First aid guidelines for fragile contexts (conflict, disaster and remote areas): Contextualization & Adaptation

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Topic: In situations of remoteness to medical care, disaster or conflict, first aid provision is important but challenging. Education for learners in such contexts needs to be adapted according to resources available. This paper explores the educational approach and adaptations recommended by the 2020 IFRC First Aid, Resuscitation and Education Guidelines and provides a review of them. As a specialist in fragile and harsh contexts, the ICRC has contributed insight which enables the new guidelines to reflect challenges faced by those providing first aid education in peacetime and in war, and in other situations of adversity.

Context: First Aid in armed conflicts, disasters and remote settings

Adaptation: Educators need to adjust both the first aid skills and the way of teaching to the realities of those providing first aid. In some instances, safety and security of the first aider and the person requiring help should be prioritized over providing care. In remote settings or places where medical assistance is unlikely to be expedient, or in situations where effective first aid might not be possible, the psychological wellbeing of the first aid provider is also important and educators need to prepare their learners for such occurrences.

Within the 2020 International First Aid Guidelines, authors tried to reflect the specific circumstances faced by first aiders in fragile settings, aiming to put the learner at the center and adapt the education to their needs and the realities of the resources available to them.

Discussion: First aid educators around the world have to understand that guidelines are provided as an evidence-based *guiding* document which need to be adapted by the educator to the realities faced by the learner. It is their role to give learners the permission and confidence to act as best they can and provide options for delivering alternative care where resources or circumstances are limiting.

Conclusions: The specific circumstances of armed conflict, disasters and remote settings will require the first aid educators and first aiders to adapt the scientific evidence of the first aid guidelines to their realities, and in some instances, place safety and security ahead of first aid provision. To increase the likelihood of successful implementation of evidence-based first aid techniques and practice, first aid education must consider aspects of context that promote and/or hinder implementation in these settings. Important, but not yet explicit enough in the new guidelines, is the permission needed to be given to first aid educators to create an authentic, intelligent and humanitarian approach to first aid learning. The goal is to encourage people to be creative and adapt to harsh realities using available resources without being distracted by theories which they cannot apply.

Editorial

This paper is part of a series of review papers written in response to the publication of the International First Aid, Resuscitation and Education Guidelines (IFRC, 2020). In it, the authors bring specific expertise and experience from parts of the world made fragile by war, and depict the reality of first aid response in contexts full of danger and lacking in the most basic of provisions. In such extreme conditions, educators and learners are forced to prioritize care differently, and to improvise to achieve effective learning and first aid outcomes. This paper therefore, does not fit the mold of the other review papers in the series, but rather paints a picture for those faced with adversity when teaching, learning or responding to first aid events. Readers are invited to read this review from the perspective of the ICRC, and engage with the Editor of this journal on the question of relevance to broader contexts.

Introduction

In collaboration with various national Red Cross & Red Crescent Societies and the International Committee of the Red Cross (ICRC), the International Federation of the Red Cross and Red Crescent (IFRC) updated their 2016 International First Aid Guidelines in February 2021 to reflect the current scientific-based evidence regarding specific first aid clinical actions. The guideline developers uniquely paired this clinical evidence with the current evidence regarding first aid education. This approach was designed so that users of the new International IFRC First Aid Guidelines are easily able to apply them through adaptation to relevant learner contexts, contextualization to different levels of resources and medical care, and local implementation strategies. This adaptation is especially important for ICRC first aid programs and activities around the world as ICRC first aid trainers and first aiders often operate in fragile, resource constrained and hostile environments. As such, guideline users need to understand and accept that the often "westernized" scientific-based standards may sometimes not meet their realities on the ground. An example is the frequent recommendation after first aid provision to "call an ambulance", which is only possible if an ambulance system exists within the respective setting. If there is no such provision, adaptation and rethinking of educators and first aiders will be needed in their approach.

Input to the Guidelines from ICRC

There should be no question that the new 2020 IFRC First Aid Guidelines will serve as the basis for first aid practices across the Red Cross and Red Crescent Movement including the ICRC. The focus of the Guidelines on both the evidence-based aspects of first aid and how to teach and educate people to become a first aid provider are supported by the ICRC.

The ICRC has offered input into the Guidelines, especially through its knowledge of safety measures during conflict, expert opinion on trauma first aid and how to adapt and contextualize best practice and training techniques in very harsh or violent conditions. ICRC staff contributed to the review of the evidence for the sections on conflict and disaster contexts as well as the multiple casualty situations outlined in the general approach. They have also provided expert opinion on the Chain of Survival Behaviors and the education considerations for many of the first aid topics. Specifically, the ICRC provided input on considerations that have to be made if, for various reasons, a situation does not allow full adoption of the scientific evidence provided within the guidelines. Suggestions are there to help allow first aid to be provided in very harsh and extreme conditions and under all circumstances.

In general, the direct considerations are local requirements and security concerns, available resources, effective local practices, and access to, and the capacity for, further care. The indirect considerations also include the educational aspect of the background of the trainees. For the ICRC and other local providers this can be anybody who is willing and able to provide basic first aid to wounded and sick, from weapon bearers (military/police or armed opposition), community members, civil defense, ambulance service or any

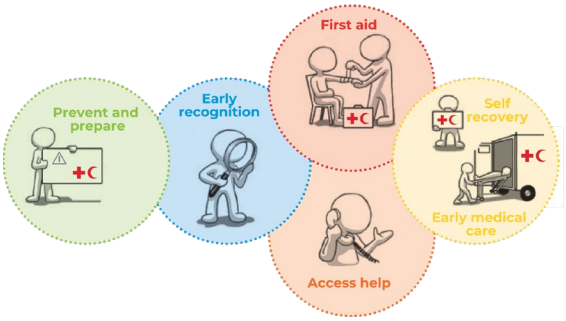
other emergency service provider or stakeholder active or affected in a conflict context. No single training or educational approach fits all. It is necessary that educators are able to tailor their education (topics, style, tools etc.) and their methodology to the needs and the reality of their audiences.

The new IFRC First Aid Guidelines

The development of each new guideline and the review of the 2016 IFRC First Aid Guideline version included a new focus on the domains of the Chain of Survival Behaviors as well as a fresh look through an educational lens across different contexts and the provision of education considerations for each first aid topic. This shift in emphasis occurred in response to calls from developers of first aid curricula and first aid educators from across the Red Cross & Red Crescent Movement and other collaborators.

The process to include educational and contextual elements for each first aid topic was rigorous and consistent and is explained in full in the new 2020 International First Aid Guidelines. Individuals from 43 countries with clinical and/or educational expertise participated in teams to review existing literature to inform the educational approach to a first aid intervention for each topic. They also drew on their own experience and expertise especially in areas where scientific evidence was lacking (expert knowledge). Together they then synthesized the insight available and contributed educational aspects to the Chain of Survival Behaviors for each first aid topic. In addition to the first aid topics, education reviewers looked specifically for papers which described and tested first aid education using different learning modalities and/or explored educational approaches in different contexts.

Recommendations for education according to different learner needs were grouped across modalities where there was evidence to draw on, and contexts within which education needed to be adapted.



The Chain of Survival Behaviors (above) is used by the guideline authors as a tool to emphasize how first aid education does not start and end with a first aid action. The domains of "Prevent and prepare", "Early recognition", "First aid" provision, or "Access help", and "Support recovery" are fundamental considerations for education depending on the context and learner needs.

This paper reviews how the new 2020 IFRC International First Aid Guidelines have used the evidence available to adapt educational approaches for learner audiences in contexts which are deemed to be fragile, and adds commentary for those seeking further insight.

Fragility is defined in this context as increased danger (such as from conflict or disaster), limited or absent medical supplies, or lack of access to emergency medical services or healthcare facilities (*Gordon et al, 2019*). It synthesizes the topics of 'Conflict', 'Disaster' and 'Remote settings', identifying their similarities and differences and how these factors affect first aid education and the provision of first aid facing these types of contexts.

Context: Safety and security over response

In contexts of armed conflict and other situations of violence, first aid providers take the risk of harm from such dangers as gunfire, explosive devices, chemical weapons, burning cars or structures, or collapsing buildings and unstable rubble. Often similar dangers and threats appear for first aiders responding in emergency and disaster contexts, especially if they are located in

very remote areas. To enable first aiders to adequately and safely respond to those contexts, first aid educators have to put safety and security at the center of their education. The Guidelines draw on scientific evidence that very clearly identifies a significant security risk (threats from intentional harm) for anyone providing care in a conflict setting (Hossfeld et al, 2017; Savage et al, 2011; ICRC, 2005), especially if they are not perceived as neutral by any of the conflicting parties (ICRC, 2006).

The context complexity

For all three contexts (disasters, remote areas and conflict) education content needs to be explicit that safety and security of first aid providers must be considered and secured before providing care. Whilst the concept of 'checking for danger' has always been a key aspect of first aid learning, in these fragile contexts its importance is magnified because of the vastly increased likelihood of real, serious and immediate danger to the responder.

The conflict context is perhaps the most complex and dangerous environment for a first aider to work in. It is likely that all infrastructure that existed before the conflict is permanently disabled and will not be able to provide support or care (ambulance service, health centers, hospitals etc.). These circumstances will require the first aid educators and first aiders to draw heavily on the educational principles emphasized in the Guidelines, and adapt the recommendations of the clinical aspects to their realities.

Learners need to understand that an injured or even dead first aider will a) not help or support anyone anymore and may b) not even receive any help him- or herself from others. Special emphasis - after the safety and security considerations - has to go to other limiting factors of the specific setting (like no first aid equipment, need for stabilization for longer time (no professional health care reachable or long referral/ transportation), no knowledge of the area, limited or no communication etc.). Trainers have to enable first aiders and first responders to deal with all these circumstances often under very harsh conditions in an appropriate and efficient way.

Most clinical evidence is tested under circumstances where basic equipment is available and professional medical care is reachable within 15-20 minutes. Whilst this might be relevant and helpful, for example, in a workplace environment in a well-developed country during peacetime, in most disaster, rural or conflict settings this is unlikely to be the case.

Especially in conflict settings or in rural disaster settings (large scale incidents) first aid providers are required to set up temporary basic treatment infrastructure. Whereas in emergency and disaster settings the chosen place may be safe after the disaster has struck (single onset), this may not be the case in conflict settings, where frontlines may change rapidly and temporary first aid post (treatment places) may need to be able to change locations quickly. These often-required quick moves will also impact on access to shelter, water, food, spiritual services, etc.

Wellbeing and psychosocial support

All the previously mentioned aspects and conditions lead to the fact that first aid providers operating in these contexts are more likely to encounter death and grieving relatives, therefore psychological wellness of first aiders themselves as well as training in basic psychological support towards victims and families or comrades must be considered in any first aid education. Here similarities to "De-escalation techniques for violent behavior" and "Psychological first aid", both elaborated on in the "General Approach" chapter of the Guidelines, may serve as a foundation for these training components.

Protection & protective emblems

For safety and security, easy identification of first aid providers (their units, establishments and material) is essential for not becoming a target. Actors from the Red Cross and Red Crescent Movement, as well as military medical units, are using the Red Cross/Red Crescent emblem

(distinctive emblem) for identification and protection. Sometimes it is necessary to make use of additional protective equipment, this can include helmets, bullet proof vests or gas masks. It is essential to understand that this protective equipment is intended to protect the first aider and to enable him/her to escape the immediate danger. The protective equipment should not be misused to send first aid responders intentionally into dangerous situations, and educators should impress upon learners that the humanitarian first responder remains vulnerable even with protective equipment (Lloyd Roberts, 2005).

Improvisation of tools and equipment

When dealing with fragile contexts, lack of equipment is almost guaranteed. Being in situations of armed conflicts, or disaster response, first aid educators need to consider that basic equipment, which is recommended within the first aid guidelines, has to be replaced with locally available alternatives. This kind of approach towards equipment must be considered due to threats of destruction, theft, or use to cause harm (e.g., oxygen cylinders in active conflict hit by a shrapnel or bullet will kill all people in an ambulance). In other cases, equipment that might be regarded as basic may not be available in the given context at all (for example bandages, splints or other basic tools could be scarce in rural villages in the mountains or desert), here educators have to train first aiders to improvise, to use whatever they may have to hand.

Regardless of reduction or improvisation of equipment, is the duty of a first aid educator to transfer this essential knowledge to first aid responders and it is the duty of all responders to take adequate actions, to make best use of the resources available and to ensure at the same time the safety of their patient, themselves and their team.

Educational differences for fragile contexts

Within the "Education chapter" of the 2020 Guidelines readers can find specific evidence and practices for conflict settings. A first aid training to an urban community has to be different to one that is, for example, provided to weapon bearers in a rural setting. Each first aider/ group of first aiders will come with a different background, different needs (clinical/ medical topics to cover), and with different experiences from the settings they normally live and operate in. All this information should shape and define the context and structure of training, the methodology or approach, and tools or equipment that should be included/ excluded within the training.

Any first aid education provided in these contexts needs to adjust both the first aid skills and the way of teaching to the realities. Under those circumstances the educator has to ensure to adapt to individual learners' needs, but also to adapt the training tools that reflect the learner's reality.

Clearly, whilst the first aid provider is not a 'technician', similarly, the first aid trainer is not a teacher. Both should intervene as facilitators or catalyzers of the local energies and resources. A trainer should not instruct, but rather should catalyze the desire, the confidence and the capacity of each participant in the course.

Input to the Guidelines from conflict experts aimed to reflect this approach across all contexts, aiming to put the learner at the center and to adapt the education to their needs and the realities of their situation. The ICRC contributed this insight, and the content reflects challenges faced by those providing first aid education in peacetime and in war.

Injuries of conflicts - focus on trauma

Trauma as a result of violence can appear very different to that caused by accidents. Wounds sometimes have a disproportionate effect internally to what is visible externally, for example some bullet wounds, penetrating injuries or blast injuries are often small visuals on the outside of the body but may have life-threatening impact on the inside. The types of traumatic incidents can be varied, for example, minor knife wounds,

breathing problems from tear gas and shrapnel injuries from explosions. War injuries can also have devastating long term effects, especially when caused by mines and other unexploded devices. Though injuries of such sorts are only specific to certain contexts, understanding how to perform first aid to treat them is tremendously important, and cannot be overlooked.

First Aid trainers in such situations must utilize available resources, to sensitize and explain the unseen effects of traumatic injuries. Gaps within the guidelines concerning these topics could be consolidated with literature from other sources.

Transportation in fragile contexts

The 2020 IFRC guidelines discuss topics of first aid according to the Chain of Survival Behavior leaving it to trainers and program designers to design training around the learner's need, according to the specific context. They do not, however, discuss the event in which one of the components of the chain is temporarily or permanently missing, and this is an important gap in the evidence available. Dealing with a suspected broken spine from a fall during a hike or a road traffic accident (RTA), is much easier when the first aider is only required to perform first aid then seek and wait for help. It becomes more complicated when the first aider is to do both by themselves. In situations of armed conflict, disaster, remote situations, and areas with no ambulance system in place, transportation and stabilization of the injured usually fall on lay persons who have been present at the scene of the incident , most of whom have never undergone any first aid training.

Objective Driven First Aid Education

Similar educational approaches apply to those learning first aid in both peace and wartime conditions. These Guidelines seek to form a common basis for that education, acknowledging the similarities as well as the differences, and allowing for adaptations according to context, but most of all, responding to the needs of the learner.

First aid for weapon bearers can serve here as an example of adaptation. While we train and educate first aiders, we often also have to take their objectives and their priorities into consideration. Meaning if you train weapon bearers, their tactical duties will most often override your life-saving one. In practical terms this means that weapon bearers in general will return fire as directed or required before they will start providing first aid to victims.

In active fighting, the most likely threat to the patient's life is from bleeding. Attempts to check for airway and breathing (A-B) will expose the first aider to enemy fire. "Stop the bleed" has been developed to face this immediate threat to life (Ross et al., 2018). The general teaching objective for this phase is to not attempt to provide first aid if your own life is in imminent danger. As a first aid educator you have to accept that reducing or eliminating enemy fire will be more important to the first aiders (weapon bearers) and the patient's survival than the immediate first aid that the first aider can provide.

It could therefore be part of first aid training to inform participants about cover or shelter options (for example smoke as cover) and also to include self-treatment. Self-first aid (for example stopping a bleed) is not very common but may save life and buy time for later first aid treatment from others.

Educators have to be aware and acknowledge that weapons, and mission-essential equipment is of a very high priority for weapon bearers. As first aid educators we have to find ways to deal with this priority.

Discussion

Through their commitment, their selflessness and willingness to expose themselves to possible physical and psychological harm, first aid providers demonstrate their humanity in the fullest sense of the term, and we owe them an immense debt of gratitude. The ICRC, as a key stakeholder in this space, holds an obligation to

prepare first aid providers as well as possible for being skilled, able and willing to help, but also to be able to cope with the challenges of armed conflict at the same time.

It is therefore highly important that despite the scientific evidence of first aid techniques, maneuvers and skills, we never should lose or underestimate the component of the context and the individual first aider. We may be able to train a person in a classroom to the highest level of scientific evidence and that person may know all first aid procedures, techniques and may have all the skills, but if that person steps outside the "idealistic or artificial" classroom and has no self-confidence he or she will most probably not respond to an accident even it happens directly in front of him/her. The other extreme is the first aider who is too self-confident but lacking the knowledge or skills. Educators have to understand the concerns, the fears and the invisible barriers of our trainees. We need to find the right balance of equipping them with safety and security knowledge without raising fear. We have to equip them with the right level of skills and techniques that they are confident to apply outside the classroom. This may include "downscaling": not to always train with gloves that most of us don't keep in our pockets; we may need to train with t-shirts instead of triangular bandages as we don`t have them with us in our normal lives either. And we may even need to accept that over time, those trained will forget how to put somebody in a stable recovery position. Here we need to decide if it is acceptable that former trainees don't do anything because they don't remember how to do it exactly do it right or if we accept that they understood the concept of a free airway and just to put an injured unconscious person somehow on side to ensure that they have a free airway and can breathe.

Across all the considerations on who is trained, may this be school children, state military, volunteers, community members or even armed opposition members, we always have to add the context in which we expect them to act. Basics of first aid may often be similar but if they are too heavily based on westernized and/or peacetime evidence that is far from the reality of the responder on the ground, we need to offer alternatives. We have to ensure that we provide these alternatives in our training and we have to avoid the implication that first aid guidelines or first aid handbooks are treated like paragraphs in law books where there is only one option, only one right thing to do. In first aid we may have a scientifically proven "gold standard", but it is essential to give first aiders confidence in other options so that learners will do the best they can, with the available materials and in accordance to what they feel is doable for them.

Whilst the 2020 Guidelines have been carefully designed to put the learner and their education at the center, there are clear gaps when it comes to flexibility of how to do things and what to use. Gaps in evidence which link the domains of the Chain of Survival together particularly need to be addressed, such as knowing the best technique for a layperson to transport a RTA patient, or the best method to keep an asthmatic child stable until reaching a medical facility. This may be based on the fact that the Guidelines mainly reflect published scientific evidence and the protocols and procedures that have been established for decades, largely through indexed English language journals. It would be amazing (but maybe too visionary) if we could include a greater proportion of scientific evidence from Latin America, Africa or Asia in future versions of the Guidelines., not only using evidence published in other languages, but also reviewers from a wider range of countries and communities.

Of equal importance is that developers of first aid handbooks and training curricula, who are most often medical professionals, need to understand that the educational level of their audiences highly varies, and even drastically within one country. We often see impressive, highly scientific and academically very well written handbooks on the shelves of first aid training organizations, but we

also often observe that many first aiders do not understand or need half of what was written in these handbooks. It is to be hoped that first aid educators and trainers are able to extract and filter this kind of information which is useful and needed by their audience (trainees) and that they are also able to transfer the knowledge that is applicable to the audience. Unfortunately, we still see much too often the first aid trainer who just shows off with his or her complex knowledge and skills. This is not only very disappointing from a human point of view, it discourages students from continuing to learn first aid, which makes this behavior even harmful to the potential pool and the possible number of potential first aiders.

Conclusion

To increase the likelihood of successful implementation of evidence-based first aid techniques and practice, first aid educators and trainers, and first aiders themselves must consider aspects of context that promote and/or hinder implementation in their setting. It is well known and scientifically proven that fears, immediate dangers, threats to life and worries hamper the provision of first aid (Gordon et al. 2019).

Important, but in our view not yet explicit enough in the new guidelines, is the permission needed to be given to first aid educators to create an authentic, intelligent and humanitarian approach to first aid learning. The goal is to encourage people to be creative and adapt to their (daily) normal realities or even new situations (in a disaster or onset of violence), available resources and harsh realities, without being distracted by theories which they cannot apply. Simulations, practices and challenges close to their realities guide them discovering solutions, alternatives and limits. First aid learning should be an opening for expression, adaptation and evolution, making people who are practicing first aid not only beneficiaries but actors.

Acknowledgements & Funding

No funding was received to assist with the preparation of this manuscript.

Conflict of Interests

The authors have no conflicts of interest to declare that are relevant to the content of this article. The lead author was a content contributor to the 2020 International First Aid, Resuscitation and Education Guidelines.

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