A STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE OF FIRST AID FOR CHILDHOOD INJURIES AMONG MOTHERS IN RURAL FIELD PRACTICE AREA OF SHRI B M PATIL MEDICAL COLLEGE

By

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Under the guidance of

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Date: **Dr. Prashant Wajantri**

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LIST OF ABBREVIATIONS USED

WHO	:	World Health Organization
NCRB	:	National Crime Record Bureau
GBD	:	Global Burden of Disease
LMIC	:	Low and Middle-Income Countries
DALY's	:	Disability-adjusted life-years
UNICEF	:	United Nations Children's Fund
AWW	:	Anganwadi workers
ANM	:	Auxiliary Nurse Midwife
RTI's	:	Road traffic Injuries
NFASB	:	National First Aid Science Advisory Board
IFRC	:	International Federation of Red Cross
CPR	:	Cardio Pulmonary Resuscitation
C-A-B	:	Compressions-Airway opening-Breaths
PHC	:	Primary Health Centre
FA	:	First Aid
CI	:	Confidence Interval
AAP	:	American Academy of Pediatrics
TIPP	:	The Injury Prevention Program
USA	:	United States of America
HIC	:	High Income Countries
PUC	:	Pre University College
SES	:	Socioeconomic status
ANOVA	:	Analysis of Variance
df	:	Degrees of freedom

ABSTRACT

Background:

Childhood injuries are very common and comprise the base of the injury pyramid for all ages. Childhood injuries remain a major source of concern for parents because they not only affect children but also contribute to significant emotional and financial burdens on the parents. Women are the first to react in domestic injuries, and are primary caregivers for the children. It's desirable that the rural woman should have the knowledge and be trained to administer the first aid to the family and society. Few studies have been taken up to assess the knowledge, attitude and practices regarding first aid in the rural population where first aid would play a major role due to inaccessibility to the healthcare facilities.

Objectives:

This study was taken up with the following objectives:

1. To study the prevalence and type injuries among children in families residing in rural area in Bijapur District of Karnataka.
2. To assess knowledge attitude and practice of First Aid among women in the study area.

Materials and Methods:

A cross sectional study was conducted on the all mothers who have children less than 15 years in the village. A total of 1051 mothers were identified and participated in the study. After obtaining oral consent, information was collected using a semi-structured questionnaire. Data analyzed using Microsoft Excel and SPSS (v.17) software. Qualitative data were expressed as frequencies and percentages, while Quantitative variables were presented as mean and standard deviation (SD).

Statistical tests such as Student's t-test and Analysis of Variance (F-test) for difference between means were used to test for significance.

Results:

Injury prevalence in children was 78.21% in preceding six months and only in 1.46% of cases some form of first aid was administered after the injury. Only 5.13% of the mothers in the subject population had heard about first aid and Doctor / Nurses (77.77%) were the major source of information about first aid to the mothers who were aware of first aid. As for first aid knowledge and practice 33.68% of the mothers said that will apply Dettol as first aid in case minor cut/wounds and 20.55 % of the mothers stated that they will keep the burned part under running cold water in case burns. 18.45 % of the mothers said had they will induce vomiting with salt water for person who has consumed poisonous substance.47.76% of the mothers knew what should be done as first aid when there is a dog bite in the neighborhood. In our study we assessed baseline knowledge of all mothers and the mean of knowledge score was 2.946 with standard deviation of 2.101 with scores ranging from a minimum of 0 to a maximum of 10.5.There was significant association between occupation of the mother, education of the mother, socio economic status of mother and knowledge about first aid and there was no correlation between age and knowledge about first aid. 38.06% of mothers stated they have ability to stop bleeding in home settings by applying pressure on the wound. More than half (68.51%) of the mothers said it is important to wash your hand with soap prior giving first aid. Majority (88.01%) of the mothers in the study population felt it is the necessity to possess knowledge regarding First Aid. In our survey we found that only 8.28% of the mothers were able to demonstrate correctly to stop bleeding on forearm in a victim as First Aid. In our

study we found out that majority of subjects had given first aid in case of cut/wounds. Other condition where first aid was performed was poisoning and burns.

Conclusion:

Majority of the mothers had not heard about first aid and didn't know about appropriate methods used as First Aid. They still practiced traditional methods like applying haldi powder, lime paste for minor cut / wound or abrasion and salt and oil mixture, saffron powder in case of burns. Attitude of the mothers towards importance of hand washing prior giving First Aid and the attitude towards necessity to have the knowledge about First aid was positive, however attitude towards the their own ability to stop bleeding was rather poor.

Recommendations:

Policy makers should focus to create awareness about problem of domestic injuries and their prevention among the general population by giving considering the high occurrence of domestic injury their by reducing mortality and morbidity and economic burden caused by injuries by planning IEC activities. A suitable curriculum in First Aid could be designed and incorporated into the school syllabus.

Keywords: Knowledge, mothers, First aid, attitude

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INTRODUCTION

Accidents have become the usual occurrence in today's world. Road traffic accidents, domestic accidents, industrial accidents and railway accidents contribute to a large proportion of mortality, morbidity and disability. [1]

Accidents represent a major epidemic of non-communicable disease in the present century. They are no longer considered accidental. They are part of the price we pay for technological progress.

The following is a story that though unfortunately true, gives us an idea of the importance of First Aid. Following a road traffic accident, a man was found unconscious at the scene by a radiographer. He was resting on his back, blue in colour and bleeding from the mouth and nose. She turned him over to his side, cleaned out the blood clot and vomitus from the mouth and gave artificial breathing. He was then loaded into an ambulance with an untrained person to look after him. When the ambulance arrived at the hospital 7 minutes later, he was found dead. His mouth and nose had become abstracted in a pool of blood because he was again laid on his back by the untrained person. [2]

The responsibility for people's health ought to begin with public themselves. The fight for health cannot be fought by physicians only. It is a people's process in which the entire population must be mobilized permanently to struggle in the warfare against disease.[3]

Many times death results because of delay in taking the victim to the appropriate medical care or lack of knowledge regarding treatment. The life of the victim could be saved after an accident or injury provided victim gets the appropriate

help or first aid. This helps in lowering the morbidity and mortality rates, complication due to injury or delay in the treatment. [4]

The National First Aid Science Advisory Board (NFASB) defined "First Aid" as assessments and interventions that can be performed by a bystander (or by the victim) with minimal or no medical equipment. A first aid provider is someone with formal training in first aid, emergency care, or medicine who provides first aid. [5]

Injuries, as a cause of mortality, morbidity and disability are relatively more important in the first half of the individual's lifespan and especially so in childhood and adolescence. India is home to nearly 500 million young people among whom children less than 14 years are 35.3% (364 million). [6]

According to the Global Burden of Disease report of 2008 by WHO injury accounts for 12% of the total burden of the disease and 9% of global mortality. Out of the total injuries and deaths in the world33.7% occur in the South East Asia region.[7] As per report all India accident death rate is (22.5/100000). [8]

Unintentional injuries account for almost 90% of these cases. They are the leading cause of death for children aged 10–19 years. [9]

The burden of child injuries in India is not clearly known; as much data has not been collected about injuries it has not received much importance. National Crime Records Bureau data and few independent studies reveal that nearly 15 - 20 % of injury deaths occur among children.[10]As per National Crime Record Bureau report of 2006, there were 22,766 deaths (<14years) due to injuries among children. [11]

However, a recent national review on burden of injuries in India revealed that, nearly 8.2% of deaths and 20-25% of hospitalizations occur among children, based on few hospitals and population based studies.[10]

For every death, nearly 30 to 40 children are hospitalized and are discharged with varying level of disabilities. The average global prevalence of moderate and severe disability ranges from 5% in children aged 0-14yearsto 15% in adults aged 15-59 years and 46% in adults aged 60 years and older.[12]

In any community, mothers and children comprise a priority group, together comprising of nearly 59% of the population. Children under 15 years comprise nearly 30% of the total population.[13] Childhood injuries are very common and comprise the base of the injury pyramid for all ages.[14] Childhood injuries remain a major source of concern for parents because they not only affect children but also contribute to significant emotional and financial burdens on the parents.

It is a usual occurrence that whenever an accident takes place or any person gets hurt, people close to the casualty usually panic more than the casualty himself this should not be the case First Aider should have a positive attitude and be prepared to help the casualty.

Nearly 70% of the population of India reside in rural areas; Women are the first to react in domestic injuries, and are primary caregivers for the children. It's desirable that the rural woman should have the knowledge and be trained to administer the first aid to the family and society.[15] A study in West Bengal found that the occurrence of accidental injuries among children of 1–12 years were 46.3%. [16]

Although first aid plays a significant part in decreasing morbidity and mortality due to injuries, very few studies have been taken up to assess the knowledge, attitude and practices regarding first aid in the rural population where first aid would play a major role due to inaccessibility to the healthcare facilities. Hence this study is taken up in the rural population Bijapur District.

AIMS AND OBJECTIVE

1. To study the prevalence and type of injuries among children in families residing in rural area in Bijapur District of Karnataka.

2. To assess knowledge attitude and practice of First Aid among women in the study area.

REVIEW OF LITERATURE

1. INJURY

Injury can be defined as "a bodily lesion at the organic level, resulting from acute exposure to energy (mechanical, thermal, electrical, chemical or radiant) in amounts that exceed the threshold of physiological tolerance. In some cases (e.g., Drowning, strangulation, freezing), the injury results from an insufficiency of a vital element".[17]

"**Accident**" may be defined as an unexpected, unplanned occurrence which may involve injury. According to another definition, an accident is that "occurrence in a sequence of events which usually produces unintended injury, death or property damage". [18]

"**Domestic accident**" may be defined as an accident which takes place in the home or its immediate surroundings and more generally all accidents not connected with traffic, vehicles or sport.

Injury has two main categories

- Unintentional injuries
- Intentional injuries

Unintentional injuries are divided into

- Road traffic injuries
- Poisoning falls
- Fires
- Drowning

- "Other unintentional injuries" this category includes

  Exposure to animate and inanimate mechanical forces (including firearms);

  Exposure to electric current, radiation and extreme ambient temperature.

Intentional injuries

- Self-inflicted injuries (i.e. Suicide)
- Interpersonal violence (e.g. Homicide)
- War-related injuries
- Other intentional injuries which include injuries due to legal intervention.

The most common causes of domestic accidents among injuries are:

- Falls
- Burns and fires
- Drowning
- Suffocation
- Choking
- Poisoning
- Cuts and lacerations

1.1 CHILDHOOD INJURIES

All children are at risk for injury because of their normal curiosity, impulsiveness and desire to master new skills. A child imitates adult behaviour from an early age. [19]

Children are exposed to hazards and risks as they go about their daily lives and are vulnerable everywhere to the same types of injury. However, the physical, social, cultural, political and economic environments in which they live differ greatly. Their particular environments are thus very important.

Accidents are the largest single cause of death after the age of one year. Accidents are one of the more serious health problems facing the world today. They are the most common cause of hospital admission and can result in lifelong disability.[20, 21]

According to WHO Global burden of disease (GBD) report of 2008, the estimated annual mortality specific to injuries and violence alone was 950,000.[22] More than 95% of these deaths occur in low and middle-income countries (LMICs).[23] Accounting for 40% of all childhood deaths. [22]

In addition to the deaths, tens of millions of children require hospital care for non-fatal injuries. Many are left with some form of disability, often with lifelong consequences. Non-fatal childhood injuries impose a significant burden on morbidity worldwide. 400 million children are estimated to suffer from non-fatal injuries every year.[24]

Disability-adjusted life-years (DALYs) are lost due to road traffic injuries and falls rank among the top 15 causes of the global burden of diseases. [22] Non-fatal injuries may also lead to brain damage and permanent disability which has lifelong consequences. Injuries also have a very strong negative impact on children's development during the early years.

To describe the causes and associated factors leading to childhood injuries a study done in Egypt showed that incidence of home accidents was 50.3%. Common causes of the injuries are Burns (34.8%) followed by Cut wounds (31.0%), falls and fractures (22.9%), Foreign body aspiration (7.6%) and Poisoning (3.8%).[25]

Accidents were seen to occur mainly during playground activities or cycling and at home with children having curiosity or adventurous attitude. Problems associated with the injuries include are high temperature, small contusions, minor injuries, haemorrhage, scalding and choking and various other physiological changes in the body. [26]

According to report by UNICEF in 2008 the burden of injury on children falls unequally. It is more common in children in the poor countries with lower incomes within all countries; the burden is more common in on those from low-income families.[27]

In a study done on under-fives in the slum of Chandigarh shown that the most common place of occurring of injuries is at home (62.6%) with most commonly are self-sustained and while playing around the house.[28]

In a study done in Uttar Pradesh on the injury pattern in children observed that under 5 & 6-15 year age-group suffered comparatively more domestic accidents than accidents during outdoor activities with frequency of domestic accident was 79.4 % in under 5 and 82.5% in 6-15 years respectively. [29]

A study done in Pondicherry showed that prevalence of injury was significantly higher among male children ($p = 0.001$). All injuries were accidental and 68.2% injuries occurred in home environment followed by that in school. Source of treatment for majority (58.4%) of injuries were government doctors. Notably at village level Anganwadi workers (AWW) or Auxiliary Nurse Midwife (ANM) were not consulted for the treatment. Falls were the leading cause of injury. Fall on ground

from height, bite by scorpion/insect/snake/dogs, burns and road traffic accidents were the four leading causes of injury among children. [30]

A fair involvement of children can be explained based on their inquisitiveness and adventurousness. High risk environments such as lack of proper play facilities also contribute significantly to increase the susceptibility to injuries. Increased mobility, playing on the terrace or flying kites and falls from trees were common factors that were found to be associated with children.

Older children are at higher risk because of their natural curiosity, their mode of reaction, their impulsiveness and their lack of experience in the calculation of risk. As the recreation, outdoor activities increase with age, so does the frequency of injuries. It was observed that identical population based studies stating that children between the ages of 6-12 years were the most commonly affected with injuries.

As Injury is a leading cause of death and disability among children worldwide, preventing child injury is closely connected to other issues related to children's health. Tackling child injury must be a central part of all initiatives to improve the situation of child mortality and morbidity and the general well-being of children.[28]

For each area of child injury, there are proven ways to reduce both the likelihood and severity of injury yet awareness of the problem and its preventability as well as political commitment to act to prevent child injury, remain unacceptably low.

1.2 INJURY TO THE ADULTS.

Five of the top ten causes of death globally are due to injuries. In adults the mortality rate due to injuries is estimated to be 98/100,000 population with male and

female rates of 128/100,000 (38 lakh deaths) and 67/100,000 (19 lakh deaths) respectively. [31]

Unintentional and intentional injuries contributed to three-fourth and one fourth of total DALYs, respectively. Among unintentional injuries, Road Traffic Injuries (RTIs) falls and burns resulted in respectively 29%, 12% and 9% of total DALYs. In the intentional injuries, suicide and violence accounted for 41% and 43% of total DALYs, respectively .[32]

Injuries are the main cause of death for adult men in Latin America and the Caribbean. The most striking data from the low- and middle-income countries of the Americas relate to injury mortality which is about 1.6 per 1000 men aged 15–59 years making it the leading cause group. Intentional injuries account for 57% of adult mortality due to injuries while motor vehicle accidents account for 25% of adult mortality due to injuries.[22]

In India, as per the NCRB report of 2001, 2,710,019 accidental deaths , 108,506 suicidal deaths and 44,394 violence-related deaths were reported. Mortality rate among different age groups in adults were 62% (15–44 years), 20% (45–59 years) & 9.2% (>60 years) noted.73% of total deaths occurred among men, with a ratio of 3:1 between men and women. Significant regional variations were noticed across the states.[33, 34.]

The most common cause of mortality among adults were RTIs (20%), followed by suicide (27%), violence-related deaths (11%), burns (9%), poisoning (6%) and drowning (6%).In addition to the other injuries. Intentional injuries due to

domestic violence has been identified in women as a one of the common cause of injury.[31]

A landmark multi-centric study designed and carried out by the World Health Organization (WHO) in association with the London School of Hygiene and Tropical Medicine and Program for Appropriate Technologies in Health had clearly stated that domestic violence is not inevitable in all the societies. The study noted that prevalence of physical violence varied from 13% to 61% in different societies among counties included in the study.[35]

There are several risk factors for violence against women a multicentric study in India with 14,507 women respondents shows that overall 39 per cent of women were abused. Women who have a lower household income, illiterate, belonging to lower caste, and have a partner who drinks/bets found to be important risk factors and place women in India at a greater risk of experiencing domestic violence. [36]

Additionally the cost of childhood unintentional injuries is enormous, ranging from US $516,938 to US $9,550,704 per year. This represents a large economic burden on society. Additionally, there is a large gap between lower-middle income countries (LMIC) and high-income countries (HIC) in the burden of injury, injury health care and insurance systems. Different bases and contexts of studies make it difficult to draw a solid conclusion about the amount of costs of unintentional injuries among children.[37]

2. FIRST AID

DEFINITION

First aid can be defined as assessments and interventions that can be performed by a bystander (or by the victim) with minimal or no medical equipment. A first aid provider is defined as someone with formal training in first aid, emergency care, or medicine who provides first aid.[5]

A first aid provider must be able to recognize when help is needed and how to get it.

HISTORY OF FIRST AID

The history of first aid can be traced to the dawn of organized human societies. For example, Native American Sioux medicine men of the Bear Society were noted for treating battle injuries, fixing fractures, controlling bleeding, removing arrows, and using a sharp flint to cut around wounds and inflammation. [38]

The application of woundworts to cuts and abrasions is older than recorded history. Bandaging skills, particularly for wounds sustained in battle, were documented on Grecian pottery from around 500 BC, by the enigmatic vase painter Sosias. The Good Samaritan, with his ethic of succour and his efficiency of bandaging, dates from the Bronze Age in the Middle East, and is immortalized in the gospel of St Luke (x, 30).

The Royal Humane Society, founded in 1774, did much to promote the attempted resuscitation of the apparently drowned. It was not until the 1870s, however, that the Prussian military surgeon, Johannes Friedrich August von Esmarch (1823-1908) first used the term “Erste Hilfe” and taught that soldiers could help their

wounded comrades on the battlefield by using a standard set of bandaging and splinting skills.

In the same decade in England a groundswell of charitable fervour changed the English Priory of the Order of St John from a religious and fraternal body into a useful charitable organization, initially with the concept of alleviating human suffering by philanthropic work. One of the advocates of this practical innovation was Colonel Francis Duncan (1836-88), a career artillery officer from Aberdeen. After six years of garrison duty in Canada he was posted to Woolwich Arsenal, London, in 1875. A devout Presbyterian, a keen historian, and a gunnery officer in the highest traditions of the Royal Regiment of Artillery, he established a number of good works in Woolwich, a south-eastern suburb of London. In particular he enthusiastically espoused the humanitarian principles of battlefield ambulance transport. His young colleague, Surgeon-Major Peter Shepherd (1841-79), also from Aberdeenshire, had also been posted to the garrison and was based at the Royal Herbert Military Hospital at Woolwich. Shepherd had the complementary medical skills needed to provide the technical training in what was to be the new profession of first aid.

Shepherd saw the value of von Esmarch's new teaching in bandaging and other elementary first aid skills as these were evolving in the Prussian army. He quickly developed and extended these skills for British stretcher bearers in the army medical department. It was Shepherd who first used the English term “first aid for the injured” and developed the doctrine in an unpublished series of lectures covering a comprehensive range of first aid skills for a wide range of medical emergencies, not just battlefield wounds.

Shepherd's role was the primary practical influence in establishing first aid as a major theme in the work of the Venerable Order of the Hospital of St John of Jerusalem.

In 1870 the Order of St John, with its tradition of “muscular” hospice care, but unrealized infrastructure had “grand possibilities to establish and develop a system of practical philanthropy that would benefit the whole community.” By 1872 the order had contributed £100 towards establishing Britain's first ambulance transport service, and in 1875 it had developed its own wheeled transport litter called the “St John Ambulance”. It was a short step, in 1877, to the establishment of the volunteer St John Ambulance Association. This was intended to be “a civilian reserve for the Army Medical Department to train men and women for the benefit of the sick and wounded.”

Within months the need for first aid skills that would be used in the normal daily life of the civilian population had become obvious. These evolving concepts were accompanied by increasing zeal and had their tangible results in the first public first aid class, in Woolwich in January 1878.

Shepherd conducted the first class in the hall of the Presbyterian school in Woolwich using a comprehensive first aid curriculum that he had developed. Within months of that first class, local Woolwich civilians used their skills when the pleasure boat Princess Alice sank in the Thames at Woolwich killing 600 people.

Within a decade, the new discipline of first aid spread rapidly throughout the world and by the end of the 19th century, hundreds of thousands of St John first aid certificates had been awarded in four continents. Shepherd's pioneering classes changed the world's concept of the need for the provision of skilled pre-hospital care.

From the perspective of 20th century medicine the need for first aid training seems self-evident. But first aid, as it exists today, has a history of only about 120 years. First aid comprises a series of drills and skills which have doctrinal underpinning and which require training; the procedures are constantly revised and are subject to ongoing medical audit. The discipline originated in 1878 from a pioneering and revolutionary experiment to teach members of the general public skills that had been developed for military stretcher bearers in the previous years.

Organized training in civilian first aid began in the United States in 1903 when Clara Barton, president of the Red Cross, formed a committee to establish instruction in first aid among the nation's industrial workers, where, under dangerous conditions, accidents and deaths were all too frequent. [39]

2.2 OBJECTIVES OF FIRST AID

- To preserve life
- To prevent further injury
- To promote recovery
- To preserve vitality and resistance to infection

2.3 RESPONSIBILITIES OF THE FIRST AIDER

- Assess the situation without endangering his life
- Identify the disease or condition from which the casualty is suffering
- Give immediate treatment
- Safe transportation and referral to health care centres.

2.4 COMMONLY ENCOUNTERED SITUATIONS REQUIRING FIRST AID

- Injury - Wound - Bleeding

- Injury – Fracture
- Burns
- Electrical Injuries/ Shock
- The unconscious patient (Fainting/ fits/ heart attack/ drowning and other conditions when the casualty is not breathing or heart not working)

2.5 SCOPE AND GUIDELINES OF FIRST AID

As we know first aid is immediate help provided to a sick or injured person until professional help arrives. It is concerned not only with physical injury or illness, but also with other initial care, including psychosocial support for people suffering emotional distress from experiencing or witnessing a traumatic event. The International Federation of Red Cross (IFRC) believes that everyone has the potential to save lives.

IFRC has issued guidelines for giving First Aid which include following common items to care of all victims.

- Assessment
  - Scene survey
  - Personal protection
  - Airway, breathing, circulation (A, B, C)
  - Different levels for different first aid programmes from simple questions to sample history and vital signs
- Victim position
- Call for help/emergency medical services (EMS)/further help

Assessment

All victims should be thoroughly assessed to assure that all needs for first aid are correctly identified. For all emergency care, including first aid, providers should first survey the scene to assess for mechanisms of injury and to determine whether it is safe for the victims to remain in their current location or if they need to be moved in order to effectively render care.

At the same time, first aid providers must be aware of their personal safety and take universal precautions. The single most important universal precaution is attention to hand hygiene. Hands should be washed with soap and water before and after treating the victim; if soap and water are not available, alcohol-based hand sanitizers can be used.

Providers should adopt a standardized approach (at the victim's side) based on two principles: caring for the most time-sensitive problem first and providing care as problems are identified. The common pneumonic ABCDE represents—in order—Assessment, Airway, Breathing, Circulation, Disability (mental status and peripheral nervous system) and then Expose the victim for further assessment and treatment. In many cases, when a problem is found in the ABCDE examination, attention to treatment may preclude proceeding to further assessments. But when resources permit, the victim should be further assessed by taking a history and performing a detailed head-to-toe physical examination

Victim Position

In certain circumstances, victim's position should not be changed, while in other situations, the victim's position may need to be changed. Latter may be because the victim needs to be moved to better assess and/or treat the victim.

Call for help/ems/further help:

While first aid is the most accessible and provides the quickest care to a victim of an illness or injury but it is only one part of a continuum of care. First aider must know when first aid care is sufficient or call for professional help if necessitates depending on the condition of the victim. [40]

2.6 TRAINING IN FIRST AID

Training in first aid is required to be able manage in any emergency. A person must attend a course due to regular changes in procedures and protocols, based on updated clinical knowledge, regular refresher courses or re certifications are needed in order to ensure they are doing the best for the casualty. Training in first aid is available through community organizations such as the Red Cross and St. John's Ambulance Association. Commercial training is commonly imparted to employees for first aid in their workplace.

3. PREVALENCE OF MOST COMMON INJURIES/ACCIDENTS AND THEIR FIRST AID

3.1 FALLS

According to the global burden of disease report of 2008, injury due to falls is 37.4 million, in South-East Asia it is about 14.4 million. Deaths due to 424,000 in the world specifically to South East Asia are 126,000 and DALY's lost due to falls in the South East Asia region is 6,414,000. [22]

Nearly two-thirds of falls occur at home. Children and the elderly account for 30–40% and 10 –20% of the total falls respectively. Falls often result in a variety of

musculoskeletal injuries including fractures. The outcome of the fall is mainly dependent on the nature of the landing surface, height of the fall and use of any protective devices. [30]

Common causes of falls are being struck or hit by objects, impact of chemicals and inhalation of toxic fumes and loss of balance due to any prevailing health condition (e.g., postural hypotension) etc. Absence of emergency and trauma care, inadequate care provided by local practitioners combined with various dangerous home remedies aggravate injuries and complications, especially in rural areas and districts.

Falls are responsible for the largest number of hospital visits for non-fatal injuries, especially, for children and young adults. Falls from rooftops, balconies, windows, and staircases are common.

When a person falls, the first thing to do is make sure there are no serious and obvious injuries- no broken bones, heavy bleeding, seizures, and that the person is conscious. If the fall was severe do not allow the victim to move until you are sure no injuries have been done to their head, neck, back, or hips. Call for emergency care or take the patient to health care facility if patient can move.

3.2 DROWNING

Drowning is the third leading cause of unintentional injury or death worldwide, accounting for 7% of all injury related deaths with an estimated 388,000 deaths by drowning in 2004, excluding those due to natural disasters. [41]

According to the NCRB, 20739 deaths (5.6% of total injury deaths) were reported due to drowning in 2001; the male and female rates were 71% and 29% respectively. Majority (82%) of deaths were in the age group of 15–59 years. Drowning is one of the top 10 killers among children 5–14 years of age (7.2%). [33, 34]

A recent study from Vellore, Tamil Nadu among 106,000 people, reported sex-specific rates of 37 and 14 per 100,000 populations of drowning among men and women respectively. [42]

Drowning in India commonly occurs in rivers, ponds, lakes and wells and can be accidental, suicidal or sometimes homicidal in nature. Owing to easy access to water bodies, the occupation of individuals, occurrence of natural calamities at frequent intervals, the hazard-prone nature of young kids and adolescents, drowning is common in India. Drowning as a suicide method is also responsible for a substantial number of deaths. [10]

A little child can drown in a few centimetres of water at the bottom of a bucket, in the bathroom, or in a rice field. Drowning is an injury that displays epidemiological patterns that change according to age group, body of water and activity.

Drowning is most often quick. Loud and violent struggle have much more in common with distressed non-swimmers, who may well drown but have not yet begun. In particular, an asphyxiating person is seldom able to call for help. Rescue involves bringing the person's mouth and nose above the water surface.

A drowning person may cling to the rescuer and try to pull himself out of the water, submerging the rescuer in the process. Thus it is advised that the rescuer approach with a buoyant object, or from behind, twisting the person's arm on the back to restrict movement. If the rescuer does get pushed under water, they should dive downwards to escape the person.

After a successful approach, negatively buoyant objects such as a weight belt are removed. The priority is then to transport the person to the water's edge in preparation for removal from the water. The person is turned on their back with a secure grip used to tow from behind.

If the person is cooperative they may be towed in a similar fashion held at the armpits. If the person is unconscious they may be pulled in a similar fashion held at the chin and cheeks, ensuring that the mouth and nose are well above the water.

Special care has to be taken for people with suspected spinal injuries, and a backboard (spinal board) may be needed for the rescue. In water, Cardio-Pulmonary Resuscitation (CPR) is ineffective, and the goal should be to bring the person to a stable ground quickly and then to start CPR. Once on ground chest compressions are performed by the "C-A-B" scheme (Compressions-Airway opening-Breaths). Keep the victim warm. Call for emergency help or take the victim to health care facilities as early as possible. [43]

3.3 BURNS AND FIRE-RELATED INJURIES

Burn injuries can be accidental, suicidal and homicidal. Depending on the extent and severity of burns, and the availability and accessibility to health care, the impact of burns varies from superficial burns and scalds to damage of the internal body organs.

Secondary complications of burns leading to contractures, deformities and disfigurement are extremely common and secondary infections could lead to a number of complications resulting in delayed recovery and death.

During 2001, 32,509 persons died in India due to burn injuries. This amounts to 15% of unnatural deaths. The various causes of burns were fire (71%), firearms (10%), electrocution (7%) and explosion (2%). The total number of injured were 6030, indicating that burn injuries are highly underreported (32,509 deaths v/s 6030 injured persons). The mortality due to burn injuries was 3.5/100,000 population.

The highest number of injuries occurred in the age group of 15–44 years (72%). More women suffered burn injuries compared to men (1.6:1) in all age groups, except among those 44–59 years of age .[33]

Burns are caused by a number of agent factors such as chemicals, hot liquids, fumes and electrical items. Leakage of kerosene stoves, the practice of low-level cooking, use of synthetic, loose-fitting garments have been cited as major causes of burns at home. [10]

One of the major determinants of outcome of burn injuries is the severity of body involvement. In Indore, Madhya Pradesh, the mortality rate was 22% among hospitalized subjects with burns. [44] In a study of burn injuries at Solapur, Maharashtra, 70% of patients with >70% burns died, while only 6% died among those with <40% burns. [45]

Burns-related injuries are frequent during the festival of lights (Diwali) in India. A study of two hospitals in New Delhi revealed that the children were injured in greater numbers while lighting crackers. In addition, many of the injured were unaware that the application of cold water soon after suffering burns was helpful .[46]

First Aid to be done in case burns is to hold burnt area under cold running water for 10 minutes for thermal, scalds, chemical, and electrical burns. Remove jewellery and clothing from the burnt area unless stuck to the burn. Cover burns with a non-adherent dressing or a wet clean dressing. [47]

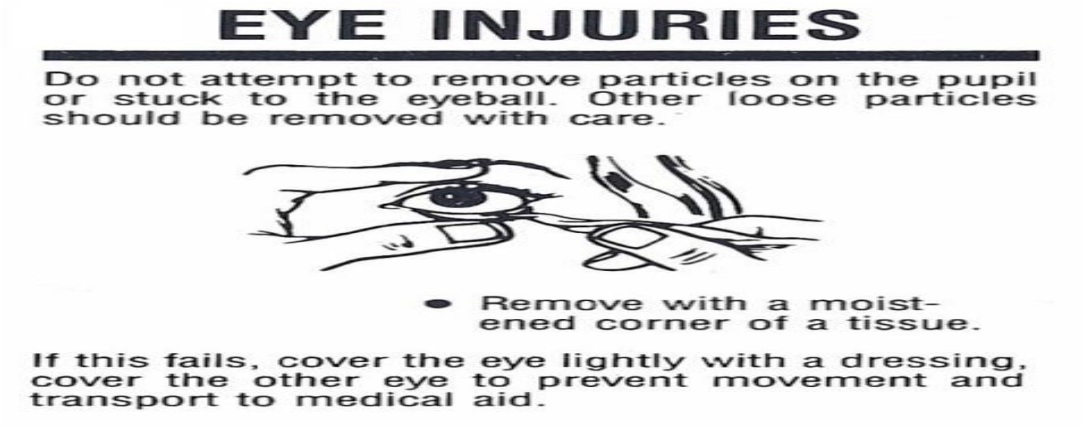
3.4 EYE INJURY

Physical or chemical injuries of the eye can be a serious threat to vision if not treated appropriately and in a timely fashion. The most common type of injury happens when something irritates the outer surface of your eye. Certain jobs such as industrial jobs (e.g., welding) or hobbies such as carpentry make this type of injury more likely.

WHO Programme for the Prevention of Blindness suggests that some 55 million eye injuries which restrict activities for more than one day occur each year and 750,000 cases will require hospitalization each year and including some 200,000 open-globe injuries. There are approximately 1.6 million blind from injuries, an additional 2.3 million people with bilateral low vision from this cause, and almost 19 million with unilateral blindness or low vision.[48]

First Aid for eye injury with small object is to ask patient to look up. Draw lower eyelid down. If object visible, remove with corner of moist cloth if not visible, pull upper lid down if unsuccessful, wash eye with sterile saline or clean water. If still unsuccessful, cover injured eye only and seek medical aid.

For exposure to smoke eyes should be washed with sterile saline or cold tap water. For chemical burns, flood the eyes with water. Rinse eyes exposed to toxic substances immediately with a copious amount of water, unless a specific antidote is available .[43]



3.5 POISONING

"All things are poison and nothing is without poison,

Only the dose permits something not to be poisonous"

– Paracelsus.

According to the WHO Global Burden of Disease report of 2008, it is estimated that 345,814 people of all ages died worldwide as a result of "accidental" poisoning in 2004 and an estimated 7,447000 DALY's lost. In Southeast Asia region it was responsible for 96,000 deaths and 579,000 DALY's lost. Majority of these accidental poisonings were among adults, 13% occurred among children and young adults.[22]

A survey of 16 middle-income and high-income countries revealed that, of the different external causes of unintentional injury death among children aged between 1 and 14 years, poisonings ranked fourth in 2000–01, after road traffic accidents,

burn/fire injuries and drowning. Child development and behaviour is therefore highly associated with particular injuries. Poisoning for example is linked to the grasping and drinking behaviour of children aged 1–3 years. [23]

A study showed that poisoning injury started to rise at the age of 9 months, continuing up to 21 to 23 months, and then declined. [49] In India the reported figures of death rates in children for fatal poisonings ranged between 0.6% and 11.6% [50]

Poisoning commonly occurs with adulterated food and alcohol, pesticides, rodenticides, kerosene and variety of drugs. As per the NCRB reports (2001) 24,775 persons lost their lives due to poisoning. Two-thirds of the total poisoning deaths were in the age group of 15–44 years.[33]

A multicentric study across India revealed that Kerosene (30%) was one of the causes of accidental poisoning in children. [50]

For first aid we should look for signs and symptoms and they depend on the nature of the poisons which may be ingested, inhaled, absorbed or injected into the body like Abdominal pain, drowsiness, burning pains from mouth to stomach, difficulty breathing, tight chest, blurred vision, odours on breath, change of skin colour with blueness around the lips, sudden collapse.

If the poison is swallowed antidote is to dilute with water or milk to lessen the concentration of the poison. Milk coats the lining of the intestines. If it is inhaled proper ventilation at once (open air) should be provided. In case of contact poisons wash at once with soap and water. Vomiting should not be induced if the poison is a strong acid, strong alkali, or petroleum product, or if victim is unconscious or convulsive.

A universal antidote contains Ipecac & activated charcoal; the latter adsorbs the poison and the former causes it to be expelled. Concentrated saline may also be used to induce vomiting. The victim should be taken to the hospital for further management. [43]

3.6 CHOKING

Choking occurs when a foreign object becomes lodged in the throat or windpipe, blocking the flow of air. In adults, a piece of food often is the culprit. Young children often swallow small objects. Because choking cuts off oxygen to the brain and person gets unconscious within minutes. It is advisable to administer first aid as early as possible.

A study conducted in Manipal revealed that the commonest foreign bodies aspirated were peanuts (76%), tamarind seeds (16%) and metal coins (30.4%).[51]

The universal sign for choking is hands clutched to the throat. If the person doesn't give the signal other signs are

- Inability to talk
- Difficulty breathing or noisy breathing
- Inability to cough forcefully
- Skin, lips and nails turning blue or dusky
- Loss of consciousness

If a person is choking Red Cross recommends a "five-and-five" approach to delivering first aid:

- Give 5 back blows deliver five back blows between the person's shoulder blades with the heel of your hand then

- Give 5 abdominal thrusts perform five abdominal thrusts (also known as the Heimlich Manoeuvre).
- Alternate between 5 back blows and 5 abdominal thrusts until the blockage is dislodged.
- It’s OK not to use back blows, if you haven't learned the technique. Both approaches are acceptable.

To perform abdominal thrusts (Heimlich manoeuvre).

- Stand behind the person and wrap your arms around the waist.
- Tip the person forward slightly and make a fist with one hand. Position it slightly above the person's navel.
- Grasp the fist with the other hand. Press hard into the abdomen with a quick, upward thrust as if trying to lift the person up.
- Perform a total of 5 abdominal thrusts, if needed. If the blockage still isn't dislodged, repeat the five-and-five cycle.

If there is only one rescuer, perform back blows and abdominal thrusts before local emergency number for help. If another person is available, have that person call for help while you perform first aid.

If the person becomes unconscious, perform standard cardiopulmonary resuscitation (CPR) with chest compressions and rescue breaths. For clearing the airway of a pregnant woman or obese person you have to position hands a little bit higher than with a normal Heimlich manoeuvre, at the base of the breastbone, just above the joining of the lowest ribs. Proceed as with the Heimlich manoeuvre, pressing hard into the chest, with a quick thrust. Repeat until the food or other blockage is dislodged or the person becomes conscious.

Clearing the airway of a person who is unconscious.

Lower the person on his or her back onto the floor. Clear the airway if there's a visible blockage at the back of the throat or high in the throat by reaching finger into the mouth and sweep out the cause of the blockage. Be careful not to push the food or object deeper into the airway, which can happen easily in young children. Begin cardiopulmonary resuscitation (CPR) if the object remains lodged and the person

doesn't respond after you take the above measures. The chest compressions used in CPR may dislodge the object. Remember to recheck the mouth periodically. [43]

Clearing the airway of a choking infant younger than age 1

Assume a seated position and hold the infant face down on your forearm, which is resting on your thigh. Thump the infant gently but firmly five times on the middle of the back using your hand. The combination of gravity and the back blows should release the blocking object. Hold the infant face up on your forearm with the head lower than the trunk.

If the above doesn't work using two fingers placed at the centre of the infant's breastbone, give five quick chest compressions. Repeat the back blows and chest thrusts if breathing doesn't resume. Call for emergency medical help. Begin infant CPR if one of these techniques opens the airway but the infant doesn't resume breathing. If the child is older than age 1, give abdominal thrusts only. [40]

3.7 ANIMAL BITE

Injuries due to bites of dog, scorpion and other animal bites are common. In a recent WHO-sponsored community-based study of 52,731 people from urban and rural areas incidence of rabies was 1.4/1000 and 1.8/1000 in urban and rural areas respectively. Prevalence of rabies was 2/100,000 in the study population. The highest incidence of rabies was in those 10–44 years of age (72%). [52]

In a community-based study in Delhi of 30,554 individuals, the incidence of animal bites was 2.5/1000 for minor injuries and 5.3/1000 for major injuries, with an overall rate of 8/ 1000/year. [53]

Animal bites can result in both infection and disease. Tetanus, rabies, and various types of fevers can follow an untreated animal bite. Because of these possible complications, the animal causing the bite should, if possible, be captured or killed (without damaging its head) so that it can be tested for disease.

First Aid for animal bites is to cleanse the wound thoroughly with soap. Then flush it well under running tap of water. Cover it with a sterile dressing. Immobilize the injured arm or leg, if appropriate. Transport the victim immediately to a hospital for further evaluation.[40]

3.8 SNAKE BITE

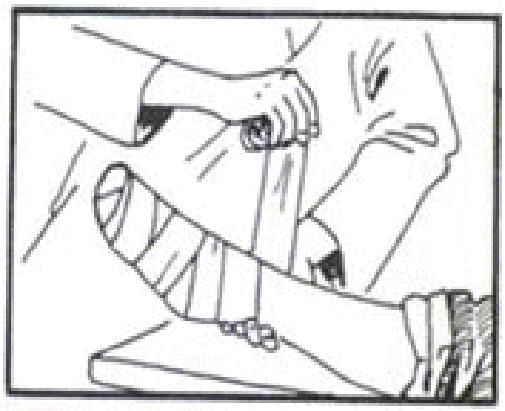
Snakebite remains an important cause of accidental death in modern India, and its public health importance has been systematically underestimated. Mohapatra and Worell conducted nationally representative study of 123,000 deaths from 6,671 randomly selected areas in 2001–03 and reported that a total of 562 deaths (0.47% of total deaths) were assigned to snakebites. Snakebite deaths occurred mostly in rural areas (97%). They were more common in males (59%) than females (41%) and peaked at ages 15–29 years (25%). It was more common during the monsoon months of June to September. This proportion represents about 45,900 annual snakebite

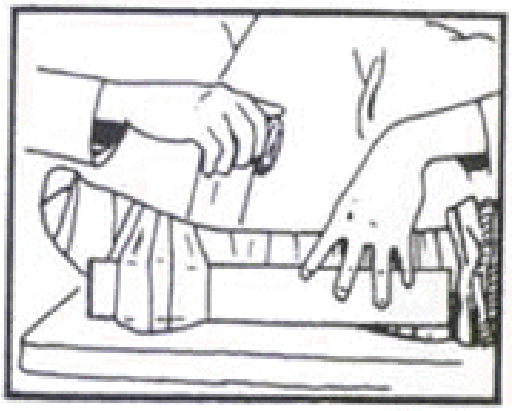
deaths nationally (99% CI 40,900 to 50,900) or an annual age-standardised rate of 4.1/100,000 (99% CI 3.6–4.5) with higher rates in rural areas (5.4/100,000; 99% CI 4.8–6.0). [54]

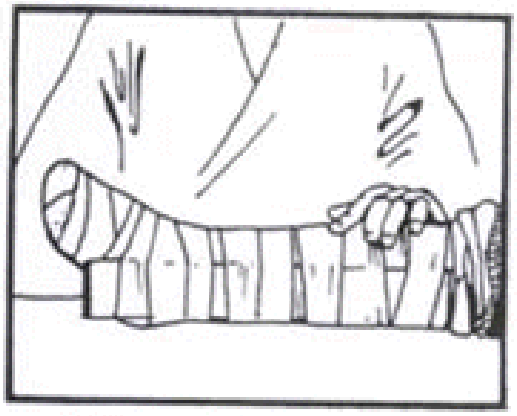
Snake bites are common in the people working agriculture fields or snake handlers and in the jungles. First aid for snake bite to assess the victim and look signs & symptoms like puncture marks or scratches, bleeding from the sit, nausea, vomiting and diarrhoea, breathing difficulties, headache, drowsiness, giddiness or faintness, double or blurred vision, problems speaking or swallowing, drooping eyelids, pain in the throat, chest or abdomen, respiratory weakness or arrest, dark urine to ascertain severity of injury then Reassure the patient and ask them not to move.

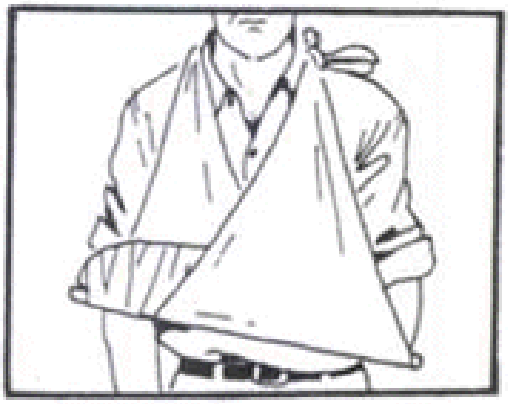
. Venom should not be washed off the skin and bitten areas should not be cut. Venom should not be sucked out of wound. Tourniquet should not be used instead apply a broad crepe bandage over the bite site as soon as possible. Apply a pressure bandage (firm heavy crepe or elasticised roller bandage start just above the fingers or toes of the bitten limb, and move upwards on the limb as far as can be reached (include the snake bite) apply tightly without stopping blood supply to the limb. Immobilise the bandaged limb with splints. Write down the time of the bite and when the bandage was applied stay with the patient check circulation in fingers or toes. [40]


FANG MARKS









4. KNOWLEDGE ON FIRST AID

Studies have showed that there is lack of knowledge of first aid among primary care takers of children on commonly occurring domestic injuries which can be turn fatal if not treated immediately.

A prospective study at a West Sydney hospital revealed that among children presenting with minor burns, only 22% of the children received adequate first aid by the parents .[55]

A study done in Singapore on mothers of 5-14 years revealed that childhood injuries are the leading cause of death for children between 5 to 14 years of age in Singapore and the primary caregivers had good knowledge of road safety but poor knowledge on home safety. Study also showed that knowledge on safety increased with increase in education. Media plays an important role on information on child safety of the caregivers. [56]

A descriptive study done in selected areas of New Delhi to assess the knowledge of mothers on prevention and first aid for childhood accidents among under-five children showed that average knowledge score about prevention of childhood accidents among the mothers was 49.46% . With regard to knowledge about first aid measures majority (64) of mothers had moderately adequate knowledge. Regarding preventive measures of childhood accidents, majority (79) of mothers had inadequate knowledge. Knowledge of mothers on prevention of accidents had no significant association with demographic variables. Thus the study concluded that the mothers of under-five children had poor knowledge on first aid and preventive measures of childhood accidents. [57]

A cross-sectional study was conducted across nine towns in the state of Massachusetts about knowledge concerning childhood accident prevention among parents. A total of 1,493 parents in urban, suburban, and rural Massachusetts communities participated. Among the participants 512 were parents of infants less than 9 months and 981 were parents of children aged 9 months to 5 years. Parents in all nine localities needed to learn how to prevent their children from getting burns. A variety of community-specific needs for other types of preventive behaviour were also identified. Recognition of these educational needs is important because individual counselling or community education programs may be the only feasible preventive measures for certain injuries, particularly those that require parents to make substantial behavioural changes. [58]

A cross sectional descriptive study aimed to identify factors related to preventive behaviours on home injury among mothers with children less than five years old in Vietnam showed that 16.6 % of mothers had good knowledge and 63.4% had moderate knowledge. 52.7 % of mothers had positive attitude. 9.8 % of them had good preventive behaviours, 73.1 % fair and 17.1 % poor preventive behaviours. There was significant association between the mothers' preventive behaviours with family income ($p = 0.000$), mothers knowledge levels ($p= 0.030$) and radio ($p= 0.027$). Mothers with low knowledge, negative attitude, disadvantaged on socio demographic conditions were affected to their preventive behaviours on home injury more worst. [59]

A study done in Canada conducted with mothers of children age 19–24 and 25–30 months old about home-safety practices to identify determinants of mothers' home-safety practices for preventing common injuries to children showed that for

each of 30 safety precautions to prevent these six types of injuries, mothers indicated whether or not they engaged in the practice, and explained why. Regression analyses revealed both common and unique determinants of mothers' home-safety practices to prevent these six types of home injuries. For burns, cuts, and falls, beliefs that child characteristics and parent characteristics elevated the child's risk of injury were the key determinants of the mother's engaging in precautionary measures. For drowning, poisoning, and suffocation/strangulation/choking, health beliefs also contributed to predict mothers' practices, including beliefs about potential injury severity and extent of effort required to implement precautionary measures and factors that motivated mothers to engage in precautionary measures at home varied depending on the type of injury.[60]

A cross sectional study to assess the knowledge attitude and practice about first among mothers in a south Indian village showed that 75.5% of the study population who experienced injury in the 4 weeks preceding survey administered some form of First Aid immediately at the time of injury. However the practices of first aid were not satisfactory. It was found that while First Aid practice among school teachers was satisfactory, practices of women in the study population, the elderly and school children were not satisfactory. There were several misconceptions regarding the management of various emergencies and injuries which could potentially lead to adverse outcomes following injury, Knowledge Attitude and Practice regarding First Aid for injuries among women with children <15 years in the stud y area was poor. [61]

A cross sectional descriptive study in Egypt to identify the effect of mother's education in relation to home accident prevention among preschool children in rural

area revealed that well educated mothers will use the proper first aid, while illiterate mothers tend to use traditional methods. [62]

A cross sectional study done in three paediatric clinics of Chicago showed only modest relations were observed between injury beliefs and attitudes and injury prevention behaviours. However, these relations differed substantially by child age and birth order, with stronger associations observed for parents of older first born children. Outcome expectations and social norms were more strongly related to injury prevention behaviour among parents of preschool children than among parents of infants and toddlers, while attitudes were more predictive for parents of first born children than parents of later born children. These findings highlight the complexity of relations between theorized determinants and behaviour, and suggest the potential utility of using audience segmentation strategies in behavioural interventions addressing injury prevention. [63]

A study in Pakistan to assess the information mothers have regarding injury prevention in children showed that majority (79%) used baby walkers, 58% felt they are safe for children, 89% thought head injury and 67% thought fractures could be a consequence of using walkers. Half of the mothers (51%) had window guards and a quarter (25%) knew about spacing of bars in the baby crib. 89% of mothers said that a child can be drowned at home and 60% said they can be drowned either in a bucket or a bathing tub. On inquiring about the amount of water in which a child can drown, 92% said it depends on age of the child and 49% considered height. Almost all (96%) considered choking as a complication of sweets, nuts and supari and 93% would consult a hospital in case of emergency. The percentage of mothers answering "yes"

to whether health professionals discussed preventive measures on various issues were: immunization 64%; walker 30%; drowning 32%; seat belts 21%; car seats 11%; fall prevention 28%; sweets, nuts & suparis 53%; lead 15%; and hazardous material 38%. Study concludes the information of mothers on this injury prevention is inadequate. [64]

A study was conducted with the objective to determine the treatment seeking behaviour of parents / caretakers for injuries sustained by children under five years of age in rural Southern India. Out of 325 children, 39.7 % were treated by a health personnel, 29% received home remedy while the rest (31.3%) did not receive any treatment. Abrasion (72.6%) was the commonest type of injury observed. 47.3% of injuries were treated within an hour of onset. Commonest home remedies used ranged from antiseptics to folk remedies. Training of parents and caretakers for hygienic and timely treatment of injury is recommended.[65]

A cross-sectional study was carried out among the staff members at selected preschools in shanghai showed that subjects lacked knowledge regarding first aid for convulsive seizures (only 16.5% answered correctly), chemical injuries to the eye (23%) and inhaled poison (27.6%) A multiple linear regression analysis showed scores were significantly higher among staff members with more education, those who had received first aid training before or were already healthcare providers, younger employees, and staff members from rural districts. Most employees agreed that giving first aid was helpful; the vast majority felt that it was important and useful for them to learn paediatric first aid and the level of first-aid knowledge among preschool staffs in Shanghai was low. [66]

A cross-sectional study was carried out at six colleges of Karachi, three of which were medical colleges and three non-medical colleges. Knowledge was assessed regarding various emergency situations with the help of a questionnaire. A total of 446 students were interviewed. Seventy eight students (17.5%) had formal First Aid (FA) training. The mean number of correct answers of students with first aid training was 10.3 (+/- 3.5) as opposed to 8.58 (+/- 4.0) in those without First aid training ($p < 0.001$, 95% CI) with a mean difference of 7.84%. The mean number of correct answers by medical students with First aid training was 11.2 (+/- 2.9) as opposed to 7.2 (+/- 3.43) by non-medical students ($p < 0.001$, 95% CI) with a mean difference of 18.14%. Students having received formal first aid training scored better than those who had not ($p < 0.001$).and study recommend that first aid training programmes should be introduced at school and college level in developing countries to decrease the early mortality and morbidity of accidents and emergencies. [67]

A study on knowledge, attitudes and skills among primary health care (PHC) workers in Sri Lanka on first aid and safety for poisoning showed that PHC workers had an average knowledge score of 60% on first aid for poisoning. Among the workers 78 (76%) of them did not know the routes of entry of a poison into the body and authors of the study concluded that knowledge on first aid and safety for poisoning among the PHC workers in Sri Lanka was inadequate. Attitudes towards first aid practices too were not very satisfactory. [68]

A study on relief workers regarding knowledge, attitude and practices of first aid measures in Iran revealed that the relief workers had an average knowledge score of 56.5% and attitude score of 52.9% on first aid. There was significant difference between knowledge and education level ($p<0.0001$). Of the total relief workers, 83%

knew how to correctly perform a Cardio pulmonary resuscitation (CPR), while 94 percent reported that they did not know how to perform endotracheal intubation. Relief workers demonstrated moderate level of knowledge, attitude and practices towards first aid. [69]

In a study conducted by the AAP, subjects were given a multiple-choice questionnaire concerning the proper management of various injuries. None of those surveyed answered all questions correctly with roughly half being familiar with 60% of the questions. Knowledge of specific guidelines ranged from 21% to 92%. Subjects especially lacked knowledge regarding the need to rapidly remove all bee stingers (only 36% aware); keep wounds moist and covered (79% felt that drying wounds was beneficial); the need to cover victims of large burns (only 43% aware); and the need to seek medical attention after tick bites (only 47% aware). Knowledge was unaffected by age, gender, and education. [70]

A recent comprehensive literature review on injury prevention counselling in primary care settings demonstrated positive results including improved knowledge, improved behaviour and a decrease in injuries. Given proper advice and encouragement, parents can be motivated to protect their children from injuries. [71]

Another review article showed that education, environmental modification and legislation all have a part to play in injury prevention and their effect in combination is important. [72]

American Academy of Paediatrics (AAP) believes that office-based health education and counselling can contribute to childhood injury prevention. To help paediatricians implement injury prevention counselling, the Academy has developed

The Injury Prevention Program (TIPP).[73, 74] A benefit cost comparison revealed that paediatrician injury counselling is a cost-effective method of preventing childhood injuries and should be more widely adopted. [75]

A meta-analysis done on studies which assess the effect of home safety education and the provision of safety equipment on poison prevention practices and poisoning rates, and whether the effect of interventions differs by social group showed, Home safety education and the provision of safety equipment improve poison prevention practices, but the impact on poisoning rates is unclear. Such interventions are unlikely to widen inequalities in childhood poisoning prevention practices. [76]

MATERIALS AND METHODS

STUDY AREA:

The study was conducted in Shivanagi village of Bijapur taluk in Bijapur district which is rural field practice area of Shri B.M.Patil Medical College, Bijapur.

STUDY DESIGN: It is a cross sectional study

STUDY PERIOD:

Data was collected between 1st of December 2012 to 31st of December 2013.

Analysis and documentation was done during 1st January 2014 to September 2014.

STUDY POPULATION:

The study was conducted on the all mothers who have children less than 15 years in the village. As of 2001 India census, Shivanagi has a population of 7068 with 3669 males and 3399 females. [77] A total of 1051 mothers who have children lesser than 15 years were identified and included in the study after house to house survey.

DATA COLLECTION:

A house to house survey was conducted to assess the occurrence of injuries and knowledge attitude and practice of women regarding First Aid. The survey was done between 9 AM and 5 PM on every Thursday of the week of the survey period to identify women whose children were aged less than 15 years and the data was collected by using interview technique. Interview of the mothers was done by using a semi structured questioner after taking informed consent of the mothers by explaining about the study. In case of houses with the door locked or when the respondent was

unavailable, two additional visits were made on different days after which these mothers were considered as non responders.

ETHICAL CLEARANCE:

The study protocol was submitted to institutional ethical committee of Shri B.M. Patil Medical College and Hospital Bijapur, ethical clearance taken before commencement of the study.

SOCIO ECONOMIC STATUS

Socio economic status was according to modified B.G.Prasad classification.

Socio-economic Status	Per Capita Income (In Rs.)
Class I	5,296 and above
Class II	2648-5295
Class III	1589-2647
Class IV	794-1588
Class V	Below 794

INCLUSION CRITERIA:

- All Mothers who have children of age less than 15yrs
- All mothers who give consent to the study

EXCLUSION CRITERIA:

- Mothers who are not willing to participate in the study.
- Mothers who are unable to contact after 3 visit to their residence.
- Mothers who are not permanent residents of the village.

ANALYSIS

Data was entered and analyzed using Microsoft excel and SPSS (v 16) software. Qualitative data were expressed as frequencies and percentages, while quantitative variables were presented as mean, standard deviation (SD). Student's t-test and Analysis of Variance (F-test) were used as tests of significance. P value less than 0.05 was considered significant.

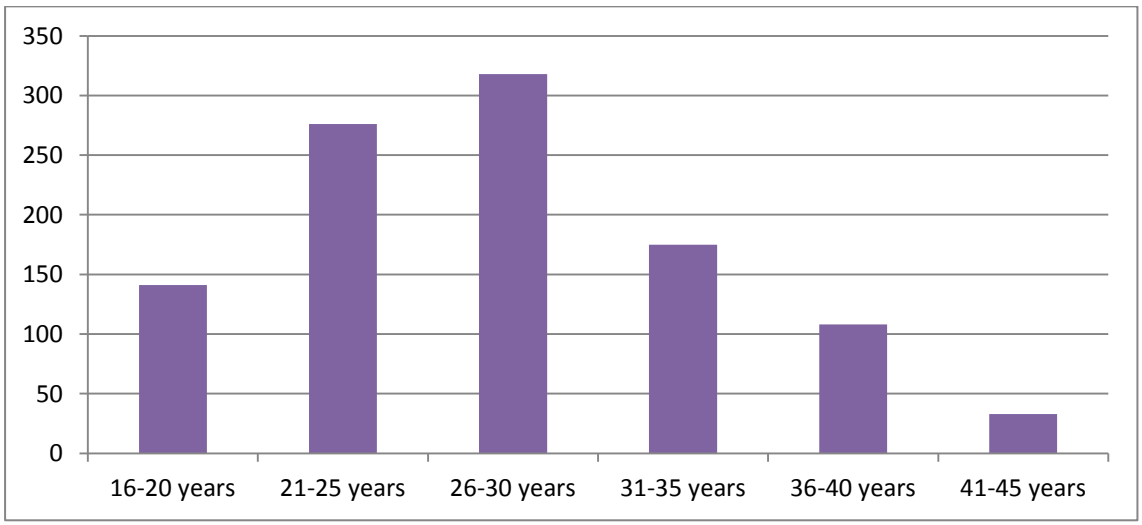
RESULTS

A SOCIO DEMOGRAPHIC PROFILE OF THE MOTHERS

Table 1: Distribution of the study population by age

Age (in years)	Frequency N=1051	Percent
16-20	141	13.41
21-25	276	26.26
26-30	318	30.25
31-35	175	16.65
36-40	108	10.27
41-45	33	3.13
Total	1051	100.0

In our study majority i.e., 30.25% (318) of the mothers belonged to the age group of 26 to 30 years followed by mothers in the age group of 21-25 years and 31-35 years who were 26.26% (276) and 16.65%(175) respectively.

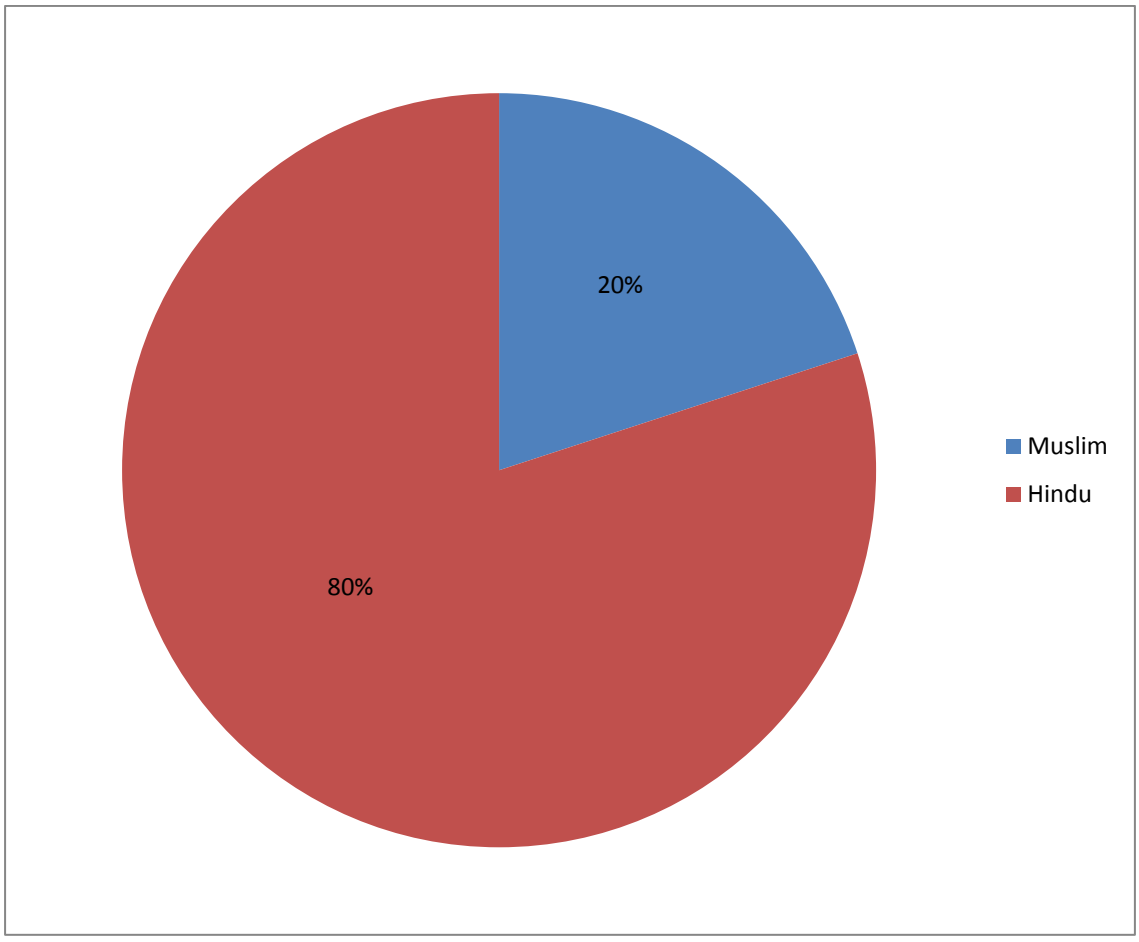


Graph 1: Distribution of the subject's population by age

Table 2: Distribution of the study population by religion

Religion	**Frequency N=1051**	**Percent**
Hindu	841	80.02
Muslim	210	19.98
Total	1051	100.0

In the study population, the distribution of mothers according to religion, 80.02% (841) of them were Hindus and 19.98% (210) of them were Muslims.

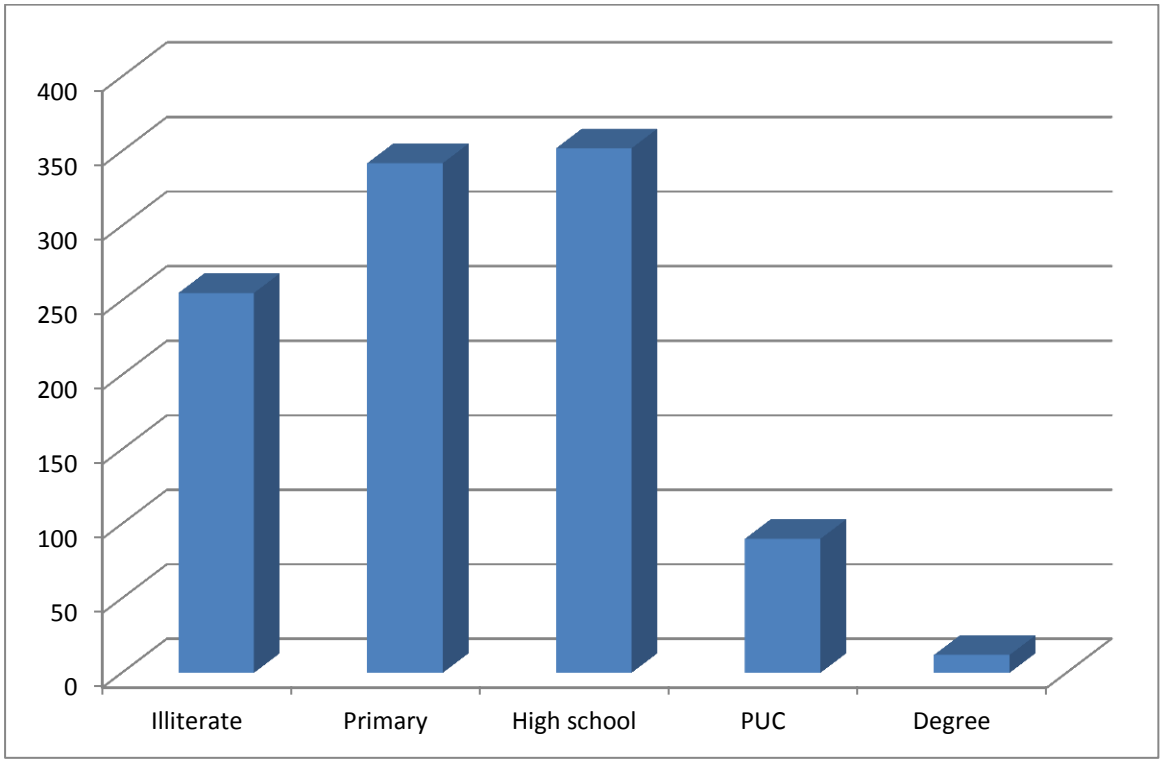


Graph 2: Distribution of the subject population by religion

Table 3: Distribution of the study population by literacy

Mother's Education	**Frequency N=1051**	**Percent**
Illiterate	255	24.26
Primary	342	32.54
High school	352	33.49
PUC	90	8.57
Degree	12	1.14
Total	1051	100.0

In the study population, 33.49% of the mothers had completed high school education similarly mothers who had primary education were 32.54% (342) as 2nd most common group.



Graph 3: Distribution of the subject population by literacy of the mother

Table 4: Distribution of head of the family in relation to the study population

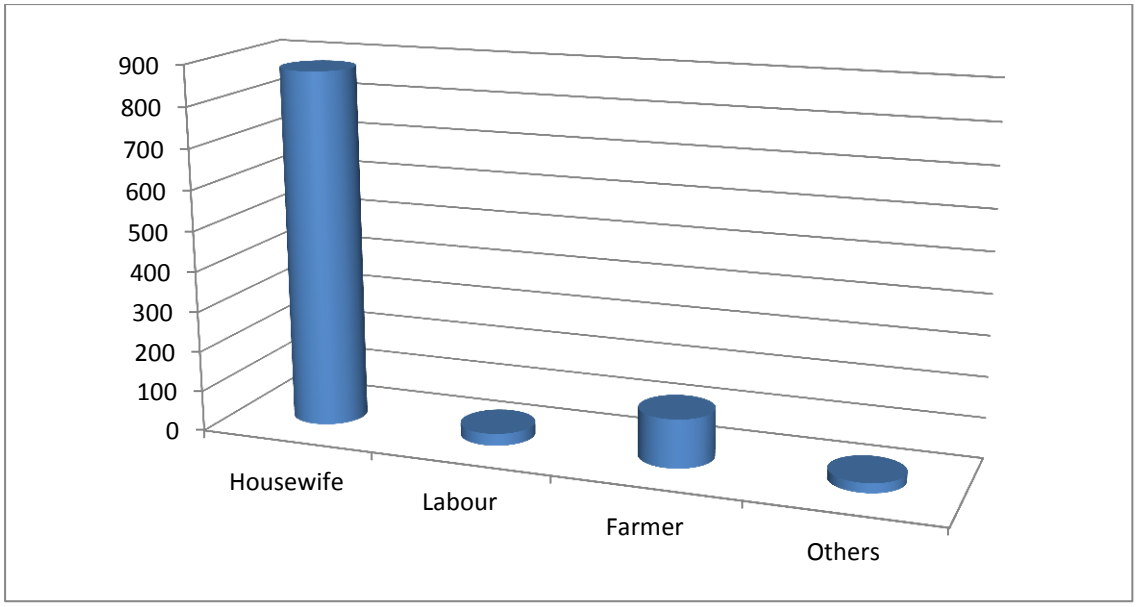
Head of the Family	**Frequency N=1051**	**Percent**
Husband	829	78.88
Father in law	155	14.75
Mother in law	52	4.94
Self	15	1.43
Total	1051	100.0

In the study population, Husbands (78.88%) were the head of the family, followed by 14.75 % of the subjects reported that father in law were the head of the family.

Table 5: Distribution of study population by occupation

Occupation	**Frequency N=1051**	**Percent**
Housewife	877	83.44
Labour	30	2.85
Farmer	120	11.42
Others	24	2.29
Total	1051	100

In the study population, 83.44 % (877) of the mothers were housewives and other most common group were farmer (11.42%).



Graph 4: Distribution of study population by occupation of the mother

Table 6: Age and sex distribution of children of the subjects in the study population

Age(in years)	**Male**	**Female**	**Total**
0-5	361(41.31%)	366(45.24%)	727(43.2%)
06-10	295(33.75&)	301(37.21%)	596(35.41%)
11-15	218(24.94%)	142(17.55%)	360(21.39%)
Total	874	809	1683

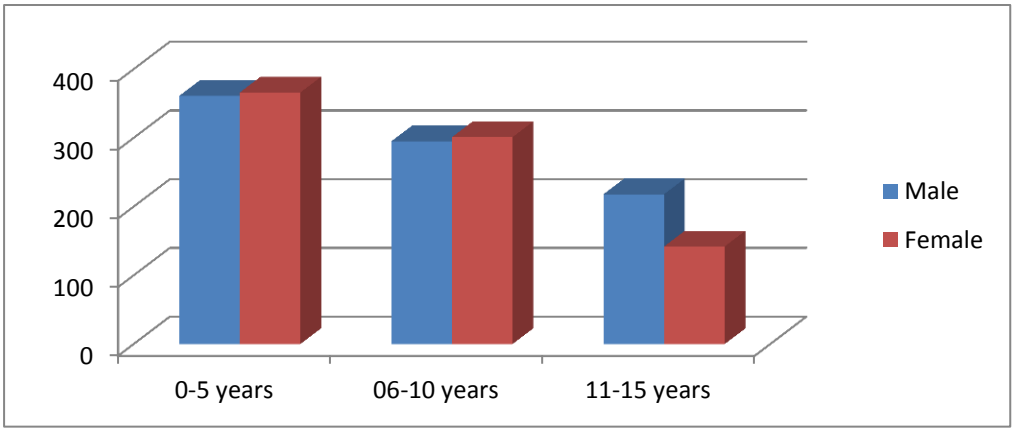
In the study population total number of children was 1683. 874(51.93%) of were males and 809(48.07%) were females.

361 (41.31%) of the males were in the age group 0-5 years compared to 366 (45.24%) females.

In 6-10 years old, 295 of them males were in this age group compared to 301 of them were females.

218 (24.94%) of males were present compared to 142(17.55%) of females in the age group 11-15 years.

Most common age group was 0-5 years with 43.2% (727) of children were in this age group.



Graph 5: Age and sex distribution of children of the subjects in the study population

Table 7: Distribution of study population by type of family

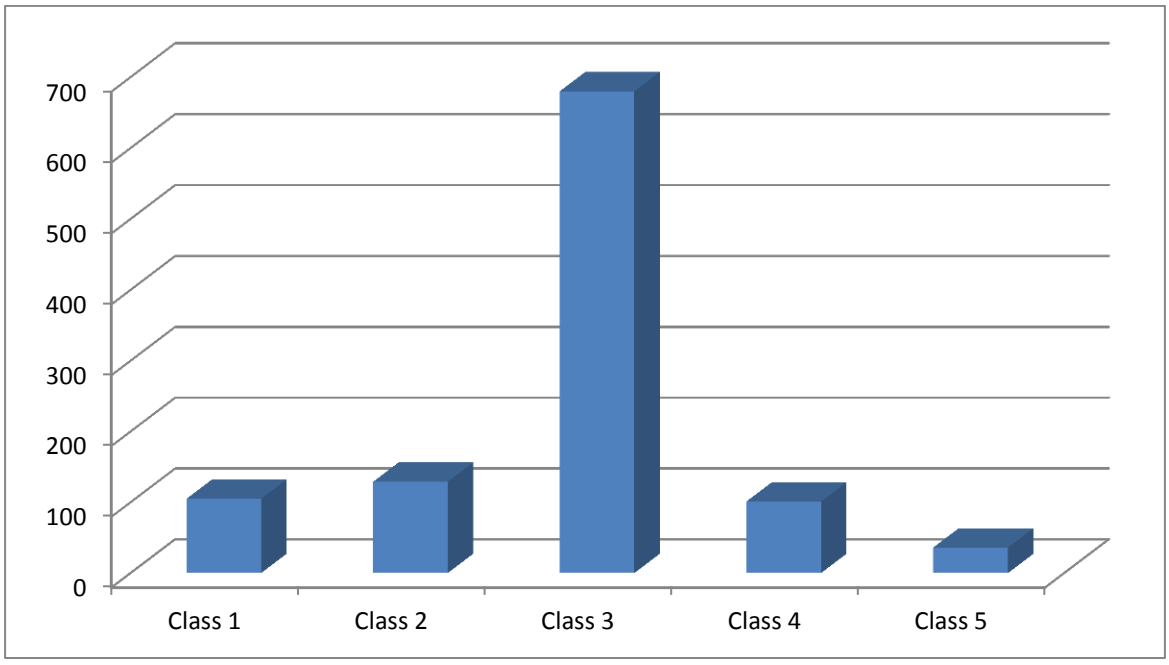
Type of family	**Frequency N=1051**	**Percent**
Nuclear	676	64.32
Joint	216	20.55
Three generation	159	15.13
Total	1051	100

Of the total 1051 mothers, 64.32% (676) were from nuclear family, remaining mothers were 20.55 %(216) and 15.13 %(159) from joint and three generation family respectively.

Table 8: Distribution of study population by socioeconomic status according to Modified B. G. Prasad classification

Socioeconomic status(SES)	**Frequency N=1051**	**Percent**
Class 1	105	9.99
Class 2	129	12.27
Class 3	680	64.7
Class 4	101	9.6
Class 5	36	3.44
Total	1051	100.0

Majority of the mothers 64.70 %(680) were from Class 3. Remaining mothers were from Class 2 which had 12.27% (129) and Class 1 which had Class 1 9.99%(105). Socioeconomic status of the mothers was assessed according to modified B. G. Prasad classification.



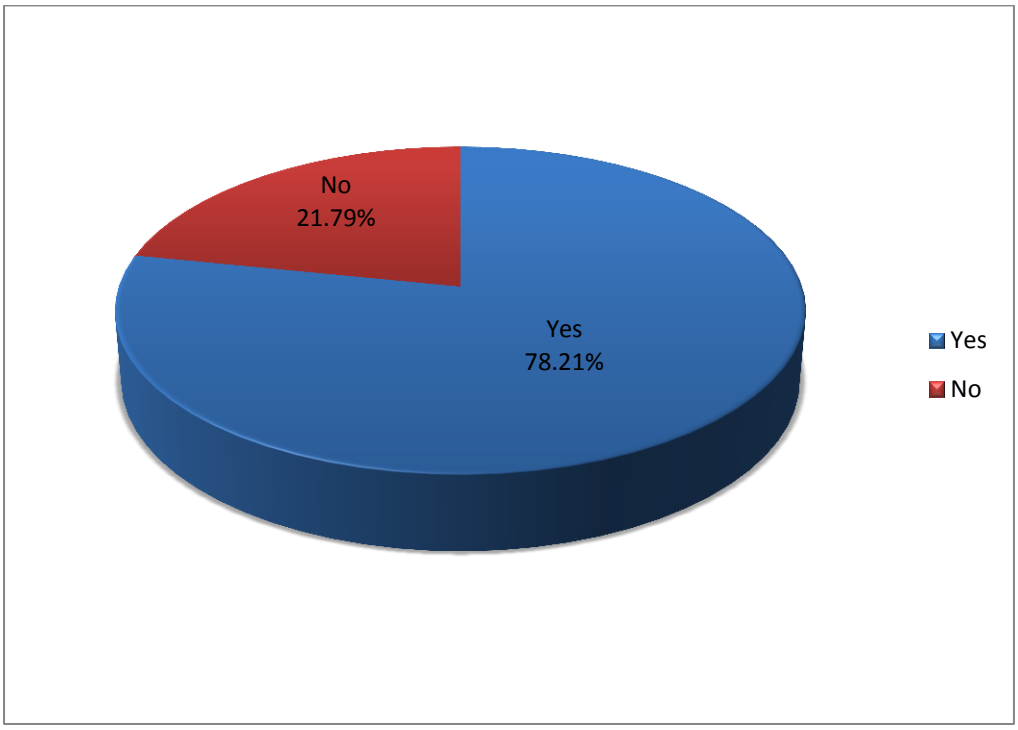
Graph 6: Distribution of study population by socio-economic status

B. INJURY IN THE POPULATION

Table 9: Experience with domestic injuries by the study population in the six months preceding the survey.

Injury	**Frequency N=1051**	**Percent**
Yes	822	78.21
No	229	21.79
Total	1051	100.0

Of the total 1051 mothers, 78.21 % (822) of them experienced domestic injuries to their children in preceding 6 months.

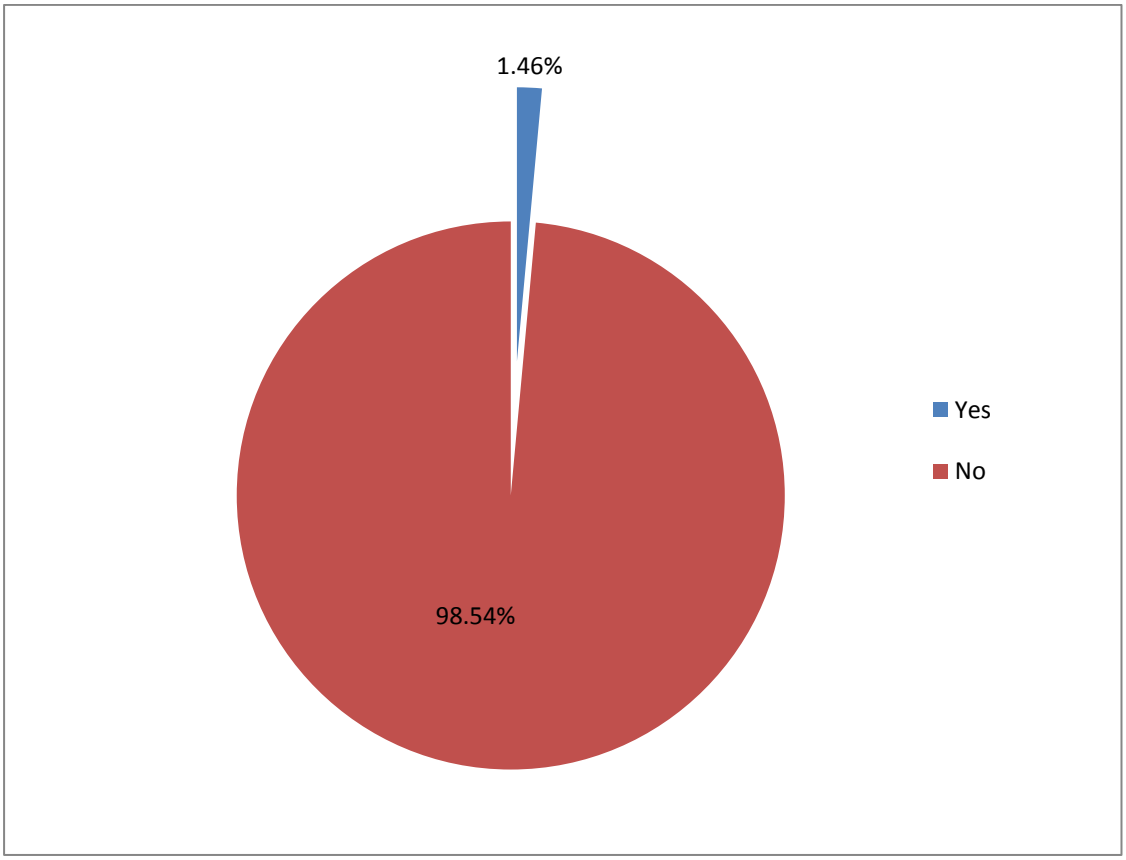


Graph 7: Experience with domestic injuries by the study population in the six months preceding the survey.

Table 10: First aid administered by the study population immediately following trauma

First aid administered Immediately	Frequency N=822	Percent
Yes	12	1.46
No	810	98.54
Total	822	100.0

Of the 822 women who encountered the domestic injury in past six months, only 12 (1.46%) of them administered some form of first aid following the injury.



Graph 8: First aid administered by the study population immediately following trauma

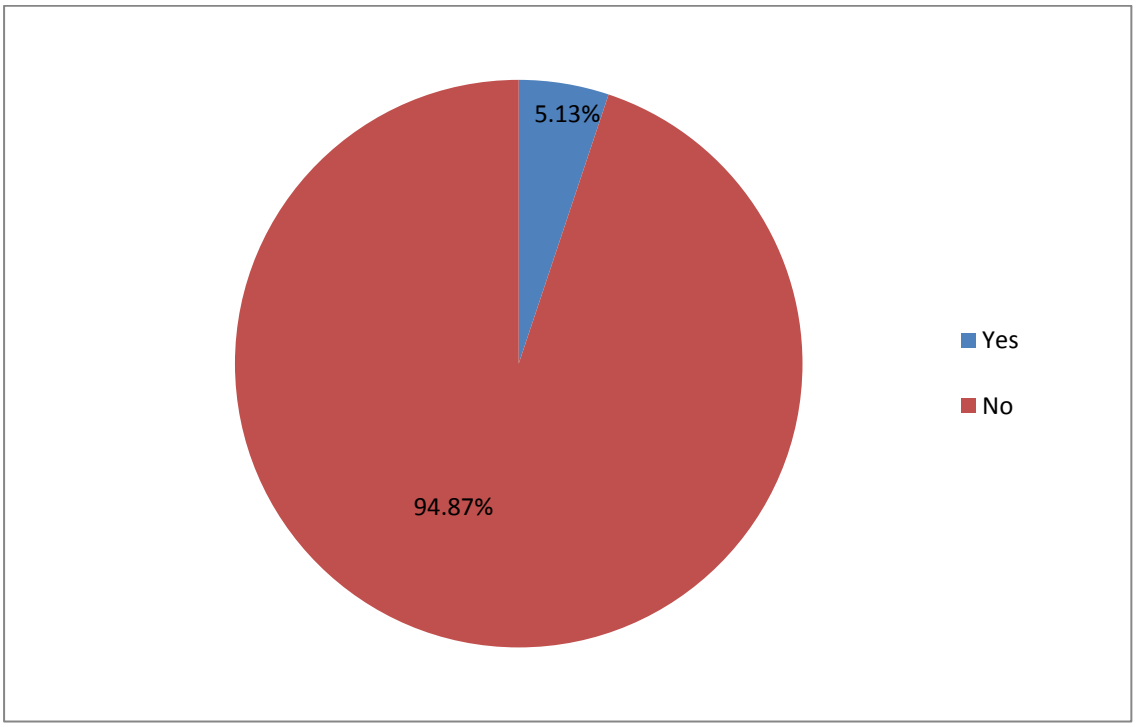
C. KNOWLEDGE REGARDING FIRST AID

Knowledge of 1051 mothers in the study population was assessed regarding first aid. In all, 13 questions covering knowledge regarding first aid for minor cuts, burns, seizures , foreign body in the eyes, ears, and nose, choking, snake bite/scorpion sting, animal bites, poisoning, bleeding were administered. Results are as follows.

Table 11 Heard about "First Aid" as reported by the study population

Heard about First Aid	**Frequency N=1051**	**Percent**
Yes	54	5.13
No	997	94.87
Total	1051	100.0

Among the total 1051 mothers, Only 54 (5.13%) of them heard about first aid



Graph 9: Awareness about First Aid in the subject population

Table 12: Source of information about first aid

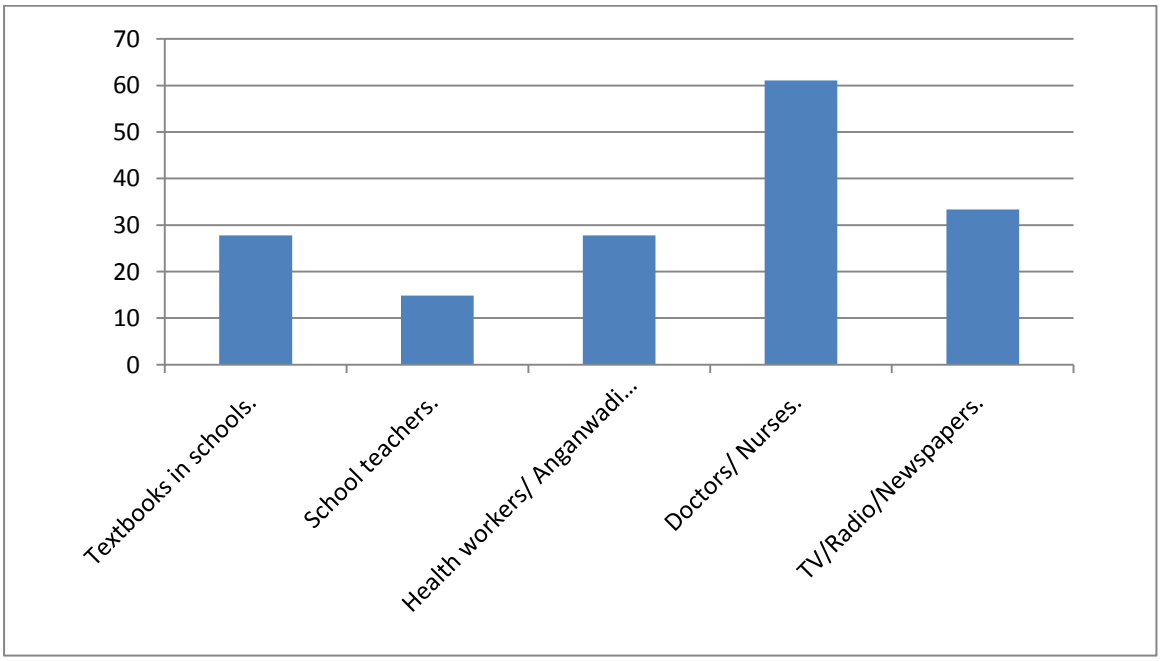
Source of information	**Frequency N=54**	**Percent**
Textbooks in schools.	15	27.77
School teachers.	8	14.81
Health workers/ Anganwadi teachers.	15	27.77
Doctors/ Nurses.	33	61.11
TV/Radio/Newspapers.	18	33.33

(*-Multiple responses were given)

Among the 54 mothers who were aware of first aid, (61.11%) of them got to know about first aid by doctors or nurses in their neighborhood.

Other sources of information were from mass media like TV/Radio/Newspapers (33.333%), health care and anganwadi workers (27.77%).

Text books in school (27.77%) also played important role in educating mothers about first aid.



Graph 10: Source of information about First Aid

Table 13: Opinion among those aware of first aid regarding persons qualified to administer first aid.

Qualified Personnel	**Frequency N=54**	**Percent**
School teachers	9	16.66
Health workers /Anganwadi Workers	39	72.22
Doctors/ Nurses	42	77.77
Anybody trained in first aid	21 (	38.88
TOTAL	54	100

(*-Multiple responses were given)

Among the 54 mothers, 77.77% (42) of them had opinion that doctor or nurses are qualified to give first aid.

Remaining mothers said that it can be given by health workers / anganwadi workers (72.22%), and anybody who is trained in first aid can administer first aid (38.88%).

Table 14: Opinion among the study population regarding ability to give first aid if trained

Awareness	**Frequency N=54**	**Percent**
Yes	45	83.33
No	9	16.67
Total	54	100

Of the 54 mothers who aware of first aid, 45 (83.33%) of them had confidence that they can give first aid to a person if they are trained.

D. KNOWLEDGE OF FIRST AID GIVEN IN SPECIFIC SITUATIONS

Table 15: Nature of first aid to be given for minor cut or wound

Nature of first aid	**Frequency N=1051**	**Percent**
Apply Dettol	354	33.68
Wash the wound first & gives pressure if needed	258	24.54
Does nothing go to a doctor immediately	430	40.91
Apply herbal extract	93	8.85
Don't know	39	3.71

(* -Multiple responses were given)

Of the 1051 mothers, 33.68 %(354) of the mothers suggested they will be applying dettol to the wound as the first aid.

Only 24.54% (258) of mothers mentioned to wash the area of the wound and apply pressure on the wound.

Table 16: Nature of first aid to be given for Burns

Nature of first aid	**Frequency N=1051**	**Percent**
Hold the burnt area under cold water	216	20.55
Apply herbal extract	174	16.55
Do nothing, go to the doctor	631	60.04
Others	39	3.71
Don't know	58	5.51

(Multiple responses were given)

In our study 216 (20.55 %) out of 1051 mothers said they will hold the burnt area under cold water which is correct first aid for a victim with burns and 16.55 % (174) of them stated that they will apply herbal extract.

Others (3.71%) stated that they will apply oil and salt mixture, haldi powder, lime paste, burnol, saffron powder, to the burned part.

Table 17: Nature of first aid to be given to a person whose clothes catch fire

Nature of First aid	**Frequency N=1051**	**Percent**
Pour water on him/her & try to put out the flame	236	22.45
Wrap with blanket	137	13.03
Do nothing, go to the doctor	580	55.18
Don't know	200	19.03
Total	1051	100.0

(*-Multiple responses were given)

22.45 %(236) of the mothers said they will pour water on the victim trying to put out the flame. Only 13.03% of the mothers said they will wrap the victim in blanket which should be the done as first aid when person's cloth catch fire.

Table 18: Nature of first aid to be given to a person suffering from seizures at home.

Nature of First aid	Frequency N=1051	Percent
Keep the person under control. Do not use force to stop the convulsions. Remove objects that may cause wounds.	126	11.99
Give metal keys in his/her hand	100	9.51
Branding	22	2.09
Go to doctor immediately	574	54.62
Others	51	4.85
Don't know	178	16.94

(Multiple responses were given)

11.99% (126) of the mothers said , you have to keep the victim under control and remove any objects which could cause harm to the patient , external force should not be used to stop convulsion. Giving metal keys in the hands of person to stop convulsion was suggested by 9.51% (100) of the mothers

Table 19: Nature of first aid to be given to a person with a foreign body in eye

Nature of first aid	Frequency N=1051	Percent
Rubbing the eye with the hand	279	26.54
Rinse eye in a cup of water	348	33.13
Make a pointer to the corner of a handkerchief/any cloth, try to remove the foreign body	223	21.21
Go to doctor immediately	420	39.96
Others	15	1.42
Don't know	39	3.71

(Multiple responses were given)

Of the total 1051 mothers, 348 (33.13%) had the opinion that you should ask the victim to blink eye in water in the saucer.

Other measures suggested by mothers (21.21 %) include making pointer with a clean cloth and try to removing the foreign body

26.54% (279) of the mothers suggested we should rub the eye which is harmful for the eye and should be prohibited.

Table 20: Nature of first aid to be given to a person with a foreign body in the nose.

Nature of First Aid	Frequency N=1051	Percent
Try to take it out by any means	111	10.56
Ask the person to breath by mouth instead of nose	51	4.85
Get the person to sneeze	171	16.27
Go to doctor immediately	643	61.18
Others	30	2.85
Don't know	90	8.56

(Multiple responses were given)

16.27 % of mothers suggested that to ask the person to sneeze as first aid when there is foreign body in the nose.

Majority (61.18%) of the mothers said to take victim to doctor as there's nothing can be done by them.

Table 21: Nature of first aid to be given to a person with a foreign body in the ear

Nature of First Aid	Frequency N=1051	Percent
Pour coconut oil in the ear	189	17.98
Try to take it out by any means	78	7.42
Go to a doctor immediately	724	68.88
Others	23	2.18
Don't know	94	8.94

(*-Multiple responses were given)

Majority (68.88%) of mothers suggested taking victim to doctor as it is harmful to do anything to victim.

Pouring coconut oil in the ears was suggested 17.98 % (189) of mothers as a treatment to be done when there is foreign body in the ear.

Table 22: Nature of first aid to be given to a person with a choking due to foreign bodies

Nature of First Aid	Frequency N=1051	Percent
With the head down & chest up gently tap on the back	105	9.99
Give water to drink	108	10.27
Go to a doctor immediately	799	76.02
Others	12	1.14
Don't know	57	5.42

(Multiple responses were given)

Victim should be given water to drink was suggested by 10.27 %(108) of the mothers and 76.02 % of the subjects in the study population suggested taking victim to the doctor immediately.

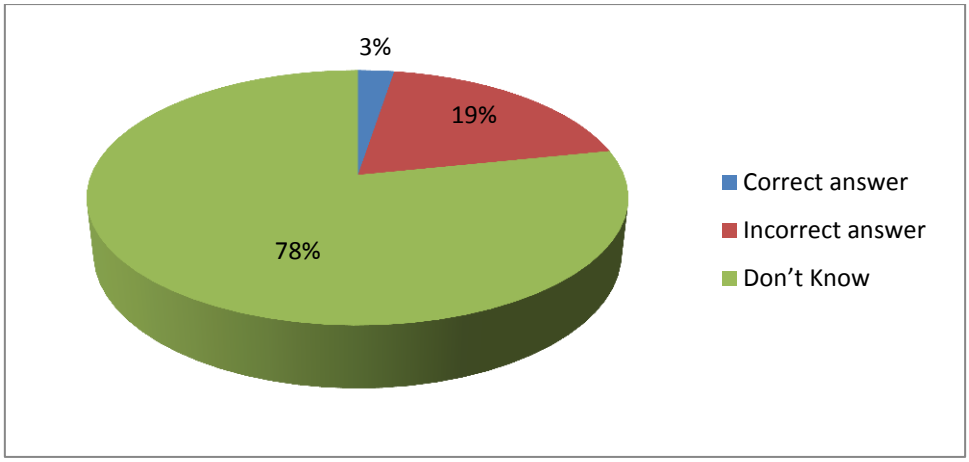
Table 23: Nature of first aid to be given to a person suffering Snake bite/ Scorpion sting

Nature of First Aid	**Frequency N=1051**	**Percent**
Correct answer	27	2.57
Incorrect answer	202	19.22
Don't Know	822	78.21
Total	1051	100.0

Of the total 1051 mothers, 2.57% (27) of them knew about first aid to be done when there snake bite/ scorpion bite to a person.

Correct answer to the question as an appropriate first aid in a case of snake bite.

- If the bite is on the arm or leg apply a constrictive bandage on the heart side of the bite tight enough to obstruct & stop the flow of venom to all parts of body.
- We should not wash venom off the skin, or cut the bitten area
- We should not try to suck venom out of wound or use a tourniquet
- Wash the wound with soap & water. Flush the wound with lots of water
- Cover the wound with a dry clean light dressing.
- Take the patient to the hospital for further treatment.
- If the snake has been killed, carry it to the hospital for species identification.



Graph 11: Nature of first aid to be given to a person suffering Snake bite/ Scorpion sting

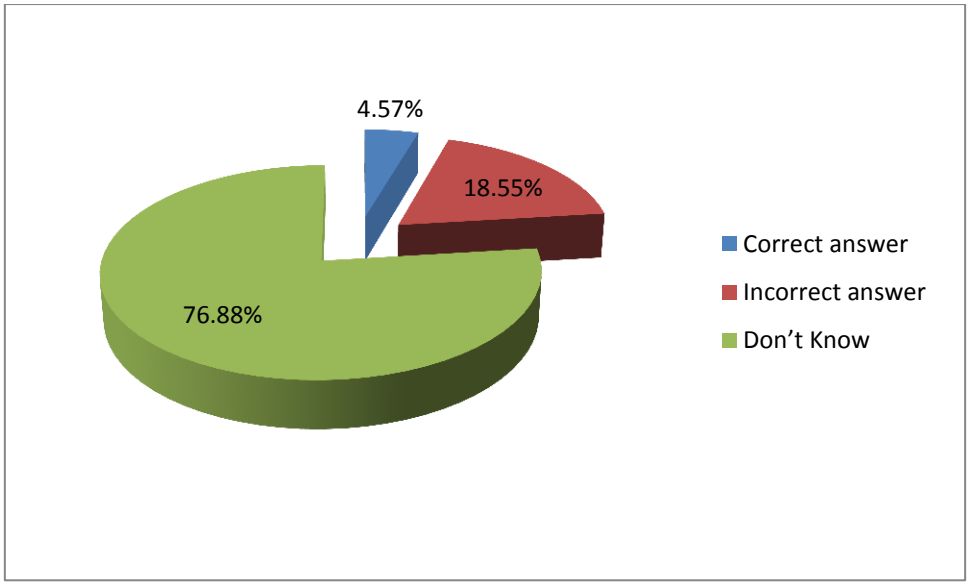
Table 24: Nature of first aid to be given to an animal bite victim

Nature of First Aid	**Frequency N=1051**	**Percent**
Correct answer	48	4.57
Incorrect answer	195	18.55
Don't Know	808	76.88
Total	1051	100.0

Only 4.57 %(48) of the mothers knew about appropriate steps to be taken when a person is suffering animal bite.

Correct answer to the question as an appropriate first aid following animal bite

- Wipe the saliva away from wound
- Wash the wound thoroughly under tap water
- Wash the soap and apply antiseptics such as povidone iodine or 1% alcohol
- Cover the wound with a dry clean light dressing.
- Take the patient to the health care facility for further treatment.



Graph 12: Nature of first aid to be given to an animal bite victim

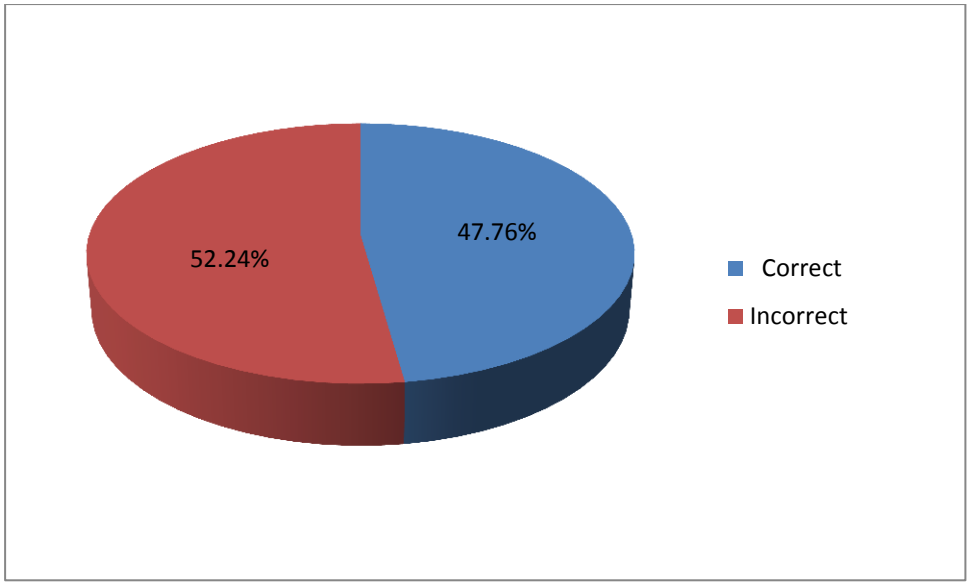
Table 25: Knowledge about first aid to be given to a dog bite victim

Answer	Frequency N=1051	Percent
Correct	502	47.76
Incorrect	549	52.24
Total	1051	100.0

Of the 1051 mothers, 47.76% (502) had awareness of the first aid to dog bite victim.

Correct answer to the question as an appropriate first aid in a case of dog bite.

- Washing of the bite wound with soap
- The wound should be thoroughly irrigated under tap water for at least 15 minutes
- The wound should then be cleaned using an antiseptic (E.g. Povidone Iodine or Ethanol).
- Packing of the wound should be avoided as far as possible.
- The victim should be taken to the hospital as soon as possible.



Graph 13: Knowledge about first aid to be given to a dog bite victim

Table 26: Nature of first aid to be given to a victim of poisoning

Nature of First Aid	**Frequency N=1051**	**Percent**
Induce vomiting by salt water	194	18.45
Do nothing, go to the doctor	55	5.24
Others	30	2.85
Don't know	772	73.46
Total	1051	100.0

18.45 % of the mothers in the subject population had opinion they will induce vomiting with salt water for person who has consumed poisonous substance.

Remaining mothers suggested take the person to a health care facility immediately for evaluation and treatment of the patient.

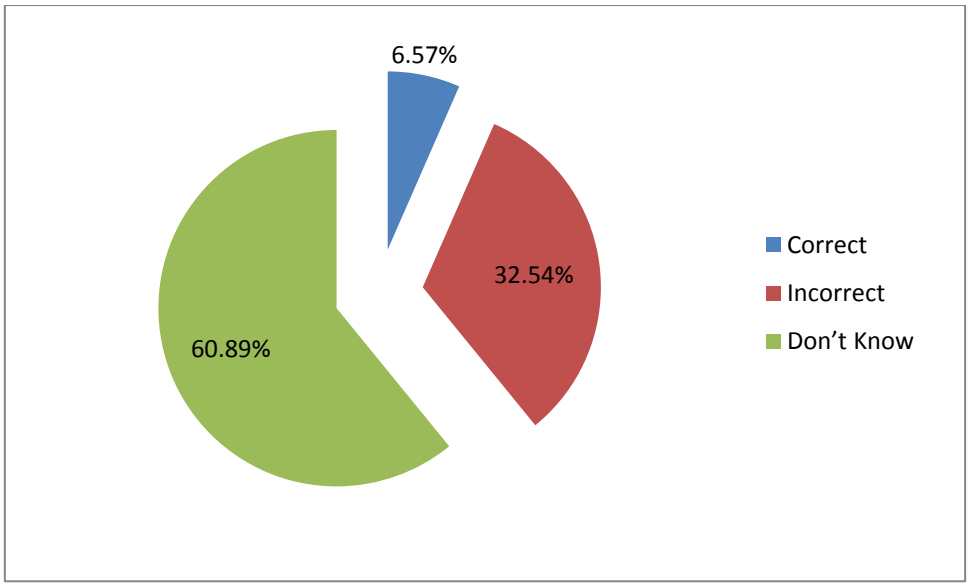
Table 27: Nature of first aid to be given to a victim of drowning

Response	Frequency N=1051	Percent
Correct	69	6.57
Incorrect	342	32.54
Don't Know	640	60.89
Total	1051	100

Only 6.57% (69) of mothers knew about appropriate measures to be taken as first aid to victim who was drowning.

Correct answer to the question as an appropriate first aid for a victim of drowning

- Quickly remove any obstruction such as weed from the casualty's mouth & begin artificial respiration immediately.
- When you can place him on a firm surface check A B C &continue resuscitation if necessary
- Keep him/her warm.
- Go to a doctor immediately



Graph 14: Nature of first aid to be given to a victim of drowning

SCORING OF KNOWLEDGE

For the purpose of assessing the overall knowledge of subjects regarding first aid 13 questions which assessed different aspects of knowledge regarding first aid were considered. A correct response for each question was awarded '1' mark. A partially correct response was awarded '0.5' marks. A completely wrong response was awarded '0' marks. The maximum marks that could be scored by a subject was '13' marks for a total of 13 questions.

Table 28: Baseline knowledge score among subjects

	Mean	**Standard Deviation**	**Minimum**	**Maximum**
Subjects Total 1051	2.946	2.101	0	10.5

Baseline knowledge of mothers (n=1051) was assessed, the mean of knowledge score was 2.946 with standard deviation of 2.101 with scores ranging from a minimum of 0 to a maximum of 10.5

Association between various socio demographic factors and the knowledge score was tried determined using one way ANOVA (Analysis of Variance) test and Student's t-test

Table 29: Relationship between Age of the mother and Knowledge score

Age (in years)	Subjects	Mean	Standard Deviation	Maximum	Minimum	p value
16-20	141	2.68	1.73	6	0	0.348
21-25	276	3.03	2.05	8.8	0	
26-30	318	2.89	2.24	10.5	0	
31-35	175	3.16	2.13	10.5	0	
36-40	108	2.8	2.38	9	0	
41-45	33	3.13	1.24	5.5	1	

df =1.119 F= 1.119

There was no association between with total knowledge score and age of the mothers with p value of 0.34.

Table 30: Relationship between Occupation of the mother and Knowledge score

Occupation	Subjects	Mean	Standard Deviation	Maximum	Minimum	p value
Housewife	877	2.77	2.02	10.5	0	.0000
Labour	30	2.25	1.21	4	0	
Farmer	120	4.17	2.23	9.5	0.5	
Others	24	4	2.78	9	0	

df=3 f=19.794

There is statistically significant association different and total knowledge score in the study population with farmers having appropriate knowledge about first aid with p value of 0.000.

Table 31: Relationship between Socioeconomic status of the mother and Knowledge score

Socioeconomic status	**Subjects**	**Mean**	**Standard deviation**	**Maximum**	**Minimum**	**p value**
1	105	3.44	1.66	9.5	1	0.014
2	129	3.51	2.49	10.5	0	
3	680	2.89	2	9.5	0	
4	101	2.72	2.06	9.5	0	
5	36	2.97	1.82	7	0	

df=4 f=3.142

There is statistically significant association socioeconomic status and total knowledge score in the study population with mother's higher socio economic status having appropriate knowledge about first aid with p value of 0.014.

Table 32: Relationship between Education of the mother and Knowledge score

Education	**Subjects**	**Mean**	**Standard Deviation**	**Maximum**	**Minimum**	**p value**
Illiterate	255	3.09	2.15	9.5	0	.000
Primary	342	3.02	1.8	8.5	0	
High school	352	2.7	2.07	10.5	0	
PUC	90	2.48	2.22	10.5	0	
Degree	12	8.25	1.36	9.5	6	

df=5 F=19.54

There is statistically significant association literacy and total knowledge score in the study population mother's undergone education above secondary level having appropriate knowledge about first aid with p value of 0.000.

Table 33: Relationship between Awareness about first aid among the mother and Knowledge score

Awareness about first aid	**subjects**	**Mean**	**Standard deviation**	**maximum**	**minimum**	**P value**
Heard about first aid	54	6.81	2.45	10.5	2.5	0.000
Not heard about first aid	997	2.73	1.86	9.5	0	

df=1049 t=15.3214

There was significant correlation between awareness about first aid and total knowledge score with mothers who have heard about first aid have better knowledge about first aid with p value of 0.000.

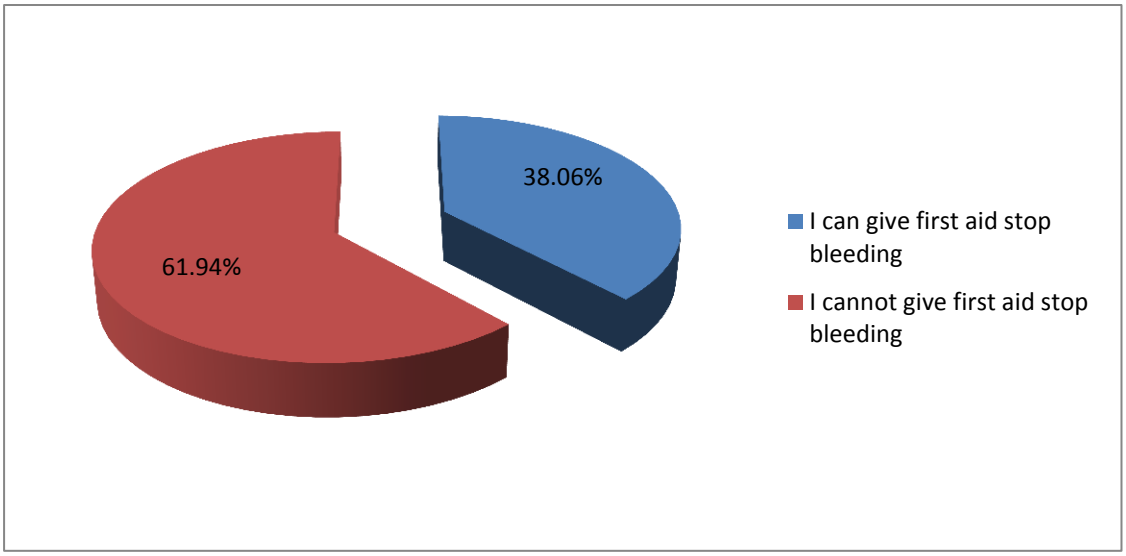
E. ATTITUDE OF THE STUDY POPULATION

Attitude of the mothers in the study population was assessed by asking the questions such as their belief regarding their own ability to give first aid to stop bleeding, the necessity to possess knowledge of first aid, attitude towards undergoing training in first aid and attitude towards the importance of hand washing practices before giving first aid.

Table 34: Attitude regarding self-ability to give first aid to stop bleeding.

Response	**Frequency N=1051**	**Percent**
I can give first aid stop bleeding	400	38.06
I cannot give first aid stop bleeding	651	61.94
Total	1051	100.0

Of the total 1051 mothers, only 38.06% (400) of them had the opinion they have ability to stop bleeding

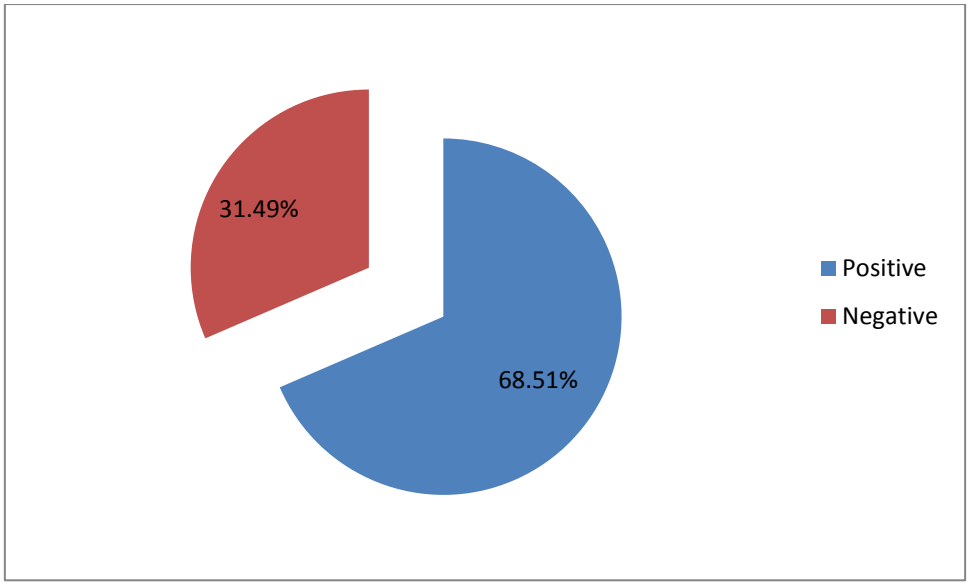


Graph 15: Attitude regarding self-ability to give first aid to stop bleeding.

Table 35: Attitude towards hand washing before giving first-aid for injury

Response	**Frequency N=1051**	**Total**
Positive	720	68.51
Negative	331	31.49
Total	1051	100

Majority 68.51 %(720) of mothers in the study population felt that it is hand washing is important before giving first aid to the victim

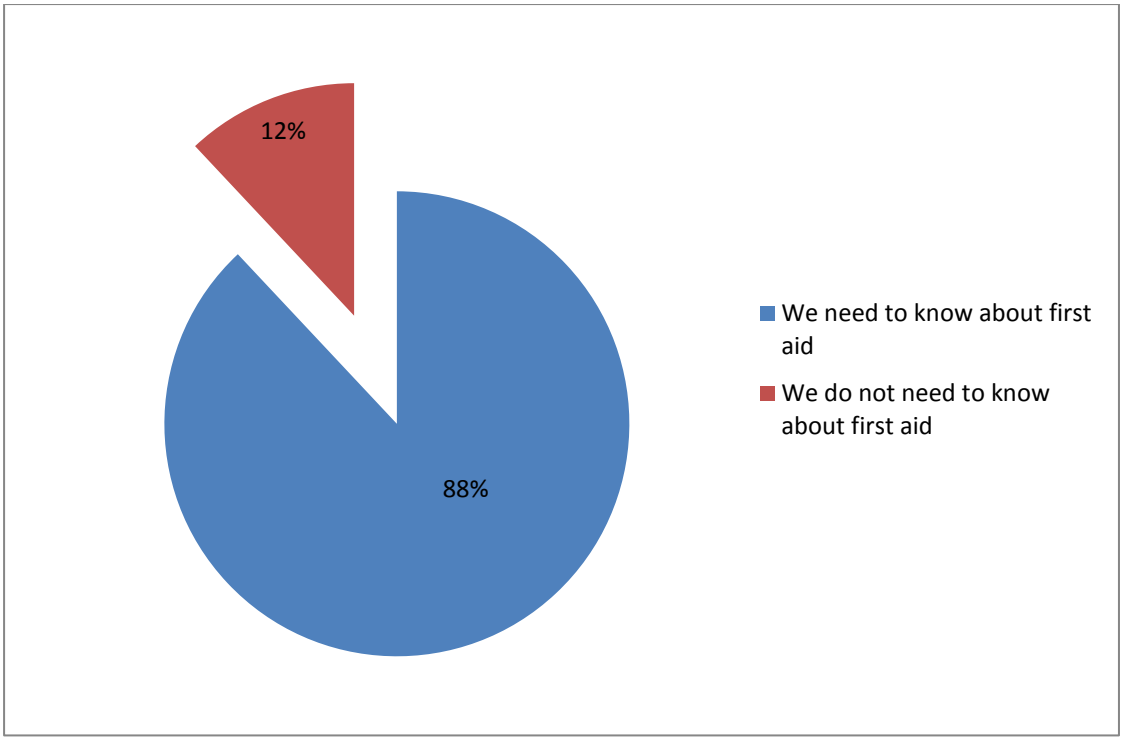


Graph 16: Attitude towards hand washing before giving first-aid for injury

Table 36: Attitude towards necessity to have knowledge of first aid

Response	**Frequency N=1051**	**Total**
We need to know about first aid	925	88.01
We do not need to know about first aid	126	11.99
Total	1051	100

88.01% (925) of the mothers in the study population felt it is the necessity to possess knowledge regarding First Aid.



Graph 17: Attitude towards necessity to know about First Aid

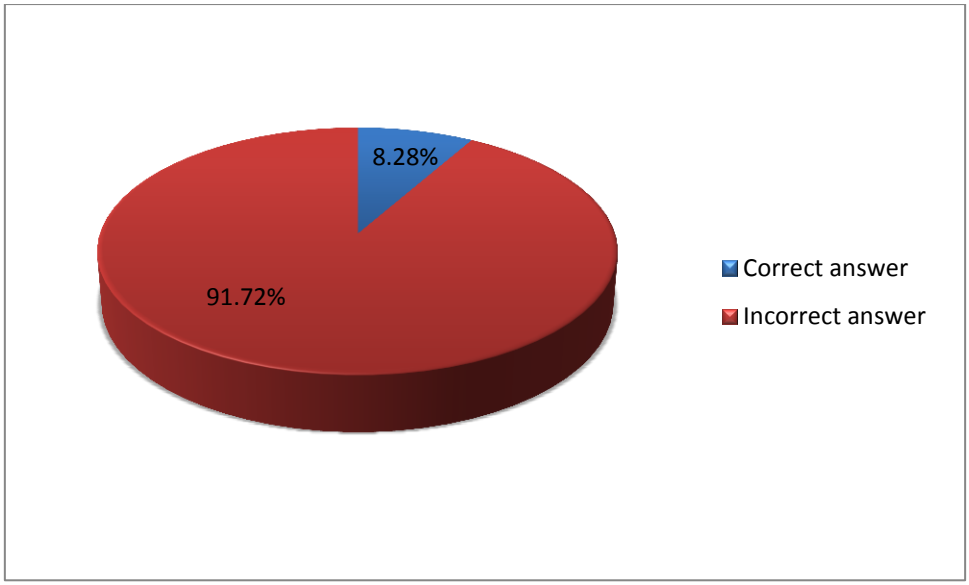
F. PRACTICE REGARDING FIRST AID

Practices regarding first aid by the subject population were assessed by asking them demonstrate to stop bleeding in the fore arm as first aid in a simulated patient with it.

Table 37: Ability to demonstrate giving first aid demonstrates a person with bleeding forearm.

Response	**Frequency N=1051**	**Percent**
Correct answer	87	8.28
Incorrect answer	964	91.72
Total	1051	100.0

Of the total 1051 mothers, Only 87 (8.28%) of were able demonstrate correctly procedure of stop bleeding on forearm in a victim as First Aid.



Graph 18: Ability to demonstrate giving first aid demonstrates a person with bleeding forearm.

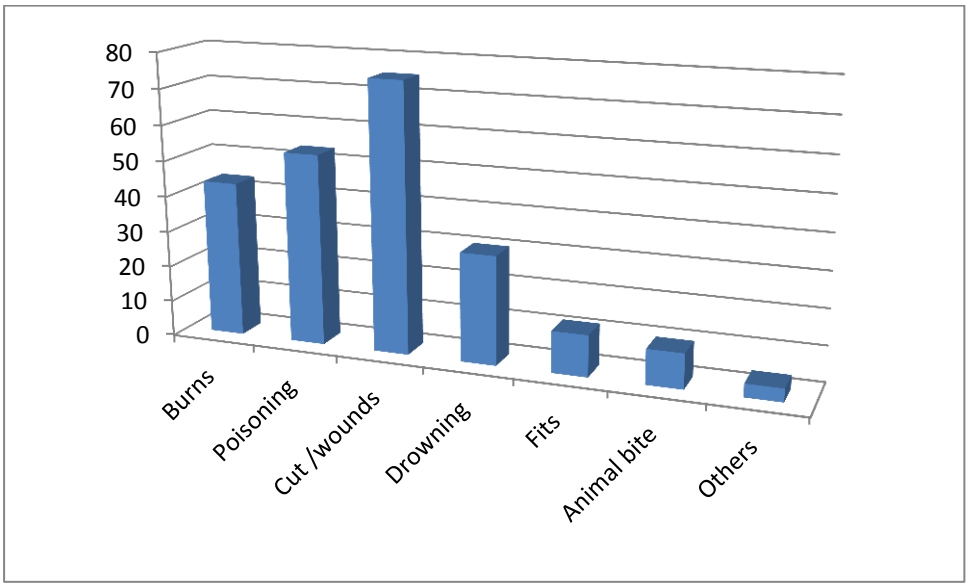
Correct answer to the question as an appropriate first aid for a patient with bleeding in forearm

- Bring the sides of the wound together with a clean hand &press firmly with a clean cloth
- Place the casualty in a comfortable position and raise the right hand above the heart level
- Press the pressure point for 10-15 min until bleeding stop
- Finally bandage firmly but not too tight & take him to hospital

Table 38: Conditions in which First Aid was given by subjects

Condition	**Frequency N=1051**	**Percent**
Burns	457	43.48
Poisoning	562	53.47
Cut /wounds	790	75.16
Drowning	319	30.35
Fits	122	11.6
Animal bite	103	9.8
Others	39	3.71

Of the 1051 mothers, Majority of subjects (75.16%) had given first aid in case of cut /wounds. Other conditions where first aid was performed were Poisoning, Burns which were performed by 53.47 %, 43.48% of mothers respectively.



Graph 19: Conditions in which First Aid was given by subjects.

DISCUSSION

The study was conducted in Shivanagi village of Bijapur taluk in Bijapur district which is rural field practice area of Shri B.M.Patil Medical College, Bijapur and it has a population of 7068 according to 2001 census with 3669 males and 3399 females. [77]

The study was conducted to assess the knowledge, attitude and practice regarding first aid of mothers who have children less than 15 years. Mothers in the study population were in the age group of 16-45 years.

A total of 1051 women were identified in the study area who have children of less than 15 years and data was collected by interviewing them. They comprise about 14.87 % of the population.

The reason to choose women who has children less than 15 years as a target group or subject because mothers are primary care givers in case of injury to the children especially in domestic settings . [15]

SOCIO DEMOGRAPHIC PROFILE OF STUDY POPULATION

In our study majority of the mothers belonged to the age group of 26–30 years (36.25%) it is which is similar to studies done by Eldosoky RSH et al [25], El-Aty NSA et al [78] and Sonavane et al.[69]

House wives (88.14%) were the most common occupation of the study population in our study which is similar to the studies done by Sonavane et al [61] and Eldosoky RSH et al. [25]

64.7% of the mothers belonged to Class 3 of socio class according to the modified B.G. Prasad classification it is similar studies done by Eldosky RSH et al and Sonavane et al. [25, 61]

Mothers who had completed up to high school education were 33.49% which was the major group in our study population it is similar studies done at Bangalore and by Hossein YES et al, El-Aty NSA et al.[61, 62, 78]

Husbands were the head of family in relation to the subject population in 78.88% of households in our study population.

Majority of the children belonged to the age group of 0-5 years. Almost equal numbers of male and female children were present.

Majority of the mothers were Hindus (80.02%) in the study population and 19.98 were Muslims. 64.52% of the mothers were from nuclear family.

INJURY IN THE POPULATION

In our study we found that injury prevalence in children was 78.21% in preceding six months which was similar compared to the studies done at Chandigarh,[28] Egypt [62] and less compared to studies done in Bangalore[61], Singapore,[56] and Pondicherry [30]. The varied difference may because time period of the study and composition in the study population.

Only 1.46% of cases some form of first aid was administered after the injury which is less compared to study done in Bangalore. [61]

KNOWLEDGE ABOUT FIRST AID

In our study we found that only 5.13% of the mothers in the subject population had heard about first aid which is less compared to studies done in Bangalore and Egypt.[61, 78]

In our study, Doctor / Nurses (77.77%) were the major source of information about first aid to the mothers who were aware of first aid, which was similar studies done in Bangalore and Iran. [61, 62]

In our study 83.33% of the mothers were of the opinion that they will be able to give first aid on trained which is similar to other studies done by Eldosky RSH et al, Hossein YES et al and El-Aty NSA et al. [25, 62, 78]

NATURE OF FIRST AID IN SPECIFIC SITUATIONS

1. MINOR CUT OR WOUND.

In our study we found that in case of minor cut or wound, 33.68% of the mothers will apply Dettol as first aid and 24.54 % of the mothers will wash the wound and give pressure if needed and we also found that 40.51% of the mothers will not do anything at home and will seek the doctor immediately, it is similar to results found in Egypt [78] but study done in Bangalore respondents said that coffee powder will be used as first aid. [61]

Mothers also said that they will apply haldi powder or lime to the wound for healing

2. BURNS.

In case of burns in our study we found that 20.55 % of the mothers stated that they will keep the burned part under running cold water and 16.55 % of them stated

that they will apply herbal extract. Others remedies used by the mothers were applying oil and salt mixture, haldi powder, lime paste, burnol, saffron powder, to the burned part. But majority of them suggested they will go to the doctor immediately. Our results are similar to studies done in Bangalore, Iran and by El-Aty NSA et al. [61, 62, 78]

3. WHEN CHILDREN'S CLOTH CATCHES FIRE.

In our study we found that 22.45% (236) of the mothers said they will pour water on the victim trying to put out the flame. Only 13.03% of the mothers said they will wrap the victim in blanket which should be the done as first aid when person's cloth catch fire. Study done in Egypt also got similar findings. [25]

4. SEIZURE/FITS

In our study 11.99% of the mothers said you have to keep the victim under control and remove any objects which could cause harm to the patient , external force should not be used to stop convulsion which is the appropriate should be done as first aid. Remaining mothers suggested taking the patient hospital which is similar to studies done by Hossein YES et al and El-Aty NSA et al.[62, 78]

5. FOREIGN BODY IN THE EYE

In our study we found that 33.13% had the opinion that you should rinse the eye blink in the saucer which is filled with tap water. Appropriate method is to make a pointer with a clean cloth and try to removing the foreign body. Result of our study was similar to studies done in Egypt, Bangalore and Turkey. [25, 61, 62]

6. FOREIGN BODY IN THE NOSE

In our study we found that 16.27 % of mothers said they will ask the person to sneeze as first aid when there is foreign body in the nose. Majority of the mothers said to take victim to doctor as there's nothing can be done by them. It is similar to results studies by Eldosky RSH et al and Sonavane et al. [25, 61]

7. FOREIGN BODY IN THE EAR

In our study we found that pouring coconut oil in the ears was suggested by 17.98 % of mothers as a treatment to be done when there is foreign body in the ear which might be harmful to the ear.

Majority of the mothers said that victim should be taken to health care facility it is similar to findings of studies done by Sonavane et al and El-Aty NSA et al. [25, 61]

8. CHOKING

In our study we found out that 10.27% of mothers suggested that victim should be given water to drink and more than 75% of the subjects in the study population will to take victim to the doctor / health facility immediately. Our result was similar to studies done by Sonavane et al, Hossein YES et al and El-Aty NSA et al. [61, 62, 78]

9. SNAKE BITE/SCORPION BITE

In our study we found that almost all the mothers will take the victim to the health facility immediately and only 2.57 % of them will resort to first aid and they will wash the wound and cover the wound with a dry clean light dressing and take the patient to the hospital for further treatment. Similar results were present in studies done in Bangalore and Egypt. [61, 78]

10. ANIMAL BITE

In our study we found that 4.57% of the subjects in the population knew about appropriate steps to be taken when a person is suffering animal bite which was to wipe the saliva away from wound. Wash the wound thoroughly under tap water with soap and apply antiseptics such as povidone iodine or 1% alcohol. Cover the wound with a dry clean light dressing. It may be because of the fear of unknown and others suggested that will go to doctor immediately similar results were found by studies done by El-Aty NSA et al and Sabely AAE et al. [78, 79]

11. DOG BITE

In our study it we found that 47.76% of the mothers knew what should be done when there is a dog bite in their home or neighbourhood which was to wash of the bite wound with soap and thoroughly irrigated with tap water for at least 15 minutes, wound should then be cleaned using an antiseptic (e.g. Povidone Iodine or Ethanol). Packing of the wound should be avoided as far as possible similar results were found in study done in Bangalore.[61]

12. POISONING

In our study we found out that 18.45 % of the mothers in the subject population had opinion they will induce vomiting with salt water for person who has consumed poisonous substance. Our result is similar to studies done by Hossein YES et al and Sabely AAE et al. [62, 79]

13 DROWNING

It was reported in our study that only 6.57% of mothers knew about appropriate measures to be taken as first aid when someone is drowning which is to

quickly remove any obstruction such as weed from the casualty's mouth & begin artificial respiration immediately then you must place victim on a firm surface check the Airway, Breathing, Circulation and continue resuscitation if necessary. Keep the victim warm and take the victim to the health care facility as soon as possible. the result is similar to findings of studies done by Sonavene et al.[61]

KNOWLEDGE SCORE

Overall knowledge of the subjects was assessed regarding first aid by asking 13 questions which assessed different aspects of knowledge regarding first aid were considered. A correct response for each question was awarded '1' mark. A partially correct response was awarded '0.5' marks. A completely wrong response was awarded '0' marks. The maximum marks that could be scored by a subject was '13' marks for a total of 13 questions.

In our study we assessed baseline knowledge of all mothers and the mean of knowledge score was 2.946 with standard deviation of 2.101 with scores ranging from a minimum of 0 to a maximum of 10.5. This was similar to results of study done in Bangalore and relatively less compared to study done by Eldosky RSH et al .[61, 25]

In our study we also found that there is significant correlation between education of the mother and knowledge about first aid women having secondary education had good knowledge (p value < 0.000) which is similar to results of study by Eldosky RSH et al.[25]

In our study population farmers had the good knowledge compared to other occupation with p value less than 0.05. It was not similar to results of other studies but the result of our study can be explained farmers rely on first aid method rather than

going health facility and they have this knowledge about first by trial or error or by previous experience to them.

We also found that women from socio economic classes 1 and 2 had better knowledge than other classes the similar results were found by studies done in Egypt and Bangalore.[25, 61]

In our study we found out that there is no co relation between age and knowledge about first aid it is similar to results of study done in Bangalore [61] and it differs from finding of study done by Eldosky RSH et al [25] where they got younger mothers have better knowledge than older age groups.

Mother who had heard about first aid had better knowledge score than who had not heard about first aid this similar to results of studies done by Eldosky RSH et al and Hossein YES et al. [25, 62]

ATTITUDE ABOUT FIRST AID

In our study we found that 38.06% of mothers stated they have ability to stop bleeding in home settings by applying pressure on the wound and our results was similar results of study done by Sonavane et al. [61]

In our survey we found out that majority of the mothers said it is important to wash your hand prior giving first aid if possible and majority of the mothers said it will be good if the mothers have knowledge about first aid. Our result was similar to results of studies done by Eldosky RSH et al and Sonavane et al. [25, 61]

PRACTICE ABOUT FIRST AID

In our survey we found that only 8.28% of the mothers were able to demonstrate correctly to stop bleeding on forearm in a victim as First Aid which is to bring the sides of the wound together with a clean hand &press firmly with a clean cloth then place the victim in a comfortable position and raise the right hand above the heart level. Press the pressure point for 10-15 min until bleeding stop. Finally bandage firmly but not too tight & take him to hospital. Similar results were present in studies done at Bangalore, Egypt. [61, 62]

In ours study we found out that majority of subjects had given first aid in case of cut/wounds. Other conditions where first aid was performed were poisoning and burns which were performed by 53.47 % and 43.48% of mothers respectively.

SUMMARY

The study was conducted in Shivanagi village of Bijapur taluk in Bijapur district A total of 1051 women were identified in the study area who have children of less than 15 years.

In our study majority of the mothers belonged to the age group of 26–30 years (36.25%) and House wives (88.14%) were the most common occupation of the study population in our study. 65% of the mothers belonged to Class 3 of socio-economic class according to the modified B.G. Prasad classification.

Mothers who had completed up to high school education were 33.49%. Majority of the mothers were Hindus (80.02%) and remaining mothers were Muslims in the study population and 64.52% of the mothers were from nuclear family.

Husbands were the head of family in relation to the subject population in 78.88% of households in our study population.

Majority of the children of the subjects belonged to the age group of 0-5 years. Almost equal numbers of male and female children were present.

INJURY IN THE POPULATION

In our study we found that injury prevalence in children was 78.21% in preceding six months and only in 1.46% of cases some form of first aid was administered after the injury.

KNOWLEDGE ABOUT FIRST AID

In our study we found that only 5.13% of the mothers in the subject population had heard about first aid and Doctor / Nurses (77.77%) were the major source of information about first aid to the mothers who were aware of first aid.

In our study we found that in case of Minor cut or wound 33.68% of the mothers will apply Dettol as first aid. Mothers also said that they will apply haldi powder or lime to the wound for healing.

In case of Burns in our study we found that 20.55 % of the mothers stated that they will keep the burned part under running cold water and 16.55 % of them stated that they will apply herbal extract.

In our study we found that 22.45% (236) of the mothers said they will pour water on the victim trying to put out the flame.

In our study 11.99% of the mothers said you have to keep the victim under control and remove any objects which could cause harm to the patient , external force should not be used to stop convulsion which is the appropriate should be done as first aid.

In our study we found that 33.13% of mothers had the opinion that you should rinse the eye blink in the saucer which is filled with tap water.

In our study we found that 16.27 % of mothers said they will ask the person to sneeze as first aid when there is foreign body in the nose.

In our study we found that was 17.98 % of mothers suggested to pour coconut oil in the ear as a treatment as remedy when there is a foreign body in the ear.

In our study we found out that 10.27% of mothers suggested that victim should be given water to drink in case of choking.

In our study we found that almost all the mothers will take the victim to the health facility immediately and only 2.57 % of them will resort to first aid.

In our study we found that 4.57% of the subjects in the population knew about appropriate steps to be taken when a person had an animal bite.

In our study it we found that 47.76% of the mothers knew what should be done as first aid when there is a dog bite in the neighborhood.

18.45 % of the mothers said had they will induce vomiting with salt water for person who has consumed poisonous substance.

In our study only 6.57% of mothers knew about appropriate measures to be taken as first aid when someone is drowning.

In our study mothers had base line knowledge score of 2.946 with standard deviation of 2.101 and scores ranging from a minimum of 0 to a maximum of 10.5.

There was significant association between occupation of the mother, education of the mother, socio economic status of mother and knowledge score about first aid. But there was no correlation between age and knowledge about first aid.

ATTITUDE ABOUT FIRST AID

In our study we found that 38.06% of mothers stated they have ability to stop bleeding in home settings by applying pressure on the wound. Majority of the mothers said it is important to wash your hand with soap prior giving first aid. 83.33% of the mothers said they will be able to give first aid if trained.

PRACTICE ABOUT FIRST AID

In our study we found that only 8.28% of the mothers were able to demonstrate correctly to stop bleeding on forearm in a victim as First Aid. In ours study we found out that majority of subjects had given first aid in case of cut/wounds. Other condition where first aid was performed was poisoning and burns.

CONCLUSION

- This study was conducted in Shivanagi village of Bijapur district. A total of 1051 women participated in the study.

- The prevalence of injuries in children less than 15 years was 78.21% in preceding 6 months and majority were minor cut or wound and first aid was immediately administered only in 1.46 % of cases .

- Majority of the mothers had not heard about first aid and didn't know about appropriate methods used as First Aid.

- They still practiced traditional methods like applying haldi powder, lime paste for minor cut / wound or abrasion and salt and oil mixture, saffron powder in case of burns.

- Attitude of the mothers towards importance of hand washing prior giving First Aid and the attitude towards necessity to have the knowledge about First aid was positive , however attitude towards the their own ability to stop bleeding was rather poor.

RECOMMENDATIONS

- IEC activities should be undertaken to create awareness about problem of domestic injuries and their prevention among the general population by giving considering the high occurrence of domestic injury their by reducing mortality and morbidity and economic burden caused by injuries.

- Education regarding First Aid to students in schools should be included as a co-curricular activity. A suitable curriculum in First Aid should be planned and integrated into the school syllabus,

- Further studies can be carried out to assess the Knowledge, Attitude and Practices in rural areas among other groups such as parents, caregivers and school teachers to add to the body of knowledge on this important topic.

LIMITATIONS

- Recall bias is the one of the limitation for our study.

- Other limitation is behavior of the respondents they might give best response possible

- Study was done by including all the mothers who have children less than 15 years as there was no prevalence /incidence available for this type study.

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ANNEXURE-I

PROFORMA

TITLE OF THE STUDY: "A STUDY ON KNOWLEDGE, ATTITUDE AND PRACTICE OF FIRST AID FOR CHILDHOOD INJURIES AMONG MOTHERS IN RURAL FIELD PRACTICE AREA OF SHRI B M PATIL MEDICAL COLLEGE."

1. Name of respondent_____

2. Age (Years) _____

3. Occupation_____

4. Religion_____

5. Education_____

6. No of children 0-15 year age group _____

i). Age _____Sex____

ii). Age _____Sex_____

7. Who is the head of this household? _____

8. Nature of the family: Nuclear / Joint/ Three Generation

9. Socio-economic profile:

i) Annual Income ii) Per Capita Income iii) Socioeconomic Status

10. Did your child met with an injury or accident or medical emergency in past six months?

a. Yes

b. No [If yes ask Question 11, if no proceed to Question 12]

11. What was done immediately on the spot when the above mentioned event took place?

a. First aid given

b. First aid not given

Description of incident-

a. Type of injury

b. Nature of First-Aid given.

12. Have you ever heard about “First Aid”? [Circle single best response]

a. Yes

b. No (If Yes ask Question 13 , If no, skip to question no.20)

13. How did you hear about “First Aid”? [Multiple responses possible, circle each response.]

a. Text books in school.

b. School teachers.

c. Health workers/ Anganwadi teachers.

d. Doctors/ Nurses.

e. TV/Radio/Newspapers.

f. Others - [specify] _____

14. Have you ever received “First-Aid”?

a. Yes

b. No

15. Have you ever given “First-Aid”?

a. Yes

b. No

16. Who do you think can administer “First-Aid”? [Multiple responses possible, circle each response.]

a. Don’t know

b. School Teachers

c. Health Workers/Anganwadi Workers

d. Doctors/ Nurses

e. Anybody trained in first aid

f. Others (specify) _____

17. How many persons are required to provide “First-Aid?” [Circle single best response]

a. Don’t know

b. Single person

c. More than one person

d. Both B and C depending upon situation

18. Do you think training is required to offer “First-Aid”? [Circle single best response]

a. Yes

b. No

19. Do you think you can administer “First-Aid” if you are trained? [Circle single best response]

a. Yes

b. No

20. If a minor cut or wound happens to your child while he/she is playing what will you do at home? [Multiple responses possible, circle each response.]

a. Don’t know

b. Apply Dettol

c. Wash the wound first & give pressure if required

d. Do nothing go to a doctor immediately

e. Apply herbal extract

f. Others [specify] _____

21. What will you do at home your child sustains a burn? [Multiple responses possible, circle each response.]

a. Don’t know

b. Hold the burnt area under cold water

c. Apply cut potato/egg white

d. Apply herbal extract

e. Do nothing, go to doctor

f. Others [specify] _____

22. Do you think it is possible for you to give “First Aid” when your child’s clothes catch fire? [Circle single best response]

a. Yes

b. No [If yes ask Question 23, if no proceed to Question 24]

23. What is the first thing you will do at home when your child’s clothes catch fire? [Multiple responses possible, circle each response.]

a. Don’t know

b. Pour water on him/her & try to put out the flame

c. Wrap with blanket

d. Do nothing go to a doctor

e. Others [specify] _____

24. If your child is getting fits at home there is nothing to do at home. Do you agree or disagree? [Circle single best response]

a. Agree [Go to Q. No. 26]

b. Disagree [Go to Q. No. 25]

25. If your child starts having fits what will you do at home? [Multiple responses possible, circle each response.]

a. Don't know

b. Just keep the person under control. Do not use force to stop the convulsions. Remove objects that may cause injuries.

c. Give metal keys in his/her hand

d. Branding

e. Do nothing go to a doctor

f. Other [specify] _____

26. If something falls in your child's eyes what will you do at home? [Multiple responses possible, circle each response.]

a. Don't know

b. Rubbing the eye with hand

c. Rinse eye in a cup of water

d. Make a pointer with the corner of handkerchief/any cloth, moisten it & try to remove the foreign body

e. Do nothing go to a doctor

f. Others [specify] _____

27. If something like a peanut enters the nose of your child what will you do at home? [Multiple responses possible, circle each response.]

a. Don’t know

b. Try to take it out by any means

c. Ask the person to breath by mouth instead of nose

d. Make the person sneeze

e. Others [specify] _____

f. Do nothing go to a doctor

28. If something like a peanut or other small object enters the ear of your child what will you do at home?[Multiple responses possible, circle each response.]

a. Don’t know

b. Pour coconut oil in the ear

c. Try to take it out by any means

d. Do nothing go to a doctor immediately

e. Others [specify] _____

29. What will you do if a baby is getting choked by a foreign body at home? [Multiple responses possible, circle each response.]

a. Don’t know

b. With the head down & chest up gently tap on the back

c. Give water to drink

d. Do nothing go to a doctor immediately

e. Others [specify] _____

30. If your child is bitten by a snake/ scorpion what will you do before going to a Doctor?

a. Correct answer

b. Incorrect answer

c. Don’t Know [Circle-(a) if the mother mentioned all of the following, if not circle-(b)]

Correct answer:

- If the bite is on the arm or leg apply a constrictive bandage on the heart side of the bite tight enough to obstruct & stop the flow of venom to all parts of body.
- We should not wash venom off the skin, or cut the bitten area
- We should not try to suck venom out of wound or use a tourniquet
- Wash the wound with soap & water. Flush the wound with lots of water
- Cover the wound with a dry clean light dressing.
- Take the patient to the hospital for further treatment.
- If the snake has been killed, carry it to the hospital for species identification.

31. What will you do at home if your child is bitten by an animal?

a. Correct answer

b. Incorrect answer

c. Don’t Know [Circle - (a) if the mother mentioned all the following, if not circle (b)]

Correct answer

- Wipe the saliva away from wound
- Wash the wound thoroughly under tap water
- Wash the soap and apply antiseptics such as povidone iodine or 1% alcohol
- Cover the wound with a dry clean light dressing.
- Take the patient to the health care facility for further treatment.

32. When your child is bitten by a dog, cleaning the wound with soap & water at home is not as important as taking him to a doctor immediately. Do you agree or disagree? [Circle single best response]

a. Agree.

b. Disagree.

33. If your child has taken poison there is nothing which you can do at home to help him. Do you agree or disagree? [Circle single best response]

a. Agree. [Go to Q. No. 35]

b. Disagree. [Go to Q. No. 34]

34. What is the first thing you do at home if your child consumes a poisonous substance? [Multiple responses possible, circle each response.]

a. Don't know

b. Induce vomiting by salt water

c. Do nothing go to a doctor

d. Others [specify] _____

35. Do you think bleeding can be stopped by you at home? [Circle Single best response]

a. Yes

b. No

36. If your child sustains an injury and is bleeding in right forearm can you show me how you will stop the bleeding?

a. Correct

b. Incorrect

c. Don't Know [Circle (a) if the mother mentioned all of the following, if not circle (b)]

Correct answer

- Bring the sides of the wound together with a clean hand &press firmly with a clean cloth
- Place the casualty in a comfortable position and raise the right hand above the heart level

- Press the pressure point for 10-15 min until bleeding stop
- Finally bandage firmly but not too tight & take him to hospital

37. Do you think it is important to wash hand every time before giving "First-Aid" or whenever possible? [Circle single best response]

a. Agree

b. Disagree

38. What will you do when you see your child is drowning?

a. Correct

b. Incorrect

c. Don't Know [Circle (a) if the mother mentioned all of the following, if not circle (b)]

Correct answer

- Quickly remove any obstruction such as weed from the casualty's mouth & begin artificial respiration immediately.
- When you can place him on a firm surface check A B C &continue resuscitation if necessary
- Keep him/her warm.
- Go to a doctor immediately

39. If yes in what situation did you give “First-Aid”? [Multiple responses possible, circle each response.]

a. Burns

b. Poisoning

c. Cut wounds

d. Drowning

e. Fits

f. Animal bite

g. Other [specify] _____

40. Do you think it is important for mothers of school going children to know about First-Aid?

a. Yes

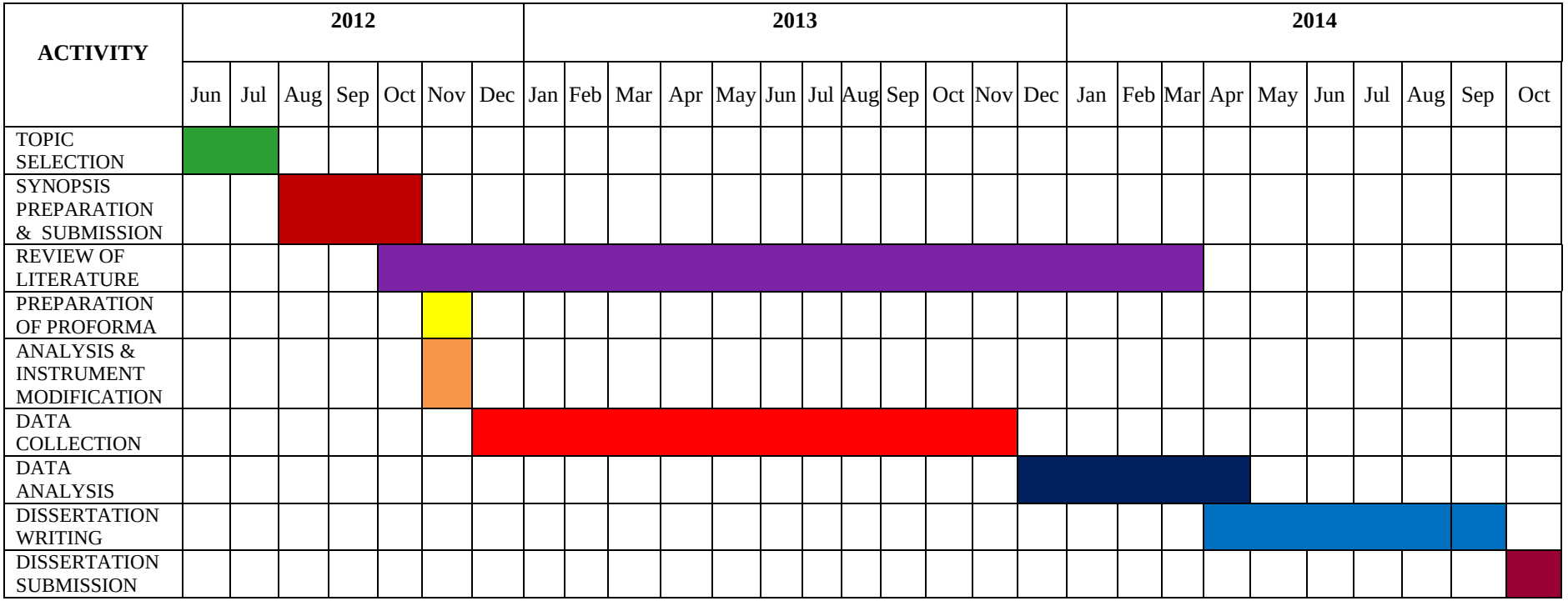
b. No

ANNEXURE-II

ETHICAL CLEARANCE

ANNEXURE -III

GANTT CHART - TIMELINE OF ACTIVITIES



ANNEXURE –IV PHOTOGRAPHS

Photo graph showing interviewing of mother.

Photograph showing mother administering First Aid to a case of minor cut

Photograph showing administering First aid