

First aid education in schools

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Abstract: Background: First aid training is very important as it proves to be an essential skill in helping someone in an emergency situation and saving lives. One of the benefits of incorporating first aid training in schools is that students get an opportunity to learn critical skills that may save a life. Objectives: This research was carried out to evaluate the effectiveness of school-based first aid interventions in mitigating injuries, improving psychological health, and enhancing school safety. This paper also, assessed the current state of first aid education, exploring the benefits of early intervention, identifying challenges, and opportunities for interdisciplinary collaboration in implementing first aid programs. Methodology: An exhaustive survey of relevant literature was conducted including but not limited to periodicals, research papers, policy statements and government reports. Results: This study highlights the effectiveness of school-based first aid programs in enhancing school safety, reducing injury severity, and improving psychological well-being among students and staff. Despite these benefits, challenges like resource limitations and logistical barriers restrict widespread implementation. Effective collaboration among schools, community organizations, and healthcare providers is crucial to overcoming these obstacles and ensuring program success. Conclusion: The study concluded that first aid training in schools enhances safety, reduces injury severity, and improves psychological well-being. Collaboration between schools and health organizations is essential to overcome challenges and ensure successful implementation.

Keywords: First aid, Injury prevention, Emergency response, CPR.

التدريب على الإسعافات الأولية في المدارس

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المستخلص: الأهداف: تم إجراء هذا البحث لتقييم فعالية تدخلات الإسعافات الأولية المدرسية في تخفيف الإصابات، وتعزيز الصحة النفسية، وتحسين السلامة في البيئة المدرسية. كما استعرض البحث الوضع الحالي لتعليم الإسعافات الأولية، متناولاً فوائد التدخل المبكر، وتحديد التحديات، واستكشاف فرص التعاون بين التخصصات المختلفة لتنفيذ برامج الإسعافات الأولية المنهجية. أجريت مراجعة شاملة للأدبيات ذات الصلة، شملت على سبيل المثال لا الحصر، الدوريات، الأوراق البحثية، والتقارير الحكومية. النتائج: تبرز هذه الدراسة فعالية برامج الإسعافات الأولية المدرسية في تعزيز السلامة وتقليل شدة الإصابات، وتحسين الصحة النفسية للطلاب وأعضاء الهيئة التعليمية. رغم هذه الفوائد، تعوق محدودية الموارد والعوائق اللوجستية تنفيذ البرامج على نطاق واسع. ويعد التعاون الفعال بين المدارس والمنظمات المجتمعية ومقدمي الرعاية الصحية ضرورياً للتغلب على هذه العقبات وضمان نجاح البرنامج. الاستنتاج: توصلت الدراسة إلى أن التدريب على الإسعافات الأولية في المدارس يعزز السلامة، ويقلل من شدة الإصابات، ويحسن الصحة النفسية. كما أن التعاون بين المدارس والجهات الصحية أمر أساسي للتغلب على التحديات وضمان التنفيذ الناجح.

الكلمات المفتاحية: الإسعافات الأولية، الوقاية من الإصابات، الاستجابة لحالات الطوارئ.

1- Introduction

First aid is the preliminary, immediate help that is given to somebody who suffers an injury or illness at the location where it occurred. Proper and quick administration of first aid could make the difference between life and death. First aid may be simple techniques like cleaning minor cuts, treating a minor burn, and applying bandages, or it may require some training for life support such as cardiopulmonary resuscitation (CPR). As mentioned by the Red Cross, it is expected that up to 59% of deaths from injury could be prevented if first aid were given correctly before emergency medical services arrived (Hussein& Elrewany, 2023).

Survival rates of out-of-hospital cardiac arrest are commonly less than 10%, but bystanders CPR have been related to survival rates exceeding 50% (Simmons et al., 2023). Even applying simple techniques at the site of the accident, such as opening the airway and controlling bleeding, could save lives, but unfortunately, only 5% of adults possess the skills and self-confidence to offer this simple first aid in emergency situations. So, it is essential to teach everyone first aid measures for different emergency conditions (Diango et al., 2022). In general, children of school age are at higher risk of being injured or facing accidents. The high energy levels prone to taking risky actions without thinking logically (Oppong Asante et al., 2022).

A study carried out in 47 low- and middle income countries reported that 40% of the students had one serious injury or more in the last 12 months. Also, two-thirds of school adolescents in six African countries reported one or more serious injuries within the past 12 months (Aboagye, et al., 2022). Broken bones or dislocated joints, cuts, or stab wounds were the most common injuries in some sub-Saharan African countries (Ackah et al., 2021). Also, in Egypt, the prevalence of injury in primary school students in Port Said city was 66.73%, and in secondary school students in Cairo it was 68.5% (Zaghloul et al., 2020). The participation of children and teachers in health educational sessions on first aid is required for the prevention of injuries (Ekaprasetia et al., 2018). Moreover, some countries have started to include first aid educational program in the school curriculum, such as the Norwegian school system. Applying first aid training in schools leads to educating a large proportion of the population over time (Malta Hansen et al., 2017). It was recommended to integrate age-appropriate first aid and CPR training into the school curriculum from the primary years and to be refreshed annually, as there was significant progression in first aid knowledge and skills after the training session, which may stand or last for up to 12 months (Wilks& Pendergast, 2017). This research endeavors to evaluate how effective school-based first aid programs can be in enhancing the safety of schools. In terms of current practices, the research will focus on how early first aid intervention can be useful in reducing the impact of injuries and providing support when necessary. Other areas of focus will include the efficacy of such programs over time and the avenues that could be explored in order to forge links between schools and the community organizations and health institutions.

2- The prevalence of accidents and injuries in schools

Injuries are posed as a significant threat to public health, society, and the economy. These sudden and violent external forces can lead to permanent health impairments, premature deaths, and substantial financial burdens. Child injuries are especially concerning as they can irrevocably hinder a child's potential for growth and development. In developed countries, injuries account for a substantial proportion of deaths among children under fourteen, making them a leading cause of mortality in this age group (WHO, 2022; Tupetz et al., 2020).

The prevention of school injuries hinges on the implementation of protective measures and safe behaviors, informed by a comprehensive understanding of the injury context. To effectively engage young learners, first aid instruction should be delivered through innovative and captivating formats, such as visual aids, storytelling, and interactive games. The World Health Organization (WHO) highlights the global impact of accidents, with over 5 million fatalities annually. Within the European region, violence and accidental injuries claim an additional 550,000 lives each year, constituting 6.1% of all deaths (Hanlon et al., 2020).

A significant global health threat is posed by injuries, particularly among children (Figure 1). In fact, injuries and poisonings are the leading causes of death for children aged 1 to 14 (Beranek et al., 2021). The severity of this issue varies considerably across countries, primarily influenced by the efficacy of accident prevention measures. In developed nations, injuries account for over 40% of childhood fatalities within the 0-14 age group. Annually, 20,000 children perish from injuries in the 35 OECD member states, while the toll in developing countries surpasses 1 million. Over the past 25 years, the proportion of injury-related deaths has increased from 25% to 37%. Globally, transportation accidents represent the most prevalent and severe type of injury. Furthermore, falls contribute to 41%

of injury-related fatalities in children under 14, followed by drowning (15%), intentional injuries (14%), burns (7%), and other causes which may differ also according to gender (figure 2). (Tupetz et al., 2020).

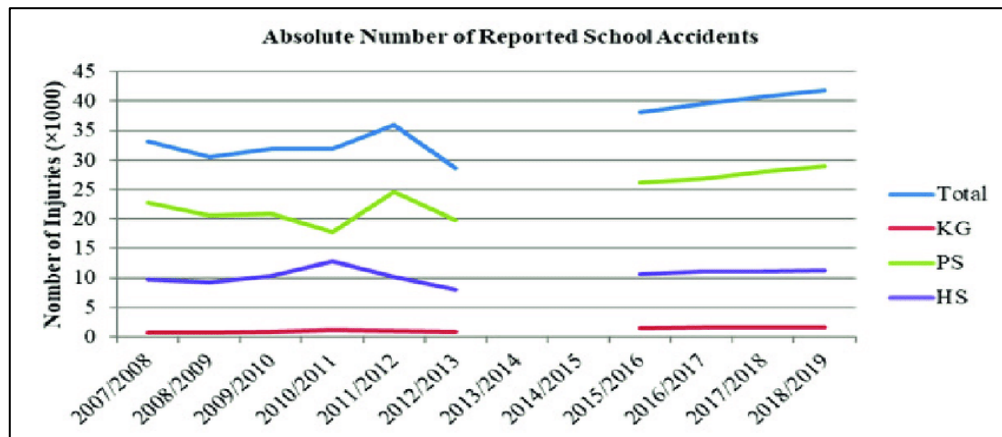


Figure (1): General overview of reported school accidents (KG -kindergarten, PS -primary school, HS -high school). (Beranek et al., 2021).

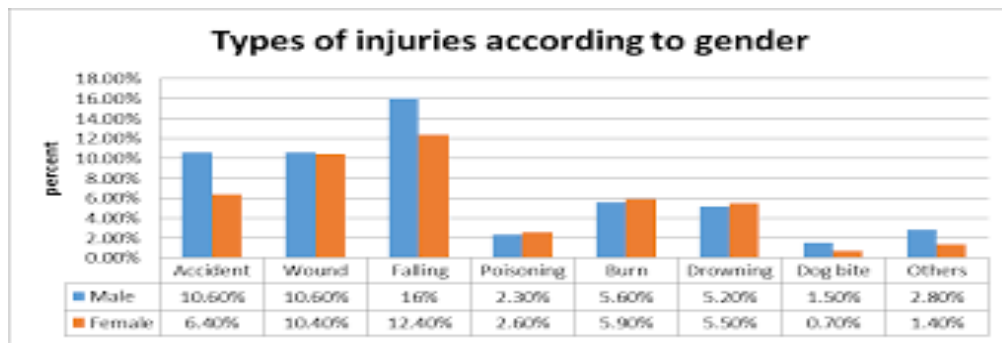


Figure 2: Prevalence, patterns of injuries and associated risk factors among school pupils. (Zaghoul et al., 2020).

3- The potential for early first aid intervention to minimize injury severity in schools

Recent research has primarily focused on teachers' knowledge of first aid, neglecting the understanding and application of first aid by school students, particularly in early childhood education. While certain first aid procedures, such as responding to cuts, choking, burns, intoxication, hemorrhages, fractures, fainting, venomous animal bites, or emergency calls, can be taught to young learners, optimal educational methods and their effectiveness across different age groups remain undefined. Additionally, the variety of interventions implemented in school settings hinders the identification of the most effective approach (Vermonden et al., 2023; Tse& Alexiou, 2021; Ilha et al., 2021).

In the diversity of first aid training programs within the formal educational environment or school curriculum, the prevailing characteristics are outlined in the meta-analysis by De Buck et al. (2015), among which the principal four actions involve enhancing helping behaviors, learning how to call in emergencies, recognizing choked situations, and moving people into recovery positions. Partial evidence first exists regarding helping behavior among children. Indeed, in children between the ages of 11 and 19, the willingness to provide BLS ranges from 27% to 38%, while the willingness to perform chest compressions ranges from 31% to 55%.

Studies showed that although almost half of the children are willing to do the mouth-to-mouth ventilation, their willingness to perform CPR depends not solely on theoretical knowledge or isolated ability testing. Training strongly increased willingness to help and actual performance of CPR. After training, an overwhelming majority of 11-14-year-olds felt confident that they can save a life. However, several factors can hinder helping behaviors, such as fear of failure, causing harm, disease transmission, encountering

unpleasant situations like blood or dirt, potential danger to oneself, assisting strangers, and legal concerns. Conversely, positive factors include assisting family or peers and prior first aid training (Alwidyan et al., 2023; Mathew et al., 2020).

Specifically, various studies were carried out to measure knowledge and skills in relation to the ability to call the emergency number, considering this as one of the most frequently used contents in previous intervention research (Tse et al., 2023). Although findings from some studies indicated that children as young as 5 and 6 years may not benefit in terms of increased knowledge and skills immediately from formal first aid training, there was a dramatic improvement among older children ages 6 to 12 years. Following training, children in this age group have demonstrated a marked increase in knowledge of emergency numbers, often doubling or tripling their pre-training awareness. They also demonstrated improved skills in making emergency calls and providing appropriate information to the operator. However, as noted, the effectiveness of training does vary with the particular skill and the age group. While younger children may be more adept at memorizing emergency numbers, the older adolescent may have difficulty in relaying crucial information during a stressful event such as cardiopulmonary arrest. In general, however, it is clear that children aged 6 to 16 years can both learn and apply the basic first aid skills, such as phoning the emergency services (León-Guereño et al., 2023; Pivač et al., 2020).

In relation to choking, previous research has shown a significant improvement in knowledge of first aid for choking in primary and secondary children following training. Regarding recovery position, some studies have shown that training led to significant improvements in knowledge and skills regarding the recovery position among primary education students, although more research is needed, especially when it comes to addressing early childhood education properly for both choking and recovery position and general knowledge related to first aid (León-Guereño et al., 2023). In regard to primary education interventions, Bánfai et al. (2018) examined a group of children who received first aid training and showed a significant improvement regarding their knowledge of first aid techniques. More recently, Soni and Soni (2021) revealed in a sample of early adolescents how after an intervention, knowledge regarding first aid and safety measures was improved significantly.

Plischewski et al. [2021] conducted a study to evaluate the attitude of Norwegian kindergarten teachers towards 'Henry first aid training' and assess its effect on 3-6-year-old children's knowledge about first aid. Henry is a first-aid program for young children distributed free of charge to 5,200 kindergartens in Norway. The package included a puppet, a small first-aid kit, a memory stick with three Henry songs, and a set of posters. The teaching program curriculum consisted of calling for help, identifying an emergency, keeping safe, and informing an adult. The teacher teaches Henry to the children. Participants were recruited on the basis that they had never used Henry in kindergarten. In this respect, researchers interviewed a small group of children, and follow-up interviews were conducted three months later. Based on the findings of this study, it can be stated that children's understanding of first aid improved after joining the program. There is no control group and no random assignment in this study.

Another first aid training study carried out with 150 kindergarten children showed that this type of training course supports preschool children to act and provide help in emergency situations (Mohajervatan et al., 2020). In a recent pilot study carried out with kindergarten students, pupils' knowledge and skills were significantly improved regarding first aid, showing some preliminary results that indicated that first aid training may be beneficial for preschool students (Tse et al., 2022). These studies show some evidence that first aid skills can be taught effectively to young children, although it remains uncertain whether these skills are retained in the long term. While first aid education can be beneficial for school-aged children, there is a lack of strong evidence on the best training methods and strategies.

This gap in knowledge underlines the need for further research to be conducted in establishing best practices and guidelines for first aid training in schools. The retention of first aid knowledge and skills among students can be improved by evaluating the impact of different training approaches, hence leading to improved community preparedness and response to emergencies.

4- The psychological benefits of knowing first aid in schools

Integration of first aid education into the curricula of students provides a multi-dimensional approach toward holistic student development. Beyond its practical first aid skills, this educational venture will cultivate various psychological first aid benefits in promoting students' general well-being (Luo et al., 2023). Thus, enabling students with knowledge and skills to act with confidence in emergencies or crises gives them a sense of agency and self-efficacy. This newfound confidence may translate to greater resilience, allowing the navigation of challenges with more poise and determination. Besides, being able to lend a helping hand when needed

could give them a sense of purpose and social responsibility, hence affecting in a positive way the students' self-evaluation and their relations with others (Cannon, 2022).

First-aid education has psychological benefits for the learners. It induces empathy and compassion and prompts the students to consider the needs of others and to alleviate their sufferings. This increase in the social awareness of responsibility would help in nurturing a more caring school. Additionally, first aid training is designed in a way that involves teamwork, thus helping develop the teamwork and communication skills of the students, which would, in turn, help them in working well with other people and in resolving conflicts without violence. The psychosocial gains of education in first aid in the case of schools include enhancement of self-efficacy, decrease in anxiety and phobia, improvement of sociability, empathy, resilience, coping abilities and enhancement of care and support culture (Wang et al., 2021).

4-1- Enhanced Sense of Self-Efficacy

- **Empowerment:** First aid training empowers students by equipping them with the tools and knowledge to respond effectively in emergencies. Students' self-confidence can be greatly boosted by their newfound ability to take action and potentially save lives (Schroeder et al., 2023).
- **Responsibility:** With the knowledge of their role in emergency situations, students develop a responsible attitude and can take charge, developing a proactive approach in the process (León-Guereño et al., 2023).

4-2 Reduced Anxiety and Fear

- **Preparedness:** First aid training empowers students to act in emergencies calmly and rationally. This kind of preparedness can substantially reduce anxiety and fear of possible accidents or injuries (Everly et al., 2022)
- **Control:** Knowing how to act in an emergency situation gives students a sense of control, reducing the overwhelming feelings of helplessness that can occur in such situations (Hendel, 2022).

4-3 Improved Social Skills and Empathy

- **Communication:** First aid training often includes how to communicate with others, giving clear instructions and reassurance to the persons in need. This improves the communication skills of students and their ways to interact with other people in stressful situations (Wang et al., 2021).
- **Empathy:** The physical and emotional impacts caused by injuries enable students to show more empathy and sympathize with others. This could help a great deal in creating improved social relationships and building an empathetic community in the school (Hammoudi Halat et al., 2023)

4-4 Increased Resilience and Coping Skills

- **Problem-solving:** First aid training teaches students how to assess situations, make decisions, and take appropriate actions. This problem-solving approach can be applied to various challenges in life and will enhance resilience and the ability to cope with adversity (Wang et al., 2021).
- **Stress management:** How to face emergency situations calmly and rationally to develop better techniques for stress management, which is important for general mental health (Nemiro et al., 2022).

4-5 Fostering a Culture of Care and Support

- **Community building:** First-aid training may help create a sense of community within the school where students feel connected and supported by their peers. This shared knowledge and commitment to helping others can foster a positive and caring school environment (Semeraro et al., 2024).
- **Positive role models:** Students trained in first aid become positive role models for their peers, promoting learning and thus creating a much safer and more caring community of students (Luo et al., 2023).

5- Current State of First Aid Education in Schools

Addressing the issue of first aid education within school settings has attracted attention to a global scale in the recent past, and various countries in turn have put measures in place to ensure that the students possess vital medical skills. As first aid is considered essential in the prevention and promotion of health, and the people's welfare, first aid training was therefore included in the school programs. This inclusion is a sign of the developed view that children also need to learn how to manage emergencies in order to be prepared and responsible (WHO, 2021).

First aid education programs are most successful when they are accompanied by practical lessons rather than just theoretical knowledge. This is aimed at increasing skill retention and ensuring that learners can put their knowledge into practice. Furthermore, age and stage appropriateness of content is very important in this instance. For instance, younger children may learn simpler skills, but older children may cover advanced and intricate skills (Luo et al., 2023).

In several countries, first aid teaching is one of the duties of medical professionals. They usually prepare teachers who go ahead and teach the students. This allows for a continuum that maintains the quality of content and skills offered to the teachers. Another effective method of knowledge dissemination is peer teaching whereby schoolchildren impart knowledge to fellow schoolchildren. This method helps reinforcement of knowledge to the teaching schoolchildren and develops a culture of accountability (Ramadan Abouzied et al., 2021).

Global initiatives have highlighted the importance of first aid education and have led to the implementation of mandatory training policies in some countries. This reflects a growing recognition of the potential benefits of first aid training, particularly in schools. Comprehensive legislation is essential for establishing effective first aid education programs. Such legislation can provide a clear framework for training standards, certification requirements, and funding mechanisms (Neyişci, 2024).

While the teachings of first aid have become more widespread, there are still challenges to overcome. The major problem is achieving standardization of the quality of training delivered in the various facilities and regions. Besides, the level of resources, like training materials and facilities, may be high or low in different institutions and communities. These challenges must be addressed, in order to make high-level first aid training accessible to everyone (Luo et al, 2023) .

Also, some aspects of such integration differ, and although many educational institutions appreciate the value of first aid, it remains that a number of them do not get to the practice of teaching it. Studies show that first-aid training is significant in enhancing health and safety of the school-going children, but it has a number of barriers to full integration which include the level of readiness of the teachers and the resources available (Silva et al., 2023).

Some institutions of learning have made steps to include training on the first aid, usually conducted by trained health experts, who then train the teachers (Silva et al., 2023). A study showed that an average teacher gives only two lessons on first aid per year, and that of CPR, only 64% are willing and able to teach (Bakke et al., 2017). In some areas, there are national recommendations for first-aid practices, while in reality few students and teachers are exposed to this training, and most do not pass even simple tests (Anggraini et al., 2020).

On the other hand, it is observed that there are many challenges to the implementation in the sense that teachers frequently appraise that the lack of curriculum guidelines and unavailability of training resources such as training equipment and mannequins impede on the practice of first aid (Bakke et al., 2017). In addition, it has been noted that there is a disparity between the level of self-efficacy in teaching first aid achieved by the teachers and their positive learning orientation. Evidence from the field suggests that where first aid is effectively taught, a drastic improvement in the level of knowledge and skills of the learners occurs, which is vital during emergency situations to save lives (Pinto, 2019). Though some schools manage to incorporate first aid in the lessons being taught to pupils, the overall improvement is impacted by drug training, personnel, and devices availability. Such a phenomenon calls for earlier mentioned organized way of teaching first aid in schools (Cruz et al., 2021).

6- The Effectiveness of School-Based First Aid Programs

The knowledge, skills, and attitudes of students are highly influenced by first aid education. Research has indicated that first aid students have improved comprehension of first aid, have become more capable of practicing first aid in real situations, and developed a more favorable attitude towards first aid (Albadrani et al. 2023).

Regarding knowledge, Students who receive first aid training are better prepared to handle emergency situations. They are more likely to recognize the signs of an emergency, respond appropriately by calling for help and checking for danger, and administer basic first aid, including the use of equipment like AEDs (León-Guereño et al., 2023).

Also, First aid training enhances students' academic experience because it has practical aspects that prepares them for emergencies. Learning to stop bleeding, give CPR and operate an AED allows learners to feel ready and accountable. These skills are beneficial for one's own health in addition to creating a healthy academic environment. Further, first aid training can also motivate students in the healthcare or emergency services career paths, thus opening up more avenues for them and benefiting the well-being of the society (Wilks & Pendergast, 2017).

Furthermore, Students who acquire first aid skills do not just attain the ability to deal with emergencies but also undergo a change in their psyche. There is a sense of agency and empowerment which makes them think that they can actually help in tough situations. With knowledge and self-assurance, such students most probably will go and help someone who is in trouble and even do something heroic. A higher level of conscientiousness that leads to such acts is both a reaction and proof of the changes that take place during first aid training (Tsutsumi & Izutsu, 2021).

Many studies have reported on the positive outcomes of first aid programs in schools, Hussein & Elrewany. (2023) evaluated first aid educational intervention on primary school children in Egypt and this study highlighted that the knowledge of trained students about the aftereffects of specific first aid subjects such as chemical ingestion, thermal injury, poisonous bite, nasal bleeding, external blood loss, limb injury, and heat strokes.

A recent Systematic Review discussed the School-Based First Aid Training Programs found that first aid training can be successfully implemented in schools and can improve students' knowledge and skills on basic life support (BLS) and cardiopulmonary resuscitation (CPR) (Zenani et al., 2022). Another study assessed the effectiveness of an intervention to enhance first aid knowledge among early childhood education students found that even young children can benefit from first aid training, with significant improvements in their knowledge and skills (Tse et al., 2023).

The effectiveness of teaching methods and instructional materials has been a subject of extensive academic inquiry. While traditional lecture-based approaches have remained prevalent, research suggests that these methods may not be optimal for fostering long-term retention and critical thinking skills. Active learning strategies, which involve student engagement through group work, discussions, problem-solving, and simulations have demonstrated a significant positive impact on student learning outcomes. These methods promote deeper understanding, application of knowledge, and the development of essential cognitive skills (Dzaiy & Abdullah, 2024).

On top of that, Inquiry-based learning, which allows students to question, investigate and develop understanding on their own, has been effective in solving problems and developing critical thinking skills. Technology-enhanced learning when implemented effectively to achieve certain learning objectives can lead to creative and enjoyable learning. Differentiated instruction which means customizing instructional pedagogy based on the learner's unique characteristics can positively affect student success and engagement (Sam, 2024).

Further, it is doubtful whether lessons will be posed effectively without instructional materials. Although textbooks are widely used, the quality of these materials is determined by such characteristics as readability, appropriateness and meeting the instructional goals. Learning can be better achieved through the use of multimedia which provides sights and sounds that help in the understanding of complex ideas (Abdulrahman et al., 2020).

In addition, the application of learning in practice can motivate the students and raise the level of comprehension of the subject in students. Student-generated content like presentations or projects makes the learners feel appreciated and improves their critical thinking and creativity (Zhang & Ma, 2023). Besides, it should be emphasized that there are a number of variables that determine the success of different teaching strategies and resources including the students, the teacher and the learning environment. The best method does not guarantee success for all subjects or all ages and learning preferences and available resources (Munna & Kalam, 2021).

The nuances of the teaching and learning process are also subjects of research. Research, for example, can focus on the use of blended models of learning or on the effects of formative assessment or on personalized learning. Research helps educators keep up

to date with evidence-based practices in teaching, thereby helping them select appropriate strategies and resources for their students to facilitate better learning and outcomes (Othman et al., 2023).

7- The Long-Term Impact of School-Based First Aid Training

School first aid training issues have an integrated paradigm of preparing pupils for the challenges of life. These programs build cognitive skills and emotional resilience, inculcate social responsibility at the same time improving career opportunities, and thus have the potential to create responsible and caring citizens of tomorrow's world (Semeraro et al., 2024).

- **Cognitive Development and Critical Thinking:** First-aid training requires the use of various cognitive skills such as critical analysis, problem-solving, and making decisions. Students must evaluate the circumstances, prioritize actions, and carry out relevant actions in a short timeframe. This aspect of their training cannot be limited only to the narrowing of these parameters since it can also be trained for the ability to understand complex problems and structure thoughts as well as decisions in different contexts of life situations (Plummer et al., 2022).
- **Emotional Resilience and Well-being:** Evidence suggests that exposing students to first aid situations can provide them with techniques to cope with stress and anxiety. Familiarity with emergency plans and practicing how to respond to them can help eliminate fear as one gains control. These coping mechanisms can enhance mental health and overall well-being during challenging and stressful situations (Tsutsumi & Izutsu, 2021).
- **Social Responsibility and Civic Engagement:** The core values of first aid training include that of helping other people promoting community safety—are often instilled in learners. When students learn how to help in case of emergencies, they internalize the notion of civic responsibility and social engagement. This training may encourage participation in activities such as community service, volunteering, or civic engagement activities (Jones et al., 2021).
- **Career Pathways and Lifelong Learning:** A segment of the student population may develop an interest in the fields of medicine or emergency services after undergoing first aid training. The skills and knowledge gained can be used as a stepping stone towards education and training in such areas. Also, professionals in many sectors stand to benefit from its inclusion in their training as it demonstrates readiness for risk and safety management (Anggraini et al., 2020).
- **Societal Impact:** First-aid courses can significantly enhance societal outcomes. Such programs increase the number of people trained in lifesaving skills and thereby reducing mortality, improving patient care, and strengthening community preparedness during crises or disasters (Anggraini et al., 2020).

8- Challenges in implementing first aid programs in schools

The efficient execution of school-oriented first aid programs is regarded as vital for training students with essential life techniques. Nonetheless, a number of issues are seen as obstructing the effectiveness of the programs. One of the challenges is identified as the shortage of resources and funds. Many schools are constrained by budget limitations that do not allow for expenditures on activities such as first aid training, the purchase of equipment, and the procurement of first aid supplies. In addition, the lack of sufficient qualified personnel to carry out comprehensive first aid training programs is recognized as limiting implementation (Anggraini et al., 2020).

Another hindrance is attributed to the existing curriculum and time constraints. First Aid training is perceived as taking unnecessary time away from classes, as schools are often focused on core subjects. Also, the inadequate training of teachers is cited as posing a challenge to the success of nursing training. Some are identified as first aid teachers but are noted to lack prior knowledge of the training course and may need to attend refresher courses periodically to practice the skills (Karakus, 2021).

In addition, it is noted that some people may find it challenging to accept new changes. For instance, some schools are reported to be unwilling to adjust the curriculum to incorporate first aid training or to adopt new teaching methods. These external factors, along with inter-institutional challenges, are considered to impede the process of implementation (Beycioglu & Kondakci, 2021).

Additionally, assessing the effectiveness of first aid training interventions over time is regarded as potentially difficult. The creation and use of assessment tools that are deemed credible are identified as being lengthy and costly. The utility of first aid programs is observed to be influenced to some extent by cultural and economic backgrounds. For example, in certain cultures, it is reported to be

common for men to feel apprehensive about assisting women who are ill or injured. Furthermore, disparities in the quality and availability of first aid training in schools are noted to exist due to resource limitations in some communities (Minna et al., 2022).

To overcome such barriers, joint actions by schools, health professionals, and political actors are recommended. Ensuring that learners are provided with adequate education on emergency responses is suggested to involve appropriate financing, comprehensive training, and the inclusion of first aid training in the primary curriculum (Frenk et al., 2022).

9- Potential Benefits of Partnerships Between Schools, Community Organizations, and Healthcare Providers

The partnerships formed between schools, educational institutions, community groups, and their respective health care systems are regarded as ranking highly in bringing the effectiveness and impact of first aid education programs to a sustainable level. Collaborative efforts are noted to help in sharing resources that would otherwise be expensive and in providing broader perspectives. This approach is seen to broaden the scope of strategies, making them more appropriate for equipping students with life-saving skills (Obi et al., 2024).

Health care providers are acknowledged for their role in supporting first aid institutions through the provision of specialized training and digital tools, ensuring that no student is excluded from learning practical first aid. Community organizations are reported to contribute to first aid education programs by providing additional resources such as equipment, training materials, and volunteers (Luo et al., 2023). These organizations are also observed to assist by conducting first aid training sessions in schools, organizing clubs and camps during and after the teachings, including summer sessions, to ensure that all interested students are reached. Outreach programs are noted to be facilitated by community organizations, helping to locate and include populations that may have been left out of first aid education (Bovill, 2020).

Integrating training with real-life situations and practical applications, as opposed to traditional classroom theoretical teachings, is highlighted as making first aid training more engaging and relevant to students' lives. Community organizations are recognized for their efforts in supporting student participation in first aid programs by including a community service component (Sijbrandij et al., 2020).

By ensuring comprehensive first aid training, partnerships are credited with enabling students to acquire skills crucial for saving lives and supporting them in their daily lives. By enhancing the knowledge and skills of first aid, these collaborations are observed to contribute to improved health outcomes for the population. Partnerships are further noted to bring together schools, community agencies, and healthcare services, working toward a common agenda. Most importantly, these collaborations are seen as fostering responsibility for health and safety among the population (Abelairas-Gómez et al., 2020).

Moreover, a variety of creative methods are suggested for advancing first aid education in schools. One such method is identified as scenario-based training, which is considered effective for teaching first aid skills. Learners are provided with opportunities to apply their skills without the risk of injury. High-fidelity simulation mannequins and props are used to create realistic emergency scenarios. Activities such as CPR, emergency childbirth, and wound care are introduced within educational settings, enabling students to engage with each other while practicing procedures. Lower-fidelity training, while inexpensive, is noted to remain beneficial for teaching large groups through drama and interactive games (Elendu et al., 2024).

Additionally, teaching first aid using online resources is considered convenient and accessible from anywhere. Interactive modules, videos, and quizzes are noted to allow learners to acquire and master skills at their own pace. E-learning platforms are designed to enable learners to follow a structured process, achieve their objectives, and undergo assessments under the guidance of facilitators. Mobile applications are recognized as offering access to first aid materials, such as instructions, videos, and quizzes, which are especially useful when students are away from home (Ilesanmi, 2023).

Gamification is described as the application of game design elements in educational contexts to enhance learner engagement and motivation. For example, trainees can be awarded points, badges, or entry into first aid competitions using leaderboards. Furthermore, Virtual Reality (VR) technology is noted to enhance learning by enabling learners to practice first aid skills in lifelike virtual environments. VR is suggested as particularly beneficial for teaching complex modules, such as managing mass casualty situations or disaster medicine (Ratinho & Martins 2023).

10- Conclusion

Educational initiatives in first aid lessons delivered at schools are very effective since they equip the youth with essential life skills. After all, skills such as CPR, wound management, and emergency situations preparedness help students to be well versed in exceptional scenarios. This is healthy not only for an individual, but does help in the understanding and nurturing of a healthy and civilized society.

In addition to the life skills learned, for example, first aid encourages self-improvement. It embodies respect and caring for yourself and for others, and teaches one to find solutions to situations. Without realizing it, when they are aware of the value of helping, students become socially active and care more about their surroundings.

These and other possible attributes of first aid education are tempting, but the effective use of such a practice can be limited with various factors such as unavailability of resources and limitation of time. To address these issues, it is significant to have joint efforts between the schools and health institutions and other organizations within the particular community. They can provide specific strategies extending the first aid education to other health contributory activities.

And finally, it is important to note that the evaluation of first aid training should not come to an end after the training is over. Since the training has practical purposes, research in this case includes looking for other teaching methods, how this approach affects students in the long run and what prevents such training from being implemented. Descriptive studies help in this case by providing evidence that can help find the solution to this problem.

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