

# First Aid Knowledge among Health Assigned Teachers of Primary Schools: A Literature Review

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## Abstract

**Background:** Every parents of a child knows that it is hard enough to keep their child safe at home but when child goes off to school there is a whole new set up of challenges. Parents totally entrust their children to the schools. They rely on the teachers as their second parents in the institute for learning. They know for a fact that their educators will want no harm to come their way. While they are busy working, they fully believe that their children are well cared for. On the other hand, the teachers have the responsibility to keep an eye on their students. They should make sure that they are comfortable and secured within the four walls of their school. This then calls for their ability to handle even the most stressful situations. So much more, the school staff, especially the health teacher has to be equipped with the knowledge of first aid.

**Keywords:** First knowledge; Health assigned teachers; Primary schools.

## INTRODUCTION

According to national first aid science advisory board, first aid should be learned by every person, for this it is necessary, that first aid training and education should be provided to everyone or universal.<sup>1,2</sup> In childhood, school life plays an important role for everyone. It has a great or direct impact on children's physical and mental development.<sup>3</sup> As the children comes under the

vulnerable group; they are more prone to get injuries and accidents especially when they are in school going age because at that time they are still maturing physically and mentally. In school, teachers are the first caregiver who protects the children from trauma and accidents. Every teacher should have the ability to deal with any health emergency condition, when a children need health care. The victim should get immediate management of any accidents or trauma for good and early prognosis. Every time, health worker would not be available in the school or place where accidents had taken place consequently. It is needed or desired that there should be Health Assign Teacher in every schools who will be responsible to look after the minor ailments or accidents in the school.<sup>4</sup> Students' safety is a major concern for teacher, parents and school staff. In some countries health education is a subject in its own right under the responsibility of health education teachers (e.g. Finland,

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Ireland), while in others, it is cross curricular in implementation, covered across a broad spectrum of subjects.<sup>5</sup> Ideally, health education would occur within a broader framework of a Health Promoting School (HPS). The HPS framework is a specific approach that is used across countries for promoting health in the school setting. It is a whole school approach aimed at enhancing the health and educational outcomes of students. There are typically six components of the HPS approach; (1) Healthy school policies (2) The school's physical environment (3) The school's social environment (4) Individual health skills and action competencies (5) Community links (6) Health services.<sup>6</sup>

## OBJECTIVES

The Objectives of this study was to systematically review the literature to

- The literature reviews' would be easily accessible.
- It is related to the study and will be helpful in my further study.

### *Inclusive and Exclusive Criteria*

#### *Inclusive*

- Reviews' after 2001 have been selected in review.
- Studies selected from PubMed, Cinhal, Medline.
- Full article related to first aid management.

#### *Exclusive*

- Short article has been removed.
- Duplicate articles have been removed.

## METHOD

In present study non experimental descriptive survey design was used. The population under study was Health assigned teachers working in selected schools of Bhaniyawala, Doiwala and Ranipokhri of Dehradun city within 10-15 km of distance from Jollygrant. Non probability Purposive sampling technique was used. 40 samples were selected for the study who were health assigned teachers both male and female in the selected schools of Dehradun city.

## MATERIAL AND METHOD

PubMed, Research gate, Google scholar database were used to search the literature, Studies were included only if the data on prevalence of oral hygiene were available.

## DATA AND SOURCES OF DATA

### *Literature search*

A literature review search was carried out in the following electronic bibliographic databanks: Medline/PubMed and the Google Scholar, included all publications up to September 2019. Search words collected of prevalence and affected by the oral hygiene for all years. Restriction based on 2000 JAN to September 2020 publication year.

*Design:* A literature review

## RESULTS AND DISCUSSION

Six full text articles met the inclusion criteria are involved in the literature review's the literature review revealed that the majority of health assign teachers were having average knowledge about first aid i.e. 29 (72.5%) and 10 (25%) were having good knowledge and 1 (2.5%) was having poor knowledge regarding first aid. Majority of participant were female 21 (52.5%). The educational status of most participants was post graduate (67.5%). Majority of the schools were private 25 (62.5%). There is no significant association between sociodemographic variables i.e. Gender, level of schools, year of experience as a health assigned teacher and education provided by teacher, but qualifications of teachers and type of schools was found to have a significant association.( $p > 0.05$ ).

Literature review suggest that these are few factors influencing the prevalence such as age, socio economic condition and working experience, gender, vaccination. Study done in Dehradun city, the majority of health assign teachers were having average knowledge about first aid. Another study by Nitin Joseph reveals that Only 69 (47%) teachers had received first aid training previously. Poor and moderate knowledge of first aid was observed, Another study done by Rajendra Kumar Sharma<sup>3</sup>, 2019 reveals that that the respondents had higher attitude as compared with knowledge and practice score in the first aid and emergency care. In Nigeria the study reveals that Mean first

aid knowledge scores for intervention drivers were 48.9% (SD=12.0), 57.8% (SD=11.2), and 59.2% (SD=9.0) at baseline, immediate, and three months post-intervention. A quasi-experimental study in secondary schools shows that Results showed significant differences in self-reported knowledge scores at twelve months follow-up. A study done in pre hospital trauma setting Vienna shows the results a total of 2812 cases were documented. The

most frequent causes of trauma were falls from heights less than 1 meter (50%) and traffic accidents (17%). A qualitative study done in Tanzania reveals the three themes emerged from the analysis. The theme "Maintain safety while saving injured victims' lives and facilitating access to a health facility" was comprised of safety, sorting, initial help, and assisting access to hospital care.

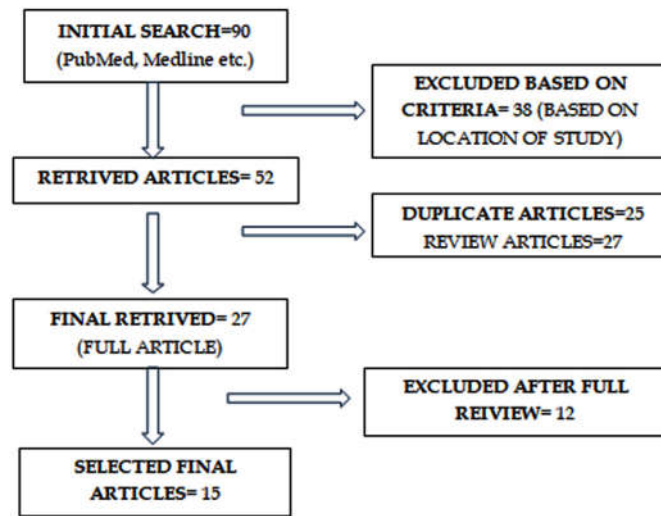


Fig. 1: Flow Chart

| Study No | Author detail with year of publication   | Region of study                            | Study design                  | Study sample               | Period | Gender                       | Major findings  |
|----------|--|--|-------------------------------|----------------------------|--------|------------------------------|---|
| 1        | Rakhi Pandey, Richa Chauhan, Sushant Dobhal, Swasti Dabral, Swati Nathani, Sweety Negi, Umesh Rana, Vaishali Negi, Varsha Maindola, Vishal Rawat, Dipti Y. Sorte, Rashmi Bharadwaj <sup>2</sup>                                    | selected schools of Dehr-adun city         | Non-experimental survey study | 40-Health assigned teacher |        | 40 - Health assigned teacher | Result shows that the majority of health assign teachers were having average knowledge about first aid i.e. 29 (72.5%) and 10 (25%) were having good knowledge and 1 (2.5%) was having poor knowledge regarding first aid. Majority of participant were female 21 (52.5%). The educational status of most participants was post graduate (67.5%). Majority of the schools were private 25 (62.5%). There is no significant association between socio demographic variables i.e. Gender, level of schools, year of experience as a health assigned teacher and education provided by teacher, but qualifications of teachers and type of schools was found to have a significant association. (p> 0.05). (Pandey R, 2017). <sup>1</sup>  |
| 2        | Nitin Joseph <sup>29</sup> MBBS, MD (Commun Med), PGDip (Family Med); Thanneermalai Narayanan; Saifuddin bin Zakaria; Abhishek Venugopal Nair; Lavina Belayutham; Aathiya Mihiraa Subramanian; K G Gopakumar MBBS, MD (Pediatrics) | selected schools of Mangalore, South India | Cross-sectional study         | 146 - school teachers      |        | 146 - school teachers        | Only 69 (47%) teachers had received first aid training previously. Poor and moderate knowledge of first aid was observed among 19 (13%) and 127 (87%) teachers, respectively. Only eight teachers knew the correct procedure for cardiopulmonary resuscitation. Most teachers 96 (66%) were willing to administer first aid if provided with the required training. A total of 74 teachers reported having practised first aid in response to a situation arising at their school. Wounds (36%) and syncopal attack (23%) were among the commonly encountered situations requiring first aid management at schools. Teachers' confidence level in administering first aid was significantly associated with prior training in first aid (p=0.001). First aid kits were available in only five of the nine schools surveyed. |

|    |  |  |                                     |                        |              |                        |  |
|----|--|--|-------------------------------------|------------------------|--------------|------------------------|--|
| 3  | Rajendra Kumar Sharma  | Selected Primary Schools at Yamuna Nagar | Non experimental descriptive design | 20 - school teachers   | 14-06-2019z  | 20 - school teachers   | The finding shows that the mean knowledge score of respondents found to be 60.25 percent and SD value as 9.65. The overall mean attitude score of respondent found to be 60.41 percent and SD value as 5.10. It can be concluded that the respondents had higher attitude as compared with knowledge and practice score in the first aid and emergency care. Further, the overall mean practice score of primary School teacher's found to be 53.12 percent with the SD value as 3.46 in the first aid and emergency care. Overall findings reveal that the primary school teachers had moderate knowledge, adequate favourable attitude and moderate practices regarding first aid and emergency care.  |
| 4  | Adesola O Olumide <sup>41</sup> , Michael C Asuzu <sup>1</sup> , Oladele O Kale <sup>2</sup>                           | South West Nigeria                       | Quasi experimental study            | 128 commercial drivers |              | 128 commercial drivers | Mean first aid knowledge scores for intervention drivers were 48.9% (SD=12.0), 57.8% (SD=11.2), and 59.2% (SD=9.0) at baseline, immediate, and three months post-intervention. Corresponding scores for the controls were 48.3% (SD=12.8), 39.2% (SD=15.3), and 46.8% (SD=15.3). Mean first aid skill scores for intervention drivers were 17.5% (SD=3.8), 80.7% (SD=8.3), and 72.3% (SD=16.8). Scores for control drivers were 16.5% (SD=4.5), 16.3% (SD=4.7), and 20.4% (SD=9.1), respectively. Repeated measures ANOVA showed significant differences in first aid knowledge and skills scores over the three phases. Independent t-test revealed significant differences in scores between the intervention and control groups post-intervention.  |
| 5  | Bianca Reveruzzi <sup>1</sup> , Lisa Buckley <sup>2</sup> , Mary Sheehan <sup>3</sup>                                  | In secondary schools                     | a quasi-experimental design         | 1942 - students        | Aug 6 2020   | 1942 - students        | Results showed significant differences in self-reported knowledge scores at twelve-month follow-up (controlling for baseline knowledge). Students in the SPIY group and the treatment-as-usual first aid group had higher total scores than the control group. Teachers and students reported positive perceptions to first aid study, in particular the interactive delivery and scenarios for contextualizing information. Practical Applications: The study provides support for the retention of first aid knowledge up to 12-months and thus the inclusion and feasibility of first aid training in secondary school curriculum.  |
| 6  | Walter Mauritz <sup>6</sup> 1, Linda E Pelinka, Alfred Kaff, Bernhard Segall, Peter Fridrich                           | prehospital trauma setting-Vienna        | A prospective, epidemiologic        | 2812 cases             | Oct 31, 2003 | 2812 cases             | A total of 2812 cases were documented. The most frequent causes of trauma were falls from heights less than 1 meter (50%) and traffic accidents (17%). The most frequent injuries were injuries to the extremities (59%) and head and traumatic brain injuries (42%). Most patients were "moderately" or "severely" injured (69% and 29%, respectively), but life-threatening injuries were rare (2%). Bystanders were present in 57% of the cases. The most frequently required first aid measures were "application of a dressing" and "positioning" of the patient. "Control of haemorrhage", "ensuring accident site safety" and "extrication" of the patient were less frequently required. "Clearing of the airway", "precautions against hypothermia" and cardio-pulmonary resuscitation were very rarely required. |
| 7. | Gift G Lukumay <sup>7</sup> 1, Anne H Outwater 2, Dickson A Mkoka 3, Menti L Ndile 3, Britt-Inger Saveman <sup>4</sup> | Tanzania                                 | A qualitative study                 | 41 participants        | Oct 11, 2019 | 41 participants        | Three themes emerged from the analysis. The theme "Maintain safety while saving injured victims' lives and facilitating access to a health facility" was comprised of safety, sorting, initial help, and assisting access to hospital care. "Overwhelmed working with limited resources and support" included limited care and transport resources, police fatigue, and little or no support.  |

*Table Conti...*

|    |   |   |                             |                      |                                      |                      |   |
|----|---|---|-----------------------------|----------------------|--------------------------------------|----------------------|---|
| 8  | H K Bakke 1, H K Bakke, R Schwebs   | Primary and secondary school  | a quasi-experimental design | 30 teachers          | 2017 Nov                             | 30 teachers          | "Improving supportive system and empowering frontline personnel" included the need for an emergency care system, availability of resources and an emergency medical support system, and training for police and drivers regarding victims' first-aid care, and road safety.<br>The teachers taught a median of two lessons in first aid per year. Cardiopulmonary resuscitation (CPR) was taught by 64% of teachers, free airway and recovery position by 69% and stopping severe bleeding by 51%. Recognising heart attack and stroke was taught by 25% and 23%, respectively. The main factors that the teachers perceived as limiting the amount and quality of first-aid training were insufficient learning objective specifications in the curriculum, too many other competence aims, lack of CPR mannequins and lack of training as first-aid instructors.                                  |
| 9  | N Joseph, GS Kumar,1 YPR Babu,2 M Nelliyanil,3 and U Bhaskaran  | Medical College in Mangalore City of South India  | cross-sectional study       | 152 medical students | 2014 Mar-Apr                         | 152 medical students | Only 11.2% (17/152) of the total student participants had previous exposure to first aid training. Good knowledge about first aid was observed in 13.8% (21/152), moderate knowledge in 68.4% (104/152) and poor knowledge in 17.8% (27/152) participants. Analysis of knowledge about first aid management in select conditions found that 21% (32/152) had poor knowledge regarding first aid management for shock and for gastro esophageal reflux disease and 20.4% (31/152) for epistaxis and foreign body in eyes. All students felt that first aid skills need to be taught from the school level onwards and all of them were willing to enroll in any formal first aid training sessions.  |
| 10 | Mohandas U1 , Chandan10 GD2   | Urban schools Bangalore   | Experimental study          | 580 teachers         | September 28, 2016                   | 580 teachers         | Chi-square test was applied to test the significance between trained and untrained teachers. Among the population 70% were males physical education teachers 30% were females. 95% of the teachers had physical education training and 5% did not have the training. 95% of the population had first aid component and 5% did not have. Only 25% of trained physical education teachers had correct knowledge about tooth identification and 17% among untrained teachers. 81% of trained teachers answered correctly regarding management of fractured anterior teeth against 27.5% of untrained teachers (P<0.0002)   |
| 11 | Nasiru A Ibrahim 1, Abdul Wahab O Ajani 1, Ibrahim A Mustafa 1, Rufai A Balogun 1, Mobolaji A Oludara 1, Olufemi E Idowu 1, Babatunde A Solagberu 1 | Surgical Emergency Room (SER) of the Lagos State University Teaching Hospital (Lasuth), Ikeja, Nigeria, | Retrospective review        | 23,537 patients      | January 1, 2012 to December 31, 2014 | 23,537 patients      | A total of 23,537 patients were seen during the study period. Among them, 16,024 (68.1%) had trauma. Road traffic crashes were responsible in 5,629 (35.0%) of trauma cases. Passengers constituted 42.0% of the injured, followed by pedestrians (34.0%). Four wheelers were the most frequent vehicle type involved (54.0%), followed by motor cycles (30.0%). Regions mainly affected were head and neck (40.0%) and lower limb (29.0%). Less than one-quarter (24.0%) presented to the emergency room within an hour, while one-third arrived between one and six hours following injury. Relatives brought 55.4%, followed by bystanders (21.4%). Only 2.3% had formal prehospital care and were brought to the hospital by Lasambus. They also had significantly shorter arrival time. One hundred and nine patients (1.9%) died in the emergency room while 235 bodies were brought in dead. |

|    |   |  |                       |                                  |                              |                                  |   |
|----|---|--|-----------------------|----------------------------------|------------------------------|----------------------------------|---|
| 12 | Francis Walugembe 1 2, Francis Levira 2, Balasubramanian Ganesh 3, Dickson Wilson Lwetojira 1 4   | Three Municipalities of Dar es Salaam Region, Tanzania | A retrospective study | 6,772 road traffic injuries      | 2014 to 2018                 | 6,772 road traffic injuries      | A total of 6,772 road traffic injuries were reported between 2014 and 2018 and the study recorded the highest RTAs in the year 2014 as compared to the other years within the study period. The death rate from RTAs in Ilala Municipality alone was 36.4 per 100,000 population. About 28% of the total fatalities were recorded among the pedestrians, and there was a significant difference ( $P < 0.05$ ) in the RTAs among the other road users.  |
| 13 | Yingyu Zhang <sup>13</sup> , Linlin Jing 1, Chang Sun 1, Jianlei Fang 2, Yan Feng 3   | China  | A retrospective study | 234 major road traffic accidents | 1997 to 2014                 | 234 major road traffic accidents | The frequencies of unsafe acts, violations, and inadequate regulation are the highest in five categories, 15 subcategories, and 63 indicators, respectively. This study has demonstrated a number of associations between the upper and adjacent lower levels. At the outside factors level, "failure to provide supervision for regulatory" can be viewed as a strong predictor to "formal accountability for actions," "norms and rules," and "values and beliefs." At the organizational influences level, "formal accountability for actions," "norms and rules," and "values and beliefs" were strong predictors. At the unsafe supervision level, "failure to provide oversight," "failure to initiate corrective action," and "failure to enforce rules and regulations" had strong prediction on "fatigue driving." At the preconditions for unsafe acts level, "visual limitation", "fatigue driving," and "vehicle faults" were strong predictors |
| 14 | Davoud Khorasani-Zavareh <sup>14*</sup> 1,2,3, Hamid Reza Khankeh1,4, Reza Mohammadi1, Lucie Laflamme5, Ali Bikmoradi2,6,7 and Bo JA Haglund1 | Iran   | Grounded Theory       | 36-semi-structured interviews    | 6 October 2008 - 12 May 2009 | 36 - semi-structured interviews  | The core variable was identified as "poor quality of post crash management". Barriers to effective post-crash management were identified as: involvement of laypeople; lack of coordination; inadequate pre-hospital services; shortcomings in infrastructure. Suggestions for laypeople included: 1) a public education campaign in first aid, the role of the emergency services, cooperation of the public at the crash site, and 2) target-group training for professional drivers, police officers and volunteers involved at the crash scene. An integrated trauma system and infrastructure improvement also is crucial to be considered for effective post-crash management   |
| 15 | Rishi Bali <sup>15</sup> 1, Parveen Sharma, Amandeep Garg, Guneet Dhillon   | Yamuna Nagar, India                                    | A comprehensive study | 740 patients with 1054 fractures | 2003-2010                    | 740 patients with 1054 fractures | Road traffic accidents accounted for highest number of fractures predominantly occurring in the age group of 21-30 years (38.3%) <sup>1,2</sup> . Males incurred more fractures with a male female ratio of 4.2:1. Mandible was the most commonly fractured bone with parasymphysis being the commonest affected site. 76.66% patients had associated head injury and 15.68 % had history of unconsciousness. Open reduction and internal fixation was the preferred modality for mandible whereas the mid face fractures were treated more often by closed methods.  |

### Study selection process:

## CONCLUSION

Literature review reveals that First aid is the assistance given to any person suffering a sudden illness or injury, with care it is provided to preserve life and to prevent the condition from worsening, and for promoting recovery. It is important that health assigned teachers are equipped with strong,

professional competencies. In order for health promotion actions to be sustainable in schools, teachers must be capable, competent and skilled health educators. As they are at prime position to contribute to a nations health gain through the provision of health education for future adults. Based on findings we can say that the health assigned teachers are having average knowledge regarding first aid. Therefore, the health assigned teachers must be equipped with appropriate and

upgraded knowledge.

### *Implication to Nursing Practice*

Nursing services includes education, training, observation etc. There are many new initiative would be taken in getting them trained, which would help in improving their skills as well as knowledge.

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