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Journal homepage: [www.ijohd.org](http://www.ijohd.org)**Short Communication****Promoting the health of children exposed to armed conflicts: A dentist perspective**Amina Sultan<sup>1\*</sup>, Akanksha Juneja<sup>1</sup><sup>1</sup>Dept. of Pediatric & Preventive Dentistry, Faculty of Dentistry, Jamia Millia Islamia, New Delhi, India**ARTICLE INFO***Article history:*

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**ABSTRACT**

Lately, there has been a phenomenal change in armed conflicts, contributing to a significant rise in health concerns among victims, especially children. Currently, civilians account for up to 90% of casualties, with women and children making up a growing proportion of this group. Clinicians have reported that a few dental ailments can occur as sequelae to stresses related to psychological trauma. Due to limited dental care facilities, the burden of oral illness is high among refugees. Hence, the dental community should identify the dental needs of the children residing in war-affected regions, and our whole focus should be on children's safety and health living in war zones worldwide.

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For reprints contact: [reprint@ipinnovative.com](mailto:reprint@ipinnovative.com)**1. Introduction**

Lately, there has been a phenomenal change in the styles and complexities of armed conflicts, hugely impacting the lives of those involved. The nature of conflict is not the same anymore, as the atrocities inflicted are no longer limited to personnel fighting on the front lines and in combat zones. The arena of war has expanded from the battlefields to towns and cities and from simple weapons to air strikes. Nowadays, wars involve the massive use of deadly weapons that result in large numbers of civilian casualties and injuries and deaths of innocent people. The twentieth century saw substantial rises in the extent of violence committed during military conflicts upon non-combatant citizens. During World War I, civilians made up 19% of the losses, whereas in World War II, they accounted for almost fifty per cent of the deaths. Eighty percent of the victims in the 1980s and 1990s were civilians.<sup>1,2</sup> Currently, ordinary citizens account for up to 90% of casualties, with women and children making up a growing proportion of this group.<sup>3</sup> Verified reports indicate that, among all, the children, being

the most vulnerable, suffer the most severe consequences. Approximately a billion children below eighteen years reside in war-inflicted zones worldwide, which accounts for approximately one-sixth of the global population.<sup>1</sup> In a survey done in a Croatian hospital, clinicians found that most of the war-related injuries were caused by bombs, shellings or explosive leftovers, leading to permanent disabilities in 40% of the injured children.<sup>4</sup> Also, millions of children and individuals from underprivileged sections perish as a result of the indirect effects of violent extremism, including the interruption of food availability, lack of water supply, sanitation facilities, and health care infrastructure.<sup>5</sup> At the time of war, assailants use hunger as a weapon, and children are more likely to experience food insecurity and starvation. Of the 143 million children under five suffering from under nutrition globally, 98.5 million are from conflict-affected countries, and the devastating impacts are evident in their stunted development.<sup>1</sup> Such findings were observed in war-affected areas of Afghanistan and Angola, with the prevalence of stunted growth in 63.7% and 57.3% of children, respectively.<sup>6,7</sup> Most children who suffer from conflict-driven malnutrition die eventually, especially in

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underdeveloped nations with populations already suffering from hunger, poverty and disease. There are reports that such outbreaks of armed warfare have caused a hike in death rates by as much as 24 times, especially in children below five years. Based on official records, approximately 8,630 children were either killed or injured severely in the year 2022. Besides, humanitarian aid was not provided to almost 4,000 kids last year, which is quite concerning.<sup>8</sup> Life has changed drastically for the 2.2 million residents of the Gaza Strip after October 7, 2023, and the impact of this war on children is unprecedented. As of now, official statistics indicate that women and children account for 67% of the almost 14,000 deaths in Gaza. With Gaza's present sorry state of affairs, the percentage of children falling prey to such horrific violations of human rights is growing enormously. The actual numbers may be alarmingly much greater.<sup>8,9</sup>

## 2. Psychosocial Consequences

Research has documented a broad spectrum of emotional and physiological reactions in young kids who have experienced the harrowing loss of their family and friends at the time of war.<sup>10,11</sup> Children growing up in conflict-inflicted regions frequently exhibit acute distress following emotional and mental trauma and end up with post-traumatic stress disorder (PTSD), dissociative disorders, anxiety, and drug misuse.<sup>12,13</sup> Young individuals, particularly those who serve as soldiers, are also chronically psychologically disabled after witnessing merciless killings in an armed conflict. Occasionally, minors are forcefully enrolled as fighters since the attack rifles are inexpensive, lightweight, and easily accessible.<sup>14</sup> Furthermore, children—particularly girls—are more likely to be sexually assaulted by soldiers during wartime, which magnifies the psychological trauma and raises the incidents of unplanned pregnancy and sexually transmitted illnesses.<sup>15</sup> In addition to having lower standards of social behaviour, researchers have found that youngsters who experienced war traumas, 47% of them surpassed the threshold for anxiety/ depression, and 28% exceeded the probable PTSD limit.<sup>16</sup>

The reasons that can negatively impact the emotional health of young kids can be associated with the pre-migration, peri-migration, and post-migration aspects of armed conflicts. Pre-migration aspects involve exposure to bloodshed, violence, and hardships; peri-migration could be traumatic experiences such as sexual abuse and wrongdoings; and post-migration involves education, social protection, and parental emotional well-being.<sup>17</sup> These negative effects can persist for a long duration. In a study conducted on young survivors of the 1994 Rwandan Genocide, researchers observed that even after one year, the Probable PTSD symptoms were very high (ranging from 54% to 62%), indicating that young people's

psychological resistance almost ceased to exist following experiencing extreme levels of violence involving killings, rape and mutilations.<sup>18</sup> Furthermore, long-term exposure to military violence might cause youngsters to become violent adults. Paradoxically, children in these situations may view armed conflict as a solution to their issues, which would then fuel further violence.<sup>19,20</sup> Without any doubt, anyone exposed to constant violence and aggression can end up mentally disturbed, and children get easily affected. Young kids residing in war-torn regions have to face constant insecurities and life-threatening situations as they try to survive in these hostile environments. These factors have a permanent impact on their psychological state.

Clinicians have reported that a few dental ailments can occur as sequelae to stresses related to psychological trauma. There is evidence in the literature that children with PTSD experience a higher prevalence of dental caries and poor oral hygiene compared to healthy children.<sup>21</sup> An exploratory investigation found that individuals with signs of post-traumatic stress disorder (PTSD) reported severe periodontal disease, temporomandibular disorders (TMDs), rampant caries, and poor oral hygiene.<sup>22</sup> In 15–25% of patients with PTSD, xerostomia, taste abnormalities, glossitis, gingivitis, and periodontitis have also been reported.<sup>22,23</sup>

Armed conflicts and wars also result in population displacements and forced migrations, causing long-term negative psychological impacts on both parents and children. A survey conducted on Syrian refugees in Lebanon discovered that continual relocation to a new place and the history of exposure to the agonies of wars have detrimental consequences on the psychological well-being of refugee mothers. It increases the likelihood of bad parenting practices, contributing to poor psychosocial sequelae for children.<sup>24</sup>

## 3. How Can We Help?

“Let us reach out to the children. Let us do whatever we can to support their fight to rise above their pain and suffering.” Nelson Mandela

Every basic right of a child gets lost in a war, including the right to existence, the freedom to be with family and friends, the right to health, the opportunity for personal growth, and the right to protection and nurturing.<sup>14</sup> The children are forced to live in refugee camps in uncomfortable and foreign surroundings, and the extreme weather conditions make their survival even worse. At the end of 2022, the United Nations Refugee Agency reported 40 million refugees and asylum seekers globally following prolonged crises, wars, and acts of aggression; meanwhile, 6.3 million Ukrainians were forced to escape their country due to the ongoing war in their country by June 2023.<sup>25</sup>

In times of war and violence, the Children are simply exposed to the horrors of war and, unlike mature adults,

have no prior capacity to deal with the repercussions since they lack the freedom, experiences in life, and coping mechanisms necessary to function in a post-conflict environment. We cannot imagine the amount of trauma a child is experiencing who has been separated from their family, as a large number of innocent kids are brought to shelter homes and hospitals unaccompanied. Hence, our whole focus should be on children's safety and health living in the war-inflicted regions worldwide.<sup>26</sup> Due to limited dental care facilities, the burden of oral illness is high among refugees, and there is currently no comprehensive strategy in place by the international community to address the oral health needs of those impacted by conflict.<sup>27</sup> People in war-stricken countries mostly have restricted access to preventative and therapeutic dental treatment. In a refugee camp, many may face difficulties in receiving dental assistance due to financial limitations, communication barriers, and other emotional and social problems. Also, civilians living in the war zones are less motivated to seek dental services and do not follow adequate oral hygiene practices due to their mental health. Moreover, the main focus of health care is on non-communicable and communicable illnesses, mental health, and mother and child health. The refugee shelters are overcrowded with a restricted supply of clean water and food, which increases their susceptibility to potential health hazards, including dental since oral hygiene is also severely compromised. Usually, during war times, clean water, food, nutrition, housing, sanitation, and protection become the priority of the victims while they neglect their medical health, which can adversely impact their quality of life.<sup>27–29</sup>

Despite being a crucial predictor of general health and quality of life, dental health is not a part of the critical list. Oral health, however, must be included in holistic programmes because many cross-sectional studies showed that exposure to acute stressful situations may affect dental health in a significant manner.<sup>21</sup> Oral health assessments must be a component of general health evaluations that refugees often get upon resettlement. Mobile dental vans should be available at refugee camp-sites where dental experts can do visual -oral examination and perform any emergency or urgent dental treatments for the patients with dental pain. Researchers have reported high rates of dental caries, periodontal disease, oral lesions, and severe dental injuries among the displaced populations.<sup>30</sup> In a survey done in Massachusetts, 49% of the pediatric population in refugee camps had untreated caries, which was more than twice as common as it is for American children.<sup>31</sup> The health volunteers should be trained to diagnose dental conditions and able to provide simple and economical dental care in low-resource camps to ensure good dental health for the displaced population. Dental experts suggest a low-cost, effective method of Silver Diamine Fluoride (SDF) application for children with dental caries where the routine

dental treatment is not feasible.<sup>30,32</sup> Dental treatment for pediatric patients using routine techniques could be challenging due to limited facilities in a refugee camp. The children may also not cooperate due to pre-existing anxiety. Opting for less costly non-invasive treatment options like SDF may be advantageous and overcome the barriers. Clinically, SDF can be applied in any setting and does not require any dental equipment or support infrastructures and any non-dental professionals, nurses, can perform this procedure.<sup>33</sup> Lastly, another suggestion is to utilize teledentistry in refugee shelters lacking adequate dental experts to provide dental assistance and guidance to dental patients seeking dental treatments. The practice is not novel; however, it is an alternate way of dental care by analyzing the clinical data and images received from a remote location such as refugee camps for a dental assessment and subsequent dental management. Teledentistry is emerging as an achievable option for the disadvantaged population, facilitating the convenience of receiving oral health care in remote camp areas where regular and specialised physical face-to-face dental care is unavailable due to geographical and social constraints.<sup>34</sup>

Dental professionals can be a valuable asset for a crisis management team in regions affected by wars. The dental team should also be allowed to work with medical experts, anaesthesiologists, emergency doctors, and nurses in the war zones to provide immediate first aid to children suffering from traumatic dental injuries. Dentists are adequately trained and can assist in reducing the growing burden on healthcare workers by providing continuous treatment. They can support the medical doctors in the patient screening, care and monitoring of the war victims in the triage phase, prescription and distribution of medicines to the victims and in the collection of patient samples. They can help in patient counselling and the prevent the spread of false information. Dentists can also provide vaccinations to refugees since, in a few countries, they have permits to administer certain vaccines.<sup>35,36</sup> In some countries, many medical specialists involved in critical patient care include dentists in the team. Additionally, dental professionals are now widely acknowledged for their assistance to their medical peers in the healthcare arena across the globe, as-well as in India during the COVID-19 pandemic. In Singapore during the COVID-19 pandemic, the National Dental Centre Singapore assigned dentists to collaborate with healthcare workers of other specialisations, including nurses and social workers, as part of a national campaign to restrict the spreading of COVID-19 in Singapore.<sup>37,38</sup>

It is crucial to understand that the goal of many wars is not to win but rather to destabilise the nation by plotting strategic strikes against academic institutes, schools, colleges and hospitals.<sup>20</sup> Regretfully, it is a sad reality as the world is witnessing such attacks more frequently across a wide range, which is shameful and

inexcusable. Recognising the challenging circumstances, as a part of the medical fraternity, we request immediate ceasefires in the war zones globally, restoration of human rights, and an end to all violations and hostilities against children caused by armed conflict that are negatively impacting their health irrespective of their race, religion and socio-economic status. The health agencies should focus on the refugee's oral health along with physical and psychosocial well-being. Paediatricians and paediatric dentists need to collaborate and work together with the administration of the affected nations, international health organisations, and agencies involved in uplifting and promoting the general and oral health of the displaced populations in the refugee camps. The dental community should identify the dental needs of the children residing in war-affected regions and plan different preventive and curative strategies. The dental community across the globe should become part of various NGOs and volunteer to support these displaced populations in getting justice and proper education and helping them settle down. They should provide them with dental treatments and promote awareness of dental health among them.

#### 4. Source of Funding

None.

#### 5. Conflict of Interest

None.

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