>30</sup> the conflict and humanitarian crisis in Ukraine are affecting the health of the 7.5 million Ukrainian children, and more than 500 education facilities have been damaged. Faced with the Russian attacks on health centers and schools, non-governmental organizations try to alleviate this situation by creating schools and digital learning centers; they have also promoted other activities such as the distribution of food, water, and clothing, as well as the creation of a network for the reception of minors in neighboring countries.<sup>31,32</sup> Online tools and resource repositories have also been created, such as the European Society for Emergency Medicine (EUSEM) Academy platform, which contains videos and guidelines available in several languages.<sup>33</sup>

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**Table 1**  
Results for the review.

Reference	Type of document	Objective(s)	Methodology	Main findings	Domain(s)		
					Public health	Health services	Policies, government, and children's rights
Ahsan, 2022 (Ukraine)	World Report	To show the damages of war for children and make a call for international action	–	WHO called for international humanitarian and human rights law to be upheld, since children are being killed or wounded through direct attacks by the Russian military or they have been forced to flee their homes. The transfer of pediatric patients to other hospitals with inpatient services, such as the NICU, is not possible since ambulances are not being granted access. In addition, the destruction of infrastructure means that children with speech, attention, or memory problems are not receiving adequate assistance.	*	*	*
Armitage, 2022	Opinion	To demonstrate the changes and challenges in the lives of children because of the conflict in Ukraine.	–	The separation of families and mass human migration increase the risk of children being lured into illegal activities such as human trafficking, sexual and labor exploitation, and modern slavery. Outside Ukraine, refugee children also face language barriers, unfamiliarity with the receiving country's health system, and lack of knowledge regarding their rights to accessing services. In Ukraine, children have exchanged their homes for conditioned shelters for many people, with sanitation and hygiene deficits, scarce resources such as water and food (dehydration, malnutrition, infections) and psychologically. The health systems operating in beleaguered cities have largely collapsed, and native healthcare professionals have fled to safety. Chronic diseases such as asthma, epilepsy, and type 1 diabetes are a threat to child health. Primary care baby checks, health visitor reviews, and routine vaccination programs have largely been suspended, and humanitarian assistance is increasingly unable to access the most desperate locations. Upon the outbreak of war, all schools across Ukraine were immediately closed, and classroom learning was replaced with online instruction.	*	*	*
Awuah et al., 2022	Narrative Article	To highlight the effects of the current Ukrainian war on the health of the pediatric population, with a particular emphasis on surgical care, cancer care, and infectious diseases.	–	When conflict erupted, hospitals and clinics shifted their focus to war casualties. Maternal care was disrupted for an estimated 265,000 pregnant women. Access to diagnostic testing and treatment for HIV/AIDS is limited, so more children will be exposed to HIV through vertical transmission from infected mothers. Childbirth may be life-threatening for premature infants and those who are born in bomb shelters, where there is a lack of a reliable power supply and unsanitary conditions. All this, together with the cold and overcrowding, fires and explosions, and lack of vaccination coverage for measles and poliomyelitis, increase the risk of respiratory infections. It is recommended to close the vaccine coverage gaps in neighboring countries to limit transborder transmission. On a psychological level, young children are at high risk	*	*	*

Table 1 (continued)

Reference	Type of document	Objective(s)	Methodology	Main findings	Domain(s)		
					Public health	Health services	Policies, government, and children's rights
Cai et al., 2022 (Ukraine)	Opinion letter	To describe the consequences of conflict in Ukraine on the mental health of minors.	—	of developing PTSD, behavioral and emotional symptoms, sleep problems, disrupted play, and psychosomatic symptoms. Governments and civil society organizations are collaborating to establish 'Blue Dots,' or safe zones for children and families along the border, providing child-friendly rest and psychosocial support spaces, and family reunification services. Several humanitarian organizations have also provided essential services such as health, education, protection, water, and sanitation, as well as life-saving supplies. Another recommendation is to use telemedicine-powered camps to provide pediatric care and train other personnel to carry out the actions recommended by the physician. The war between Russia and Ukraine can have consequences for the mental health of minors due to exposure to traumas such as scenes of violence or loss of family members. Furthermore, the COVID-19 pandemic is not adequately controlled in this area due to the conflict, which can increase psychiatric comorbidities. However, there are no epidemiological data on the situation and there are no specific recommendations for children suffering from mental health crisis, which are very necessary.	*		
Chaaya et al., 2022	Short Communication	To highlight the impacts of the Russian-Ukrainian conflict on the young population of Ukraine and present experiences of the PORUCH project.	—	The effect of the trauma due to the war could be transferred to the future children via subtle but heritable shifts to the genome. The challenges facing young people in Ukraine during the Ukraine–Russia crisis are increasing because of the current COVID-19 pandemic. Young people are more vulnerable when fleeing because of the disruption of protective social networks and the loss of access to healthcare. Several institutions have developed the PORUCH project to address the mental health of negatively impacted youth and parents by the war in Ukraine. Through online and physical sessions, participants share their experiences with other people, and they also learn how to heal themselves, their family, and friends. Forced evacuation, life in bomb shelters, and disruption to the usual way of life have physical, psychological, and social consequences for children. Overcrowding and high population density in bomb shelters increase the spread of infectious diseases. Children experience chronic stress and psychological trauma after losing their parents, friends, homes, and familiar things, as well as due to school detention. All of this can have irreversible consequences on well-being of children long after the adverse events of the war. In addition, it is difficult to provide medical care to pregnant women, and many of them give birth in the basements of hospitals.	*	*	*
Chumachenko & Chumachenko, 2022 (Ukraine)	Opinion letter	To describe the humanitarian crisis in Kharkiv due to the Ukrainian war.	—	Mental health services used a meaning-based psychotherapy approach that combines demoralization	*	*	*
Costanza et al., 2022 (Italy)	Opinion letter	To describe the experience in caring for refugees from the	Group interventions for 1		*		



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Table 1 (continued)

Reference	Type of document	Objective(s)	Methodology	Main findings	Domain(s)		
					Public health	Health services	Policies, government, and children's rights
Hallingberg et al., 2022 (several countries)	Letter to editor	To state how the recent events in Eastern Europe surrounding the war in Ukraine influence joint family activities and adolescent health and wellbeing.	–	Coordination of treatment in other hospitals worldwide. - Teleplatform of first contact with permanent medical service and free helpline for Ukrainians in need of psychological support. Many families have been separated, and the routines of school, leisure, and sport have been replaced with ensuring survival of Ukrainian children. They are exposed to trauma and unfamiliarity, sociocultural differences (e.g., food habits, social relationships, language), as well as lack of housing, malnutrition/hunger, infectious disease. Authors highlight the importance of addressing children's psychosocial needs and recommend parents create a safe space that allows for listening to children. Some refugee children may be burdened with a lack of family support, feelings of unsafety, parental deprivation, or loss of other complex support systems that can help reduce their stress, emotional problems, and post-traumatic stress experiences.	*		
Izuakor et al., 2023	Letter to the editor	To discuss the consequences of the Ukraine conflict on Ukrainian refugee children.	–	Children undergo higher-energy tissue injuries than adults and massive burns, leading to higher mortality. In addition, refugee children are more likely to experience deprivation and violence. Given that the lack of health care, pediatricians worldwide will need to offer additional help to support the physical and mental health of refugee children and their families.	*	*	
Lava et al., 2022	Editorial	To show the consequences of this war on children and call for pediatric health care planning.	–	All participants had to leave their homes. Leaving home has produced negative feelings of having to be separated from family members and not being able to do extracurricular activities or hobbies. If they went to another country, they talked about the difficulty to communicate and make new friends, and if they stayed in Ukraine, the difficulty to adapt to the new reality such as constant sirens or not being able to travel. The feelings of teenagers have gone through different stages, from initial fear, to sadness, and finally nostalgia and calm, but also feelings of hatred and worry. Resilience strategies used by children were the search for distractions, but also the search for support from people close to them, and the avoidance of negative information. ICTs are essential for these children, as they allow them to keep in touch with family and friends, but also to maintain their education (for those who stayed in Ukraine).	*		*
Lopatovska et al., 2022 (Ukraine)	Article	To explore the current experiences of Ukrainian adolescents affected by the Russia–Ukraine war.	Semi-structured interviews conducted on Zoom with 27 Ukrainian adolescents ages 10-18	Primary care, screening, and immunization programs are being jeopardized, so both infectious diseases and pediatric cancers may be overlooked or detected too late. Regarding mental health, children's stress and anxiety have increased massively throughout the conflict compared to the COVID-19 era. Some tips from the children's psychologists are: 1. Give children enough room to speak what they	*		*
Mahmoud et al., 2022	Commentary	To demonstrate how the conflict between Russia and Ukraine has hampered health amidst the COVID-19 pandemic, particularly among children, and provide essential recommendations for supporting their mental health.	–		*	*	



Table 1 (continued)

Reference	Type of document	Objective(s)	Methodology	Main findings	Domain(s)		
					Public health	Health services	Policies, government, and children's rights
		To highlight ways to ensure children's rights and health care needs during the Russian-Ukrainian war.		Upon entering the war, Ukraine asked Europe for help to attend health emergencies to the child population. Furthermore, to guarantee the rights of children, national pediatric and emergency medicine societies should advocate for an open and fee free access to these services. The European Children's Hospitals Organization (ECHO) and European governments are identifying hospitals across Europe that can provide inpatient care to pediatric patients with complex medical conditions. However, a lack of clinical guidelines, language barriers and other cultural differences, incomplete vaccination schedule and lack of protection against COVID-19, and lack of insight in previous medical history were obstacles to providing urgent and emergency care were. Other health commitments for these refugee children are malnutrition and dehydration, dental health, vision and hearing problems, traumatic problems that require urgent surgery and transfusion, and mental health problems such as suicide attempts or psychotic crises. Regarding education, NGOs and pediatric societies have built an open access repository for sharing of resources, such as educational videos and guides in different languages oriented to the learning of Ukrainian children.			
Save The Children, 2023	News on the web	To know the humanitarian response of the NGO after 1 year of the Ukraine war.	-	-Schools 8n = 50) and Digital Learning Centers (n = 83) so that boys and girls can continue their education, as well as repairing damaged schools. -Reception network for Ukrainian refugees on the border of nearby countries (Romania, Poland, and Lithuania) and created 62 safe spaces for children. -Cash transfers to families to meet basic needs such as food, water, clothing, and medicine. -Psychosocial support for vulnerable children. -Distribution of water, basic food, blankets, and emergency kits inside and outside Ukraine.		*	*
The Lancet Child Adolescent Health, 2022.	Editorial	To expose the consequences of the Ukrainian war on children and call for international responsibility	-	Bombardments of schools, orphanages, and hospitals (including on a maternity and children's hospital) have been reported, with displacement of health workers, and damage to infrastructures. There is scarce access to clean water, food, safe shelter, and education, as are essential hospital supplies. Many children are missing out on routine vaccinations, and those with chronic conditions risk having their treatment interrupted. On a physical level, children are more likely to die or have serious head and facial wounds from blast injuries than adults. Psychologically, due to the traumatic separation of children from caregivers, especially from fathers who stayed behind in Ukraine, children live in fear and uncertainty. Furthermore, unaccompanied minors are at risk of violence, abuse, exploitation, and human trafficking, so they will also live with disabilities and psychological trauma for years to come. Programs	*	*	*

to support nurturing care, as well as mental health and psychosocial services, will be essential to help children cope with such trauma and adversity, and to build resilience.

Finally, the resulting economic crisis will push many children and families into hunger and poverty, and reduce resources for health services, education, and child protection. This editorial call for urgent funding for evacuation and international care for especially vulnerable children such as orphans, cancer patients or those with disabilities. It is also necessary to establish political agreements to respect hospitals, schools, and humanitarian corridors as safe passages for refugees and for delivering humanitarian aid and other supplies and improve family tracing and reunification mechanisms.

The work focuses on these areas:

- Transportation of drinking water through trucks and distribution of bottled water.
- Provide emergency supplies to the population and health institutions, such as medical supplies, water, sanitation and hygiene, medicines, birth kits and surgical equipment, warm clothing, and blankets.
- Primary health care for almost 5 million children.
- Formal and non-formal education of children.
- Psychosocial attention to children who present traumas due to the chronic situation of insecurity.

To know the UNICEF's humanitarian response in the front line of the Ukraine crisis

News on the web

UNICEF, February 23, 2023

This is generating an adaptation of the policies of the countries receiving Ukrainian refugee children. On the one hand, in Poland, the government is assuming high healthcare costs, such as renal replacement therapy for Ukrainian children.<sup>28</sup> On the other hand, countries like Canada, in addition to also assuming health expenses for medical care for children with health problems, have reconsidered their migration policies towards this population. In this way, procedures have been streamlined to welcome Ukrainian children and provide them with health care with less bureaucracy and waiving waiting periods for health care coverage.<sup>34</sup>

The outbreak of the Russo-Ukrainian war has also been a setback to the Ukraine's efforts to implement health reforms and achieve universal health coverage. In other words, the deficiencies of the health system affect right now and could also hinder the provision of quality health care in the future.<sup>15</sup> Funding should not be a problem for healthcare professionals in providing medical care to minors, since as a child right, they should be able to have access to urgent care without limitations.<sup>33</sup>

Finally, the ethical and legal debates on surrogacy around the world are even more worrying in Ukraine, since many children from surrogacy were left in limbo, trapped in the country, and without the care of their receiving parents.<sup>35</sup>

This review has some limitations. First, although most important databases were consulted and we have expanded the searches to include other organizations, it is possible that some articles were not indexed in these databases and were not included. Second, since this is a rapid review, and the Russian-Ukrainian war is an evolving conflict, new articles are published every week and, for this reason, some new articles (published after March 2023) may not have been included. Third, our Boolean strategy was designed to be comprehensive. However, it is possible that some articles have not used these terms and were not included in our review.

**Implications for practice**

This review has several clinical and policy implications that could be highlighted. Concerning health professionals attending Ukrainian children, they should be attentive to the serious mental health problems that this armed conflict is causing. In this context, they should identify and prevent prevalent problems such as depression, anxiety, post-traumatic stress, and suicidality, providing both preventive (fostering resilience, positive thinking, and avoiding loneliness) and therapeutic interventions (using psychological support, psychotherapy, and the appropriate medications).

Social workers are also important figures here, particularly in the support of refugees. These professionals could recognize the challenges of health access, working to reduce the inequalities faced by vulnerable individuals and promoting access to medications, medical procedures, routine consultations, and appropriate health care. Likewise, they can manage conflicts among this population (promoting family meetings and enhancing social ties), promote education for children, allow a safer and healthier environment (appropriate non-violent and sanitary conditions), and fulfill families' financial needs (working with the government and non-government bodies to create social fare programs).

Finally, policy makers and governments should provide opportunities for these individuals, aiming to improve the prevention of diseases (promoting healthcare programs to overcome the most important problems among this population, such as infections, malnutrition, and mental health problems), appropriate living conditions (good sanitation, clear water, food, and good house conditions), and universal social and healthcare access. As shown in our review, more empirical studies and research are



needed to gather evidence on the social and health outcomes of Ukrainian children and adolescents. Having solid data on the serious negative health outcomes originated by the war could also help governmental bodies and non-governmental societies to take actions to mitigate suffering among this population and to show the importance of this problem to the world. Finally, the United Nations should advocate a peaceful solution for the war, aiming to end this conflict and to promote health for the involved individuals.

## Conclusions

Our findings revealed that the war is seriously impacting the life and the health of Ukrainian children, resulting in worse physical and mental health outcomes and perpetrating a deprived situation. To overcome such problems, several initiatives have been proposed by European and non-European countries, relying mostly on receiving refugees, providing mental health support, complementing lack of resources, and establishing policies to improve health care. These findings could help health professionals, policy makers, and governments to understand the suffering that children have been exposed in Ukraine, allowing them to plan preventive, promotive, and therapeutic strategies.

## Author statements

### Ethical approval

This article does not contain any studies with human participants or animals performed by any of the authors. All the data involved in this study were extracted from published articles.

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### Competing interest

No conflict of interest has been declared by the authors.

### Authors' contributions

**Bárbara Badanta:** conceptualization, methodology, formal analysis and interpretation, writing – reviewing and editing, supervision, and project administration; **María Márquez de la Plata Blasco:** searches, formal analysis and interpretation, and data curation, **Giancarlo Lucchetti:** formal analysis and interpretation, writing – original draft preparation, validation, and visualization; **María González-Cano-Caballero:** searches, formal analysis and interpretation, data curation, and writing – original draft preparation.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.puhe.2023.10.044>.

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