



Assessment of Knowledge and Awareness of First Aid Among School Teachers: An Updated Review for Paramedics, Emergency Professionals, and Nursing

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Abstract

Education about first aid amongst school teachers is an important aspect of student safety and efficient response to emergency situations in school. The first to react in case of any accidents or sudden health cases in schools are the teachers, thus their quick response is capable of saving lives and avoiding complications. This study determines the levels of knowledge, awareness, and preparedness of teachers at schools concerning first aid procedures. It investigates the issues in teaching experience, exposure to training and confidence levels and institutional support to advance first aid education. The surveys and literature reviews were used to obtain data, which helped reveal the current gaps and the area of improvement. The results indicate the need to incorporate systematic first aid training into teacher education programs, periodically updating the refresher courses, and improving policies on emergency preparedness in schools. Increasing the first aid competence of teachers is not only helping to create safer schools but can also help establish a culture of responsibility, awareness and health among the educational facilities.

Keywords

School teachers: first aid awareness, emergency response, first aid training, teacher preparedness, health education, school safety, and confidence on first aid, teacher training, and educational institutions.

1. Introduction

Schools are the places where students spend the majority of their day and, consequently, the safety and health management becomes one of the priorities. Teachers are extremely important in ensuring the well being of the students since in most cases they are the first responders when there is an injury, illness, or a medical emergency. Teachers who are able to offer first aid to such incidences in a timely manner and of the right nature, this can be a crucial factor to the outcome of the said incidence. Nevertheless, the research studies conducted in different countries have shown inconsistencies in first aid knowledge and awareness of teachers which is usually caused by the limited training possibilities and the insufficient institutional focus on health preparedness.[1] The purpose of the present study is to evaluate the present

state of first aid knowledge and awareness in school teachers, focusing on the factors that influence their preparedness and include the level of academic education, teaching experience, and training program access. It also examines ways of increasing the competence of teachers by training them on a regular basis, supporting them in the policies, and integrating the curriculum. It is important to know these aspects in order to create effective interventions that would enhance the confidence and ability of teachers to deal with emergencies to create safer and more responsive school environments.[2]

The relevance of First Aid Knowledge in the School Environment

The aspect of first aid knowledge is crucial towards safety and a healthy learning environment in educational institutions. Children spend a good part of

their time in school and therefore teachers tend to be the first responders whenever there is an emergency. Cuts, burns, choking, fainting, allergic reactions are all frequent accidents in school and first aid applied in time can ensure that such accidents do not develop into serious medical crises. Thus, teachers should be provided with sufficient first aid education to ensure the welfare of students and a healthy learning environment.[3] Properly trained first aid teachers are more confident and can effectively respond to incident of accidents. They will be able to save lives, minimize the injuries, and decrease the complications in some cases because of their timely intervention which can reduce the number of injuries and complications and help to save the lives. In addition, teachers who are aware of first aid are also role models, as they project the qualities of responsibility, care, and preparedness which also help in fostering a culture of safety between students and staff members.[4] In addition to responding to emergencies, first aid awareness contributes to the thinking of prevention. With the knowledge of the basic health and safety principles, teachers can be more aware of the possible risks in the school setting and reduce the risks. This is proactive type of protecting students and at the same time encourages a feeling of security that lead to improved learning.[5] More so, the schools, which focus on first aid education among the staff members, are consistent with international requirements of child safety and health promotion. Incorporating the first aid training into the teacher professional development programs will make sure that the teachers are informed about the latest practices and protocols. To sum up, first aid competence is not an unnecessary activity of teachers, it is a very important element of a healthy school management, a very important tool in maintaining the safety and well being of every student.[6]

Teacher Awakening and the Effect it has on the Safety of the Student.

Awareness of the first aid in the education of teachers is one of the key factors that define the safety of the students in the school setting. Teachers interact with students the most and therefore they see accidents or medical emergencies first. Their awareness level is the direct determinant of their ability to respond fast and efficiently which consequently impacts to the wellbeing of the affected student. Being knowledgeable about the event, a teacher can save a small situation and turn it into a serious or even a life-threatening one.[7] Awareness means more than being familiar with first aid practices but to be aware of any risk that may occur in the school, the signs of a health problem and what to do if the situation arises but before the professional help comes. By being aware of these, a teacher will be able to intervene in time and be sure that the student will receive attention in time and in the right manner. Such a prompt action minimizes the possibility of complications and creates a safe atmosphere in which students feel safe.[8] Also, the

teachers are well aware and this aids in establishing a culture of safety within the school. When teachers know that first aid is vital, chances are high that they will promote safe practices among learners, recognize risks in learning institutions or playgrounds, and support preventive strategies. It is their proactive nature that helps to minimise the number of accidents and also improves the feeling of well-being among students.[9] On the other hand, lack of awareness may mean a delay in responding to emergencies or responding to emergencies with the wrong response thus causing unnecessarily injured people or panics. Thus, it is necessary to enhance the knowledge of teachers on first aid by means of constant learning, workshops, and practicing. Through the increased preparedness of teachers to deal with emergencies, the schools not only safeguard their students, but also build confidence among the parents, educators and the community. Finally, the knowledge of first aid by teachers is one of the bases of proper school safety and health management. [10]

Level of First Aid Competence Among School Staff

The competence of school employees in first aid is one of the main parameters that determine the readiness of a school to address the emergent situation successfully. First aid competence is not merely about some theoretical knowledge, but it is about being able to use the knowledge practically and without fear in a critical situation. Teachers and other staff members working at a particular school are the individuals that can be first approached in case of an accident or a medical emergency, and the competence of this staff is a vital part of school safety.[11] A number of studies have revealed that the majority of the school staff members are aware of the significance of first aid, but only a number of them are well-trained and are able to confidently carry out the first aid procedures in the appropriate way. The most common shortcomings are the inability to administer cardiopulmonary resuscitation (CPR), minor injury treatment, or reaction to choking or fainting. This disconnect between knowledge and practice is the reason why school-specific first aid training programs are necessary.[12] Regular, practical training, simulation and refresher courses can significantly enhance competence. The programs must address not only the physical reaction (e.g., wound management or fracture management) but also the psychological readiness, which would help the staff to be calm and decisive when the emergency occurs. The introduction of continuous professional development in first aid in schools does not only make the staff competent but also improves the culture of safety in the entire institution.[13] In addition, the high degree of first aid competence of the school staff also provides the parents and the community with the assurance that the school values health and safety. It also enables the teachers to act promptly, reducing the severity of the injuries and enhancing the recovery process. Thus,

improving and assessing the first aid ability of school employees should be one of the primary goals of school health policies so that all the members of the educational community were equipped to respond efficiently to the required situation.[14]

Typical Loopholes in Knowledge of first aid among teachers

Although the significance of first aid in schools has been identified, a number of hiccups still exist in the knowledge and practical abilities of the teachers. Most teachers have a simple idea of the first aid rules and they do not have the skills necessary to act in a case of an emergency. Another gap that occurs most often is the inefficiency of cardiopulmonary resuscitation (CPR). Research indicates that, despite their awareness on the usefulness of CPR, teachers are not always well informed on the procedure and the right ratio of chest compression to apply when there is a cardiac arrest.[15] The other significant gap is also on the handling of choking, bleeding, burns, fractures, and allergic reactions. Teachers might be afraid of being harmful or unconfident and therefore hesitate or/and carry out wrong intervention. As an illustration, certain teachers may wrongly use the wrong techniques to treat nosebleeds or burns because they may aggravate the situation. Moreover, there is also limited awareness on what to do in case of asthma attacks, epileptic seizures, or diabetic crisis, with the education often being limited to the teachers that have not undergone recent first aid training.[16] Frequently, such gaps are caused by the lack of older training programs. First aid education in schools is also given in most instances once with no frequent refresher courses and no demonstrations. Teachers consequently lose the procedures with time or they do not keep up with the recent guidelines. Moreover, false information in the informal media like social media or friends can cause wrong practices.[17] The solution to these knowledge gaps is in providing systematic and ongoing professional development programs that are school-specific. Practical workshops, frequent evaluations, and cooperation with health professionals can greatly contribute to the competence of the teachers. These shortcomings need to be addressed so that the teachers are no longer just aware of first aid but are also in a position to administer it with an appropriate degree of efficiency and with confidence in case an emergency occurs hence making sure that the safety of all the students is enhanced.[18]

Relationship between teaching experience and first aid awareness

The level of experience in teaching has a great influence on teachers becoming aware and prepared in case of a first aid situation. As a rule, teachers who are more experienced in the years of working tend to have more experiences with different health-related events among students, and it will be possible to increase their knowledge of first aid in practice. Experienced teachers are likely to be more effective in judging and acting in a quick and appropriate way due to the

repetitive exposure to minor accidents like cuts, fainting, or choking, which are likely to bring them greater confidence. Nonetheless, the experience is not necessarily the only source of proper or current first aid knowledge.[19] Studies have shown that even though the experienced teachers could be aware of the relevance of first aid and react quicker to an emergency, their information could be somewhat outdated or found in informal practices. Unless regularly trained on the same or undergo refresher courses, the information they base their work on might cease to be based on the present-day medical guidelines. Conversely, newly trained teachers, though with less experience in dealing with real-life cases, have more up-to-date theoretical knowledge particularly when first aid training has just been added to their professional training.[20] Such a relationship implies that both experience and formal education are complementary. Experience of teaching leads to the confidence, composure, and decision-making in the emergency situations, whereas systematic training leads to precision and compliance with the best practices. Schools that integrated the two, i.e., offering the same level of continuous professional development independent of the duration of tenure in the teaching profession, were more likely to keep first aid awareness levels in the overall school staff at higher levels.[21] To sum it up, although the years of teaching experience may result in increased responsiveness and awareness of teachers, long and continuous first aid training is necessary. The gap between the experiential learning and the scientific accuracy would make sure that all teachers, irrespective of their level of experience, have adequate capacity to safeguard the wellbeing of their students in case of any emergency situation.[22]

Effects of Training Programs on First Aid of Teachers

Training programs are important in the development and enhancement of first aid skills among the teachers as they help in converting theoretical awareness to practical competence. The training on formal first aid gives a teacher the technical skills, confidence, and knowledge to act efficiently in case emergencies arise in the school environment. In a programmed instruction, demonstration, and practice, educators are taught the key life saving methods including cardiopulmonary resuscitation (CPR), wound, fracture and choking techniques or allergic reactions. Studies have always indicated the accuracy of the teachers trained in the first aid and the speed of their reactions and confidence to handle the emergencies are always higher than the untrained counterparts. The training also assists in dispels most common myths, and thus the first aid practice is in accordance to the current international health and safety guidelines. Moreover, the simulations of real-life situations during the process of practical training provide the teacher with the possibility to rehearse the skills, and this practice enhances the capacity to behave in the real situation

with minimal emotion and minimal panic.[23] The other significant impact of training programs is that it promotes preventive awareness. Teachers who attend first aid lessons are usually more cautious about possible classroom and playground accidents, being more watchful of any possible threat. Frequent refresher training and revised workshops prove to be useful in particular because first aid instructions change with time and one needs to constantly train in order to be competent.[24,25] In addition, preparedness is a culture that is made through well-designed training programs in schools. Educators will be the champions of safety and will promote health and emergency preparedness among their peers and students. Finally, the effects of first aid training are not just limited to the learning of skills, but they also create a culture of safety and pragmatism in the minds of the educators. Thus, mandatory and continuous first aid training programs should be incorporated into the policies of teacher development to provide a safe, sensitive educational atmosphere to every student.[26]

Teacher Response to Emerging situations at classes

Teachers are very instrumental in dealing with emergency situations that arise in the classroom environment. Their immediate response may save the life of a medical emergency since they are the first adults to observe and act upon the incidents involving students. Examples of common emergencies in a classroom may be fainting, choking, bleeding, seizures, burns or allergic reactions. In these situations, the capability of a teacher to remain serene, evaluate the circumstances within a short period of time and implement the right first aid skills will be paramount in saving the lives of students and reducing the possible damages.[27] The teacher reaction Teacher reaction frequently depends on the amount of first aid knowledge, training and their ability to be emotionally calm when responding to pressure. Individuals who have been given formal training on first aid are usually more assertive and effective in what they do. An example is that they will be able to conduct cardiopulmonary resuscitation (CPR), deal with airway obstructions, or prevent bleeding with the help of some right techniques until the professional assistance occurs. Alternatively, the lack of appropriate training might make the teachers reluctant or wrong, which might make the situation worse.[28] Preparedness and awareness do not just rely on the process of delivering aid, as well. To make classrooms safe, effective teachers must recognize the risks associated with the classroom, have emergency contacts available, and also be familiar with the whereabouts of first aid supplies, medical equipment, and first aid kits. Besides, communication is a very crucial aspect of crisis management-teachers should know how to calmly reassure pupils, assign tasks to others and inform school nurse or emergency department immediately.[29] Schools, which regularly train on emergency situations and use

refreshment courses, can allow teachers to respond more effectively and become more confident in responding to emergency situations. To sum up, educators and how they react to classroom-based emergencies are another important element of school safety. Having adequate first aid training and preparedness gives the teachers a clear opportunity to take decisive action, minimize risks, and save the well-being of their students in unfortunate medical accidents.[30]

Obstacles to Learning First Aid by Teachers

Although the significance of first aid knowledge has been acknowledged, most teachers have encountered a number of challenges that intervene with their attainment of the necessary training. Lack of time is one of the major barriers. The schedules maintained by teachers are often tight, including teaching sessions, administrative work, and extra-curricular activities whereby teachers have no time to attend a training session. The first aid education will take a back seat to other academic activities without specified time in their professional development programs.[31] The other significant obstacle is the lack of the institutional support. First aid training is also not compulsory in most schools and the administrative body may not invest enough resources and money in such training. This organizational insensitivity results in poor awareness and less accessibility of first aid skills to teachers or a chance to update them. Financial constraints may also be involved, because some training programs have a fee, which teachers are either not willing or unable to pay without schools sponsorship.[32] Also, the lack of qualified trainers or certified first aid agencies may act as an obstacle to participation particularly in rural or underserved regions. The educators in these schools can use the old or informal knowledge that is not required to conform to the current safety standards. There are also perception barriers- some teachers might not find the significance of first aid very important as they believe that these medical emergencies are not very frequent or they believe that the school nurse will take care of these medical emergencies.[33] Moreover, teachers may be demoralized by a lack of confidence and fear of making errors and thus not learn or practice first aid. They can be afraid of being liable to the law or accidentally causing damage.[34] Schools and educational authorities can overcome these barriers by incorporating first aid training in teacher education programs, as well as offering free and accessible workshops and encouraging a positive learning environment. The need to address these challenges would make sure that every teacher is well trained to manage the emergency and protect the health of students.[35]

The School Administration Role in First Aid Education Promotion

The management of schools is important in making sure that first aid education is coordinated, given

importance, and maintained among the teachers and staff. The task of administrators is to provide the safe learning environment, and one of the most efficient methods to do it is to establish first aid training within the safety policies and professional development program of the school. By making school leaders understand the significance of first aid competence, they contribute to the development of the culture of preparedness and responsibility that permeate the whole institution.[36] Access to certified first aid training is one of the major roles of school administration. This will entail collaborating with the local health institutions, the Red Crescent or Red Cross centers and the medical practitioners in order to offer practical workshops and refresher courses. The administrators are also expected to make sure that all teachers, and more so new ones, are given a compulsory first aid training as part of orientation or continuous professional development training.[36,37] Moreover, school leaders are instrumental in the process of equipping the resources and infrastructure needed to respond to an emergency. This involves the maintenance of well stocked first aid kits, laboratories and playgrounds, provision of emergency contact lists and installation of automated external defibrillators (AEDs) where feasible. Regular inspections and safety drills, which are also planned by the administration, increase readiness of the staff, and contribute to the discovery of possible risks in the school environment.[38] Policy development and accountability should be another important aspect. The administration is recommended to make clear instructions on the expected roles of teachers during emergencies and ensure that these are adhered to by conducting a periodic assessment.[39] School administration enhances the safety system of the school as a whole; by encouraging a continuous learning process, supporting resources, and encouraging collaboration between teachers and medical practitioners. Finally, the administrative dedication to first aid education is the only way to make sure that the teachers do not only know the procedures in case of an emergency, but also feel confident and competent to ensure the safety and welfare of the students.[40]

Comparison of First Aid Awareness of Public and private school teachers

The training opportunities, administrative support, and access to resources might have a great impact on the level of first aid awareness among teachers in the context of public schools and private schools. As a rule, the level of first aid awareness among the teachers working in private schools is higher, mainly due to the fact that the health and safety standards are usually the focus of the operational policy of a private institution. Such schools might need to engage in compulsory first aid certification, periodical refresher courses, and maintain close partnership with the healthcare providers to maintain the staff preparedness.[41] Public school teachers on the other

hand might not have access to such well-organized training programs. Public organizations are commonly limited in their budgets and have a high number of employees and in such a case, offering regular first aid training to every employee becomes a problem. Also, the priorities of the professional development in the public schools can be more of an academic performance and the presentation of the curriculum and less of emergency health preparedness. Consequently, the role of informal knowledge by some teachers in some schools and the practices that are outdated in terms of responding to medical crises may occur.[42] The disparity in awareness, however, is also not only determined by the nature of the institution. Personal motivation of the teachers, prior experience of an emergency situation and location of the school (urban or rural) are the other factors that determine the level of first aid knowledge. As an example, teachers of urban schools, where hospitals or health campaigns are available, can be more aware than are those of the remote private school.[43] To address this gap, the education authorities should put efforts to harmonize the first aid training in all schools. The government-based programs and the cooperation with health organizations can provide equal opportunities to the training to both the public and the private educators. The bottom line is that equal and equal opportunities in terms of first aid education should be given so that all teachers, irrespective of the nature of the school, would be well equipped to handle emergencies in students.[45]

Teacher Attitude Towards First Aid Training and Practice

The attitudes of teachers towards first aid training and practice have become imperative in influencing the effective response of the teachers to medical emergencies in the school setting. Positive attitude stimulates active involvement in training programs, in continuous learning and practical use of the first aid skills when they are required. The vast majority of teachers are concerned with the significance of first aid in their professional activity and they are ready to undergo appropriate training. They know that having first aid knowledge does not only increase the safety of students but also develops confidence in dealing with any unforeseen event.[46] Nevertheless, the attitude towards first aid training may differ depending on a number of things, such as prior experience, perceived competence, and institutional backing. Educators with experience with an emergency or trained to deal with it are more likely to value first aid training more and are more willing to use their skills. On the contrary, other teachers would be reluctant because they are afraid of doing procedures wrong, or fear the legal implications of committing a mistake. First aid might be seen by others as an activity that can be handled by other medical personnel, particularly in those schools that have nurses working there.[47] Teachers also have attitudes affected by institutional encouragement to a large extent. Teachers will be

more willing to attend first aid training when it is accessible to schools, it is treated as a core competency, and integrated into their staff development programs. However, insufficient administrative assistance or encouragement might result in low motivation and disregard of first aid preparedness.[48] The attitude to first aid should be promoted by means of awareness, supportive policies, and ongoing professional development. Once the teachers present first aid as an empowering skill than treating it as an extra burden, teachers will be driven to ensure the safety of students. Finally, development of positive attitudes will make first aid a permanent and a part of the school culture.[49]

Teachers sources of first aid knowledge

Educators obtain their first aid training in a host of formal and informal sources, which contribute to the level of depth, accuracy, and confidence in emergency response levels. Certified first aid training programs provided by known health services such as the Red Cross, Red Crescent, or the national health ministries are considered as formal sources. These organized classes offer evidence-based facts and practical training on how to manage typical emergencies at schools such as bleeding, choking, burning, or fractures. Educators enrolled in these programs have more correct and up-to-date information about the first aid procedures.[50] Another source of importance is pre-service education where in teacher training colleges or universities health and safety courses are incorporated into the curriculum. Teachers who are taught first aid early in their academic training are in most cases better placed to cope with emergencies without any fear once they start their teaching. The use of in-service workshops and refresher training by the school administrations also play a vital role in ensuring the sustainability and refreshment of the first aid competence of the teachers.[51] Conversely, the use of informal sources including social media, online articles, TV shows, or even the opinions of colleagues and family members are used by many teachers. Although these sources may create awareness, they are usually filled with incomplete or distorted information that may result to false knowledge or unsafe behaviors. Personal experience like working with accidents at home or in the classroom also influence the practical knowledge of the teachers but it may not be always in-conformity with appropriate medical guidelines. Schools must attach importance on formal and verified sources of first aid education to make sure that the sources are reliable. Teachers can assist in the replacement of out-of-date or wrong information with evidence-based practice with the assistance of collaborations with health professionals and periodic training sessions. By enhancing the availability of teachers to credible learning materials, the level of preparedness, accuracy and confidence in responding to medical emergencies in the school setting would increase.[52,53]

The Influence of Age and Gender on the Level of awareness of the first aid

Two demographical factors that may impact the extent of first aid awareness amongst teachers include age and gender. Studies have revealed contradictory findings on the effect of them implying that awareness could be influenced not only by the individual attributes but also by training opportunities and the work-related experiences. In most cases, younger teachers are more updated with the current practices of first aid since they are usually taught health and safety in the recent teacher training programs. They could also be more acquainted with internet learning systems and new teaching techniques that will enhance the knowledge of first aid.[54] On the other hand, school teachers who are old tend to be guided by experience in case of actual emergencies in schools. Although this real-life experience could make them feel confident, occasionally, their knowledge can be obsolete since they have not attended any recent training or refresher courses. Hence, continuous professional training and maintenance of timely updates is necessary to guarantee that all ages do not lose proper and efficient first aid skills.[55] Gender may also be used to determine first aid awareness. There is some research that indicates that female teachers are more likely to be more aware and ready to learn first aid perhaps because of their nurturing nature and more sensitive to the health and safety of their students. Instead, male teachers can be more confident in their capabilities to cope with emergencies, but they may not realize they require any formal training. Nevertheless, these distinctions are not universal and tend to rely frequently on cultural, societal and institutional conditions.[56] On balance, although age and gender can possibly impact on first aid awareness to a certain degree, access to quality training, a regular refresher course, and support in schools appear to be the most important determinants. Provision of equal opportunities to all teachers irrespective of their demographical disparities will assist in the development of a teaching force that is prepared to handle health emergencies among the students effectively.[57]

Assessment of the Teacher Capacity to manage the common school emergencies

In its turn, the measure of the teachers in the capacity to manage the typical school emergencies is a necessary step in the process of evaluating the overall preparedness of educational institutions in the context of the objective of safeguarding the health and safety of students. Schools are among the places where children have an inclination to different minor and major accidents such as falls, cuts, burns, nosebleeds, choking, asthma attacks, fainting, and allergic reactions. It follows that the teachers should not only be equipped with the theoretical knowledge but also equipped with the practical competency that would allow them to act in such situations.[58] The testing of

the level of emergency handling ability amongst teachers can be noted to have differences in the level of skills based on the level of previous training, experience and confidence. Educators who attended recognized first aid training usually exhibit a greater ability to recognize situations and implement relevant interventions faster, and remain calm in stressful situations. As an example, they would be able to know how and when to provide cardiopulmonary resuscitation (CPR), deal with bleeding, or put a student in the recovery position after fainting. On the other hand, unqualified teachers might be reluctant, use wrong methods or fail to take timely action, something that might increase the situation.[59] The assessment can be conducted by surveys, practical simulations or observation based to evaluate the preparedness and decision making ability of the teachers. Such reviews assist in determining certain areas where there is additional training or refresher required. Besides, periodic evaluation will motivate educators to keep informed about first aid protocols and assist school authorities in tracking the safety policies adherence.[60] Psychological readiness should also be included in the efficient evaluation process, since the skill of staying calm and making decisions in a crisis is as important as the technical one. In general, the frequent assessment of the capability of teachers to respond to the emergency situation guarantees the high degree of the school safety readiness. Recognizing weak points and strengthening the performance of a skilled workforce through frequent training, the educators can also react in a timely manner that ensures fewer risks and protects the well-being of students.[61,62]

The Correlation between Relationship and Competency of the First Aid and Educational Qualification

The level of educational qualification is usually regarded as a significant aspect that can determine the competency of teachers in regards to first aid. Nevertheless, the literature evidence concerning this connection is inconclusive, implying that the degree of academic qualifications does not always imply the increased level of practical first aid knowledge. Advanced teachers who have master or doctoral degrees can be excellent theoretically and analytically but unless they have undergone special training on health and safety, they can be much less effective at offering first aid practically.[63] Educated, scientific or health-related teachers are likely to have high first aid competency as opposed to non-scientific-trained teachers. The reason is that their education can involve simple health education, human biology or safety management, which, in turn, leads to the expansion of their knowledge about the principles of first aid. Contrarily, instructors who are not trained in health-related topics might lack exposure to the concepts of medical or emergency response, and as such, formal training is required to acquire the relevant competency.[64] Exposure to professional

development opportunities is another reason that can be attributed to the connection between qualification and first aid competency. The more educated a teacher is, the more they can be exposed to workshops, conferences, or institutional support, and these will help them to be more aware and skilled. But theoretical knowledge alone cannot be effective in managing emergencies without hands-on training which must be continuous.[65,66] Thus, even though educational qualification can play a part in the overall awareness of first aid, special training is the most imperative factor of competency. All the teachers in schools are supposed to be subjected to standardized first aid certification and regular refreshers despite their level of education. By doing this, safety preparedness will be conducted equally across the teaching levels and disciplines. Eventually, the best first aid skill is one that is developed through constant practice, institutional reinforcement and the quality of the training, rather than the academic success. Perceived Level of First Aid Significance in Teachers in their day to day duties.[67] The perception of the teachers regarding the significance of first aid in their day-to-day tasks has a strong impact on their readiness and readiness to act in case of an emergency. At the school level, teachers do not concentrate on their academic teaching only, but also, their role is to safeguard the protection and health of the students. This two-fold duty renders first aid a significant component in their everyday duty. It is common knowledge among many teachers that being well versed with first aid knowledge will enable them to respond instantly and efficiently to accidents or health emergencies, possibly saving the life of a student before the medical department arrives.[68] Educators who view first aid as an essential part of their career are more active in the process of learning and refreshing their competences. They consider first aid competence to be a part of their duty of care just like keeping discipline or giving out lessons. In the case of such teachers, being first aid prepared gives them confidence that they will be able to manage the less severe cases, like cuts and bruises, or more severe ones, like fainting, choking, or allergic reactions. This feeling of readiness also makes them confident and less panicked in cases of emergency.[69] Nevertheless, other teachers might not attach much importance to first aid particularly in schools where health and safety is not given priority. Instead, they may think it is the duty of school nurses or administrative personnel only to deal with medical incidents. This will be a false belief that will result into more delays in timely interventions and risks to the health of the students.[70] School administrations need to implement first aid as part of professional development, stress the relevance of first aid in practical examples, and develop a culture of safety awareness to improve the attitude of teachers to the significance of first aid. Once the teachers allow the importance of first aid to take hold in their day to day lives, they will be more vigilant, accountable and able

to keep the learning environment of all students secure.[71]

Inclusion of First Aid Education in Teacher Training

Implementation of first aid education in the teachers training curriculum is necessary to equip teachers to effectively respond to medical emergency cases in schools. Teachers are also considered the first-line personnel in the case of accidents or sudden health crises in the students, and their performance in providing first-time care can play a key role in the results. Thus, the incorporation of systematic first aid education programs within teacher preparation programs will mean that teachers would be equipped with the theoretical and the practical skills of dealing with such situations without any fear.[72] Making first aid learning a part of teacher training makes it a normal professional competency and not an elective skill. With formal education, teachers-in-training are able to get training on incidents in schools like fainting, bleeding, choking, fractures and allergic reactions and basic life support (BLS) practices which include cardiopulmonary resuscitation (CPR). Moreover, it is possible to use simulation activities and practice workshops to boost their confidence and to maintain their skills in the long run.[73] Furthermore, the inclusion of first aid in teacher education is also in line with the international guidelines of other organizations like UNESCO and the World Health Organization, where health literacy and safety awareness are discussed as the core elements of education systems. Through this strategy, universities and teacher colleges would be able to graduate pedagogically competent graduates who are also in a position to provide student safety.[74] Nevertheless, integration performance will be determined by the regular design of the curriculum, the presence of certified trainers, and constant refresher courses in order to keep up with current skills. The educational ministries should work with schools and ensure that the first aid certification is a one time condition to teaching licenses. This would make safety preparedness an institution and the ethical practice of responsibility be propagated throughout the educational sector.[75] by introducing first aid training into the curricula of teacher training, education would make schools safer, empower teachers, and help create healthier and more resilient learning communities.[76,77]

Effects of Periodic Refresher Training on retaining the First Aid Knowledge

The use of regular refresher courses is essential in ensuring that first aid knowledge and skills of the teachers are maintained and updated. Although first training is an excellent foundation, the research has demonstrated that first aid competencies are likely to diminish with time unless they are reinforced through learning and practice. Teachers, who are mostly confronted with unexpected crises in the school environment, should still be able to act immediately

and properly. Remedial courses make their knowledge relevant to the field of real practice and up to date.[78] These courses are multifold: they strengthen the already acquired ideas, they rebuke the possible misconceptions, and they present the new rules or procedures on the basis of the latest medical standards. As an illustration, the current guidelines on CPR or managing anaphylaxis can evolve in response to new developments, and therefore, continuous education is required. Teachers are able to develop muscle memory and confidence through exposure and practice which helps in reaction in a stressful situation.[79,80] In addition, refresh training also helps in developing a safety and preparedness culture at the schools. An example of this is when teachers participate in such programs on a regular basis, this will motivate others to perceive first aid as a lifelong professional obligation and not just a one-time compulsion. Such constant reinforcement can play a crucial role in minimizing the amount of service mistakes and achieving a positive overall outcome in emergency responses.[81] Regular refresher courses can also help school administrations to check the level of competency of the teachers and areas that can be improved. Preferably, such programs ought to be done once in a year or once in six months and involve practical simulations, revised case studies and tests to determine retention.[82] frequent refresher training is also required to maintain first aid skills in teachers. They are keeping the educators strong, skilled, and able to safeguard the welfare of the students and end up ensuring safer school settings where urgent and efficient treatment can be given in case of necessity.[83]

Evaluation of Teachers in confidence in first aid procedure application

Sensitivity to confidence in teachers in implementing the first aid procedures is a major indicator that can determine their preparedness in dealing with emergencies in the school set up. Confidence frequently defines the ability of teachers to take the theoretical knowledge into practical action when the health or safety of a student is endangered. A teacher can be knowledgeable enough about first aid, but not have confidence; this can cause delay in the critical action taken and have an impact. The assessment of confidence is the process of reviewing how teachers feel about their capability to do the most important first aid, which could be treated minor injury, bleeding, CPR, or choking cases. Perceived and actual competence can be measured with the aid of surveys and practical assessments. The factors that affect levels of confidence are usually the previous training experience, the rate of practice, reality exposure, and the availability of positive school policy or resources.[84] Frequent practical training and simulated emergency exercises have been known to tremendously increase the confidence of teachers. This is achievable by teachers practicing the aspect of real-

life scenarios so as to become more familiar with first aid procedures and acquire the composure needed to compose themselves under stress. In addition, the presence of full-fledged first aid kits and explicit emergency guidelines in schools enhances the preparedness of the schools.[85,86] Confidence assessment is also effective to point out the areas in which teachers might have some doubt and therefore, administrators can use this information to develop the specific training programs. This information can be used by schools to make sure that all teachers are not only physical education or science teachers but should feel as capable of offering instant help when the need arises.[87] the confidence of teachers in the first aid practice should be evaluated and enhanced to create the safer learning environment. Teachers with high confidence will make fast and right decisions when dealing with an emergency and this will minimize risks, and could even save life in the school environment.[88]

Plans to improve the knowledge of the first aid among school teachers

The awareness of first aid among school teachers should be increased in order to provide them with the skills to act fast and efficiently in case of an emergency. Teachers are spending a considerable amount of their time with the students, so making them more aware helps to make the school a safer place. The application of holistic measures can be used to reduce the gap in knowledge, enhance confidence, and create a health and safety culture in the educational setting.[89] The introduction of compulsory first aid training in teacher education and professional development includes one of the most effective approaches. Teacher making first aid certification a requirement to teach licenses will enable teachers to acquire theoretical knowledge as well as practical skills at the beginning of their career. The refresher courses should also be made on a regular basis to sustain the updated knowledge and provide long-term retention of the skills.[90,91,92] Collaboration with health organizations, including the Red Crescent or local health authorities, is another important strategy that will be employed to carry out periodical workshops and training sessions based on simulations. Such collaborations may give educators a chance to experience real-life situations involving emergencies where procedures are to be taught such as CPR, wound management, and allergic reaction management.[93,94] Basic first aid steps to common emergencies should also be included in schools through the use of awareness campaigns and visual aids, including posters or electronic materials. This endless visual exposure assists in learning and maintaining safety in the center of the daily school activities.[95] the formulation of clear school policies and emergency procedures will make teachers understand their respective roles in case of incidents. Drills can also be conducted on a regular basis, and peer-learning programs where trained teachers teach

other staff members can be used to reinforce awareness among the staff even more.[96,97] The final aspect, which is to make first aid education a part of the school culture, can be achieved by hosting the Health and Safety Week, honoring the teachers who demonstrate outstanding performance in the field of first aid preparedness, et cetera. With such concerted efforts, the schools will be able to make sure that teachers themselves are well informed, confident and vigilant in keeping the well being of students safe.[98,99,100]

Evaluation of the Role of Nursing

The role of nursing is pivotal in bridging the gap between first aid knowledge and practical, sustainable competency among school teachers. As experts in patient education, health promotion, and emergency response, nurses are uniquely positioned to lead this initiative. They can serve as the primary trainers and curriculum developers for teacher first aid programs, ensuring the content is evidence-based, contextually relevant for a school environment, and pedagogically sound. Beyond initial training, nurses provide the crucial element of continuous reinforcement through periodic refresher courses, skill validation, and by acting as a readily available clinical resource for teachers who have questions or require debriefing after an incident. Furthermore, school nurses are instrumental in fostering a holistic culture of safety. They can collaborate with administrators to audit and maintain first aid supplies, develop and drill clear emergency response protocols, and help identify environmental hazards. By mentoring teachers and building their confidence, nurses empower educators to transition from passive bystanders to capable first responders. This collaborative partnership, with nursing at its core, is essential for transforming theoretical awareness into a reliable, life-saving safety net for students, thereby solidifying the school's overall emergency preparedness.

Conclusion

The results of the present study emphasize the importance of first aid education in schools and the necessity to organize and introduce a regular training of teachers. Consciousness is not enough in the absence of practicum skills and conviction to be able to respond decisively in times of emergencies. The incorporation of first aid education in teacher preparation programs and a regular refresher training to keep the competency should be emphasized by the schools and educational authorities. Moreover, the culture of health and safety within the school can be encouraged by promoting supportive school culture under which teachers can be empowered to be active guardians of student well being. Schools can help create safer learning communities by improving the first aid knowledge and preparedness of teachers to help build community health and resilience.

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