

Mitigating Armed Conflict Casualties in Children

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Similar to previous reports,¹⁻¹² the latest annual United Nations (UN) Report on Children and Armed Conflict identified 10 173 child casualties and 4019 children killed in armed conflicts the preceding year.⁶ Most of these children were victims of “internationalized” conflicts, defined as internal conflicts in which ≥ 1 third party governments are involved with combat personnel.¹³ Five such protracted conflicts involve the United States and allied armies (Afghanistan, Syria, Yemen, Somalia, and Mali). These account for 69% of total reported child casualties and 64% of children killed. We present examples of how children continue to be harmed in armed conflicts as well as practical suggestions for how pediatricians can help reduce the impact of armed conflicts on children.

Children are inadvertently harmed in conflicts. However, many civilians, including children, are injured or killed because of policies and compromises made by military operation planners. For example, the Islamic State of Iraq and Syria used civilians as human shields in urban areas. To expedite the operation to eliminate the Islamic State of Iraq and Syria in Iraq and Syria while limiting US ground troops, US government policy makers increased the “non-combatant casualty value,” the number of civilians allowed to be killed per air strike.¹⁴ By 2018 at least 1139 civilians, including children, were killed in that operation over a 4-year period; many died as buildings collapsed from airstrikes, undoubtedly an underestimation because on-site investigations were not conducted.¹⁴

Indiscriminate use of arms, lack of accountability, and deliberate targeting of civilian populated areas increase risks to children. In 2015, among 1953 casualties in children reported by the UN in Yemen, 60% were due to airstrikes² with armament manufactured by the United States, United Kingdom, and other allies. Yet, the US government curtailed training in precision targeting for coalition pilots flying over Yemen.¹⁵ Subsequently, a school bus with >40 children was bombed.¹⁵ In 2019, 12% of the 1447 child casualties in Yemen were from airstrikes.⁶ In 2019, Syrian and Russian forces targeted civilian populations, with air attacks on medical and other civilian facilities over an area the size of Luxembourg in Idlib, terrorizing civilians. Among the 1454 child casualties in Syria, 35% were from airstrikes.⁶ In addition, according to the UN, nonstate actors in Yemen and Syria, working with outside states, restricted access to

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Drs Adamkiewicz and Goldhagen made substantial contributions to conception and design, acquisition of data, and analysis and interpretation of data; drafted and revised the article critically for important intellectual content; agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy and integrity of any part of the work are appropriately investigated and resolved; and approved the final manuscript as submitted.

DOI: <https://doi.org/10.1542/peds.2020-027847>

Accepted for publication Nov 13, 2020

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

To cite: Adamkiewicz T and Goldhagen J. Mitigating Armed Conflict Casualties in Children. *Pediatrics*. 2021;147(2):e2020027847

humanitarian care and demanded payments from fleeing civilians, among other human rights abuses.¹⁻¹²

Political barriers and a lack of adequate medical care and evacuation resources result in further harm. In a review of pediatric combat trauma care, it was observed that >80% of children died at the scene of the attack or during transportation to a health facility.¹⁴ Children are more likely to incur head trauma, compared with adults, and often suffer from complex injuries (face, eyes, trunk, vasculature, extremities, or burns), requiring prolonged admissions, repeated surgeries, and intensive and expert multidisciplinary care in secure, well-equipped medical facilities.¹⁶ Recent studies were conducted in countries neighboring conflict zones, such as Turkey, or in military trauma units.¹⁶

In contrast, nonmilitary data on combat trauma care from inside conflict areas are limited. In a recent study, researchers examined hospital conditions during urban sieges in Syria.¹⁷ Personnel reported shortages in medicine, equipment, electricity, and lack of staff (including neurosurgeons), often working in underground facilities to avoid airstrikes.¹⁷ Although difficult to collect, information related to access to quality tertiary and quaternary care inside and/or across borders is necessary to optimize the care of these children.

As the world's largest purveyor of arms, since the year 2002, the United States has exported between \$15 and \$75 billion in arms per year, representing up to 4% to 5% of its total annual exports.¹⁸ Economic interests often drive these sales.¹⁸ Although the US government is legally required to prevent arms sales to states that use them indiscriminately, in an analysis, researchers found no correlation between the size of arms sales and human rights abuses or bloody civil wars committed by

purchasing states.¹⁸ A fraction of military expenditures in Yemen could cover its emergency humanitarian needs, yet these remain unmet.

ROLE OF PEDIATRICIANS

Pediatricians and related child health organizations have critical roles to play in advocating for and implementing policies and practices that prevent and mitigate harm to children involved in armed conflict. Some of these were outlined in an American Academy of Pediatrics policy statement and technical report on the "Effects of Armed Conflict on Children"^{19,20} and in the International Society for Social Pediatrics and Child Health (ISSOP) "Beirut Declaration on the Prohibition of Harm to Children in Armed Conflict."²¹ These can be summarized as follows.

Improved and accountable health care of the injured:

- Medical care: Pediatricians, surgeons, and emergency medicine and pediatric intensive care subspecialists should consult private and public sector entities to support the implementation of prompt rescue and evacuation protocols for injured children and access to safe medical centers capable of caring for them across age and injury spectra. Existing regional referral centers of excellence should be equipped and supported to ensure state of the art care of injured children. If such facilities are unavailable, these should be established with local partners.
- Reporting of medical treatment and outcomes: pediatricians with proper expertise should help develop ethical, innovative, and rigorous reporting methods for governmental and international organizations, including the UN, to document childhood injuries, care provided, and outcomes.

- Deter airstrikes: pediatricians should advocate that UN Security Council permanent members place monitors inside all medical facilities serving civilians and children, especially in internationalized armed conflicts, to deter airstrikes.

Mitigation of harm during armed conflicts:

- Safe environments: pediatricians should advocate that children in armed conflicts have access to necessities for optimal development, including shelter, sanitation, food, water, schooling, and jobs for parents as well as primary health care, treatment of chronic illnesses, and mental health support.
- Casualty reporting: United States and allied nations pediatricians should advocate for enforceable and accurate casualty counts of all civilian victims in all countries in which United States and allied nations' armaments are sold or used. Reports should include the number of children and women injured or killed, as National Defense Authorization Act requirements to improve policies that ensure their protection.

Preventing harm prior to armed conflicts:

- Deconfliction strategies: pediatricians should advocate for policies that prevent armed conflicts and, when armed conflicts occur, military operations that prioritize the protection of children.
- Corporate responsibility: The protection of children against harm in armed conflicts should be the priority of corporate governance of institutions linked directly or indirectly to arms procurement. Child health professionals should ensure personal investments, and those of organizations in which they are members and institutions who contribute to their pension

funds, are ethical and socially responsible, as related to investment in the arms industry.

- Collaborate and advocate: Pediatricians should engage, learn from, and collaborate across health care disciplines as well as with educators, international humanitarian law experts, government and nongovernmental organizations, corporate leaders, and the military. Advocacy should focus on feasible evidence-based goals that maximize benefit, equity, prudence, feasibility, and transparency.

Individual Actions:

- Actions by individuals can include providing appropriate health care to children of displaced or refugee families in their practices; becoming familiar with the evolving nature of armed conflicts, international humanitarian law, and government policies that may lead to civilian injuries; joining groups or organizations that work in conflict mitigation; writing to government representatives; and examining personal investments.

We hope pediatrician and concerned parties will join and work together to reduce harm to children impacted by armed conflict.

ACKNOWLEDGMENTS

We thank Iman Nuwayhid, MD, MPH; Yvon Heller, MD; Miguel Abboud, MD; Elif N. Özmert, MD, PhD; Tony Waterston, MD, FRCPC; Kasbar Tashdjian, MD; Nick Spencer, FRCPC; Barbara Rubio, MD; and Charles Oberg, MD, MPH, for their insightful contributions and comments for the ISSOP Beirut Declaration and in the preparation of this article. We are also thankful for fruitful comments from expert reviewers. We acknowledge and thank the participants of the 2019 ISSOP Beirut conference for their helpful discussions and inspiring

work, along with refugee children and families throughout the world, whose strength offers hope. We also acknowledge Mrs RayKay Watley for her assistance in the preparation and editing of the article. Our hearts go out to the citizens of Beirut after the explosion of August 4, 2020.

ABBREVIATIONS

ISSOP: International Society for Social Pediatrics and Child Health

UN: United Nations

REFERENCES

1. United Nations General Assembly Security Council. Children and armed conflict: report of the Secretary-General. A/69/926–S/2015/409. Available at: <https://reliefweb.int/sites/reliefweb.int/files/resources/N1510923.pdf>. Accessed December 19, 2019
2. United Nations General Assembly Security Council. Children and armed conflict: report of the Secretary-General. A/70/836–S/2016/360. Available at: <https://reliefweb.int/sites/reliefweb.int/files/resources/N1611119.pdf>. Accessed December 19, 2019
3. United Nations General Assembly Security Council. Children and armed conflict: report of the Secretary-General. A/72/361–S/2017/821. Available at: <https://reliefweb.int/sites/reliefweb.int/files/resources/N1726811.pdf>. Accessed December 19, 2019
4. United Nations General Assembly Security Council. Children and armed conflict: report of the Secretary-General. A/72/865–S/2018/465. Available at: https://www.un.org/ga/search/view_doc.asp?symbol=S/2018/465&Lang=E&Area=UNDOC. Accessed December 19, 2019
5. United Nations General Assembly Security Council. Children and armed conflict: report of the Secretary-General. A/73/907–S/2019/509. Available at: https://www.un.org/ga/search/view_doc.asp?symbol=S/2019/509&Lang=E&Area=UNDOC. Accessed December 19, 2019
6. United Nations General Assembly Security Council. Children and armed conflict: report of the Secretary-General. A/74/845–S/2020/525. Available at: <https://undocs.org/en/S/2020/525>. Accessed July 6, 2020
7. United Nations Security Council. Children and armed conflict in the Syrian Arab Republic: report of the Secretary-General. S/2018/969. Available at: <https://undocs.org/S/2018/969>. Accessed December 7, 2019
8. United Nations Human Rights Council. Report of the Independent International Commission of Inquiry on the Syrian Arab Republic. A/HRC/44/61. Available at: https://www.ohchr.org/EN/HRBodies/HRC/RegularSessions/Session44/Documents/A_HRC_44_61_AdvanceUneditedVersionFINAL.docx. Accessed July 11, 2020
9. United Nations Human Rights Council. Report of the Independent International Commission of Inquiry on the Syrian Arab Republic. A/HRC/45/31. <https://undocs.org/A/HRC/45/31>. Accessed September 15, 2020
10. United Nations Security Council. Children and armed conflict in Yemen: report of the Secretary-General. S/2019/453. Available at: https://www.un.org/ga/search/view_doc.asp?symbol=S/2019/453&Lang=E. Accessed December 6, 2019
11. Office for the Coordination of Humanitarian Efforts. Yemen: situation report. Available at: <https://reliefweb.int/sites/reliefweb.int/files/resources/Situation%20Report%20-%20Yemen%20-%203%20Sep%202020.pdf>. Accessed September 26, 2020
12. United Nations Human Rights Council. Situation of human rights in Yemen, including violations and abuses since September 2014: report of the Group of Eminent International and Regional Experts on Yemen. A/HRC/45/6. Available at: <https://www.ohchr.org/Documents/HRBodies/HRCouncil/GEE-Yemen/2020-09-09-report.pdf>. Accessed September 9, 2020
13. Strand H, Rustad SA, Urdal H, Nygård HM. Trends in armed conflict, 1946–2018. *Conflict Trends*. Available at: <https://www.prio.org/utility/DownloadFile.ashx?id=1858&type=publicationfile>. Accessed November 11, 2019

14. PBS News Hour. 'Systemic shortfalls' obscure true civilian cost of US airstrikes against ISIS. Available at: <https://www.pbs.org/newshour/show/systemic-shortfalls-obscure-true-civilian-cost-of-u-s-airstrikes-against-isis>. Accessed December 7, 2019
15. Oakford S. One American's failed quest to protect civilians in Yemen. *The Atlantic*. Available at: <https://www.theatlantic.com/international/archive/2018/08/yemen-saudi-airstrike-school-bus/567799/>. Accessed December 7, 2019
16. Milwood Hargrave J, Pearce P, Mayhew ER, Bull A, Taylor S. Blast injuries in children: a mixed-methods narrative review. *BMJ Paediatr Open*. 2019;3(1):e000452
17. Fardousi N, Douedari Y, Howard N. Healthcare under siege: a qualitative study of health-worker responses to targeting and besiegement in Syria. *BMJ Open*. 2019;9(9):e029651
18. Thrall AT, Cohen J, Dorminey C. Perspective power, profit, or prudence? US arms sales since 9/11. *Strategic Studies Quarterly*. Summer 2020
19. Kadir A, Shenoda S, Goldhagen J, Pitterman S; Section on International Child Health. The effects of armed conflict on children. *Pediatrics*. 2018; 142(6):e20182586
20. Shenoda S, Kadir A, Pitterman S, Goldhagen J; Section on International Child Health. The effects of armed conflict on children. *Pediatrics*. 2018; 142(6):e20182585
21. International Society for Social Pediatrics and Child Health. Beirut declaration on prohibition of harm to children in armed conflict. Available at: <https://www.issop.org/cmdownloads/beirut-declaration-on-prohibition-of-harm-to-children-in-armed-conflict/>. Accessed August 13 2020

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Pediatrics 2021;147;

DOI: 10.1542/peds.2020-027847 originally published online November 18, 2020;

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Pediatrics 2021;147;

DOI: 10.1542/peds.2020-027847 originally published online November 18, 2020;

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