

## **Pre-hospital care received by injured children less than five years admitted to the Lady Ridgeway Hospital for Children, Colombo**

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### **Abstract:**

#### **Objective**

To describe the pre-hospital care received by injured children less than five years admitted to the Lady Ridgeway Hospital and associated factors.

#### **Methods**

A hospital based descriptive cross sectional study was carried out at the Lady Ridgeway Hospital accident ward. A sample of 400 pairs consisting of a pre-hospital care giver and child were recruited. Structured pre-tested interviewer administered questionnaire was used for data collection and descriptive analysis was used.

#### **Results**

Mean age of the children and pre hospital care giver was 38 months (SD±13.27) and 32.8 years (SD±5.9) respectively. Majority 90.5% (N=362) of care givers were mothers and only 15.7% of had first aid training. However, most (60.5%) of care givers had good knowledge on first aid. First aid box with basic equipment was available for 56.8% injured children. Majority (59.3%) of children was transported within the golden hour and used three wheelers (57%). Although a majority (87.5%) of care givers had access to communication methods only 21.5% knew the emergency telephone number.

#### **Conclusions**

Correct first aid practice was significantly associated with first aid training of the care giver. Since most injured children were transported by three-wheelers, it is imperative to train three-wheeler drivers about how to transport injured children safely.

**Key words:** Pre hospital care, First aid practices, children below five years, Lady Ridgeway Hospital

### **Introduction**

Childhood injury is a growing problem in the world. The burden of injury increases gradually as children grow older. The 64th World Health Assembly also recognized that child injuries are a major threat to the survival and health of the child and recognized it as a neglected public health problem. It has a significant impact on mortality, morbidity, quality of life and socio-

economic burden (1). Addressing childhood injuries is an essential component of achieving the Millennium Development Goal 4. The susceptibility of children to injury and the cause of injury vary significantly with age, gender, race, and socio-economic status. In addition, the status of development in the country too determines the cause of injury. Even in a given society within the country, children from the poor

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socio-economic class are disproportionately prone to injuries than children from the affluent class (1). With the current trend of changes in the socio-economic status of developing countries, common childhood infectious diseases such as diarrhea, pneumonia and vaccine preventable diseases continue to decline and injuries and non communicable diseases are slowly emerging as leading causes of childhood deaths(2).

In Sri Lanka, childhood injury was the fourth leading cause of death in children less than 5 years of age in 2003 and accounts for 17.3% of the total burden of injuries in 2007 (3). In a study on the epidemiology of child injury conducted at the Lady Ridgeway Hospital (LRH), it was revealed that home accidents account for 56%, while road traffic accidents account for only 8% (4).

Pre-hospital care is defined as any form of initial medical care given to an ill or injured patient by a paramedic or any other person before the patient reaches the hospital emergency department (5). In Sri Lanka there is no well-established pre-hospital trauma management system. The National Policy and Strategic Framework on Injury Prevention and Management published by the Non Communicable Disease Unit has documented to strengthen organizational capacity to improve pre-hospital care. It also identifies the need for an emergency ambulance system and pre-hospital care at the site of injury.

Sri Lanka is a middle income developing country. The child population under 5 years is 9%. Less than five years child mortality rate is 11.1% (6). Injury related causes account for 3 out of 15 main causes in child mortality. Sri Lanka has a well-established grass root level primary health care system for maternal and child health. With that we have been able to maintain maternal mortality levels similar to developed countries. Though injuries are the leading causes of morbidity and mortality in children, our primary health care system still mainly addresses the

issues regarding nutrition status, immunization coverage and communicable disease prevention. There is no established education system for mothers on basic first aid, injury prevention and appropriate responses in an emergency situation. With high female literacy levels it is easy to educate mothers with proper first aid treatment. Most of the time mothers gain knowledge through the mass media. Accurate knowledge on first aid care of care giver of children is more important for life saving, for example in choking, burning and electrocution. There was no previous study done to assess the pre hospital care for injured children in Sri Lanka

Sri Lanka does not have an established ambulance system for pre-hospital care. Most of the time injured children are transported by private vehicles especially by three-wheelers. Delay in transport due to unavoidable reasons will deprive them with the golden hour of treatment.

Therefore, it is timely and useful to identify the major deficiencies in pre hospital care for injured children admitted to the leading Children's hospital in the country. The objectives were to describe the pre hospital care received and to assess the knowledge on first aid care among care givers of injured children less than five years admitted to Lady Ridgeway Hospital, Colombo.

This study was designed to describe the pre hospital care received by injured children age less than five years admitted to Lady Ridgeway Hospital (LRH) and associated factors.

## **Methods**

This was a hospital based cross sectional descriptive study conducted during the period from August to September 2012. The study was conducted in accident service ward No 13; all surgical wards (5, 7, 10, 11), ENT ward and burn unit. Patients were traced through the accident service admission register. Name, BHT no and

age were taken from the register and traced the children aged less than five years in the ward 13 and other wards. The study population included injured children age less than five years and their pre hospital care givers (pairs) admitted to LRH accident service during the study period. A pair consists of an injured child aged less than five years with pre hospital care giver at the time of injury.

Pre hospital care giver was defined as the mother or any other person who gave first aid at the time of injury and the main responsible person for the child at the time of incident. Child age less than five year was defined as child who has not reaches the fifth birthday till 01.08.2012.

The sample size was calculated using the formula for estimation of proportions in descriptive studies (7). A standard normal deviate for specified alpha error was set at 1.96 which corresponds to 95%, while precision was set at 0.05. The expected proportion of care givers with good knowledge and received correct pre hospital care was taken as 50% in the absence of this information. The size of the sample from the above calculation was 384 and with a non response of 10%, the final sample size was 425. Consecutive admissions that fulfill eligible criteria were selected from the accident ward admission register and recruited as study units. Study was conducted until the completion of required sample size.

Prior to data collection written permission was obtained from the Director of LRH, Pediatric Surgeons in four surgical wards and ENT surgeon. In the morning data collection could be able to cover the admissions in the night and evening data collection covered the day time admissions.

Participants were informed that they were free to withdraw from study at any time and inform to data collector if they decided to withdraw from the study. Informed written consent was obtained from all participants after providing

detail information about the study and clarifying their doubts. Before getting the consent an information sheet was given to the participant. The average time taken to fill the questionnaire was 15-20 minutes and ensured not to disturbed the ward procedures. Brief advice on correct first aid practice was given after filling the questionnaire.

The study instrument was a pre tested, interviewer administered questionnaire, which consist of three sections was used. The first section collected socio demographic and economic characteristics of pre hospital care giver and child. The second section had details of received pre hospital care and first aid given according to the nature of injury. Pre hospital care giver's first aid knowledge was included in the third section. The questionnaire was designed in consultation with the supervisor; experts in the field (two consultants Pediatric Surgeons, Nursing Sister in charge LRH accident service). Ideas were also taken from the International research publications. Questionnaire was prepared by using first aid manual and National guideline for management of each type of injuries. Content validity of the questionnaire was checked by Pediatric surgeon ward 10, LRH. Consensual and face validity of the questionnaire was checked with the agreement of the supervisor and experts in the first aid field. Principal investigator and one trained pre intern medical officer conducted the data collection.

The Statistical Package for Social Sciences (SPSS), version 18.0 software was used for data analysis. Socio demographic and economic variables of the caregivers and child were described using frequency distributions. The types of injuries were categorized according to the nature and mechanism of injuries and presented with number and percentages.

First aid care was considered as correct if all the first aid practices done correctly for the current

injury. If one or more practice done incorrectly or done malpractice for the current injury was considered as incorrect. Finally correct and incorrect first aid practice for each injury was summarized using frequency distributions. Facilities for providing pre hospital care such as availability of first aid box, helper, communication channel, knowing emergency number, vehicle available for transport and reason for transport delay were summarized and presented with number and percentages.

Knowledge was analyzed based on the ten questions, each one main question include four “yes” and “no” type questions. One main question analyzed one important type of injury. Those are head injury, nose bleeding, bleeding wound, fracture, hot water burn, snake bite, dog bite, choking, foreign body in eye and foreign body in ear. For each correct answer one mark was given and for incorrect answer zero mark. There were total forty questions and the maximum could be obtained was forty and minimum was zero. The total score was analyzed and presented with mean and standard deviation. The score for each type of injuries were separately analyzed and presented in a table with mean and standard deviation.

The knowledge of the pre hospital care giver was considered as good if he/she obtained average over 70% and poor if obtained below 70%. This high cut off range was given as first aid knowledge is important for life saving of injured children (8). Association was considered as significant when p value was less than 0.05.

Ethical clearance was obtained by the Ethics Review Committees of, Faculty of Medical Sciences, Sri Jayewardenepura University and Lady Ridgeway Hospital. After finishing the questionnaire proper first aid care was taught to the care giver and given time to clarify their queries.

## **Results**

The response rate of the study population was 92.8%.

### ***Basic characteristics of the study population***

The mean age of the children was 38 months (SD±13.27) with a range of 4 month to 60 month, while 63 % (N=252) children were males and majority Sinhalese 73.3% (N=293) and 77.6% (N=310) belonged to social class 2 and 3. Majority 90.5% (N=362) of care givers were mothers. The mean age of the pre hospital care giver was 32.8 years (SD±5.9). The majority of the pre hospital care givers were female (96.3%, n=385) and have passed O/L or educated above that level 69.6% (N=278). Majority of care givers 90.5 % (N=326) were unemployed. Out of all pre hospital care givers only (15.7%, n=63) had some form of first aid training.

Majority of injuries had occurred at home 84.8% (N=339) and a higher proportion 42.8% (N=171) occurred at mid-day to evening period. The highest number of children admitted with injuries were from bleeding wound 38% (N=152), contusion 27.3% (N=109), head injury 20.8%, (N=83) and due to fractures 17.3% (N=67). Majority of injuries were due to fall (77.3%, n=309) and injuries due to Road traffic accidents were minimal 5.0% (N=20).

### ***First aid care received at the time of injury according to the nature of injury***

According to table 1, there were 152 children admitted with bleeding wound and 61(40.1%) did all the first aid practices correctly. However 120 (81.6%) tried to stop bleeding by applying direct pressure. There were 69 children with fracture and correct practice was done only by 11 (15.9 %). Only 13 (18.8%) applied a splint or immobilized the fractured limb before coming to hospital. There were 83 children admitted with

**Table 1:** First aid care received at the time of injury according to the nature of injury

Type of injury*	Received first aid care	
	Correct Number (%)	Incorrect Number (%)
<b>Bleeding wound (n=152)</b>		
Applied direct pressure	120 (81.6%)	32(21.7%)
Used clean gauze	74(48.7%)	78(52.3%)
Not tied above wound	135(88.8%)	17(11.2%)
<b>Done all first aid correctly</b>	<b>61(40.1%)</b>	<b>91(59.9%)</b>
<b>Contusion (n=109)</b>		
Put ice for contusion	58(53.2%)	51(46.8%)
<b>Done all first aid correctly</b>	<b>58(53.2%)</b>	<b>51(46.8%)</b>
<b>Head injury (n= 83)</b>		
Stabilized head & neck	46(55.4%)	37(44.6%)
Kept observation for deterioration	64(77.1%)	19(22.9%)
<b>Done all first aid correctly</b>	<b>36(43.4%)</b>	<b>47(56.6%)</b>
<b>Fractures (n= 69)</b>		
Put splint/immobilize	13(18.8%)	56(79.7%)
Not give food	48(69.6%)	21(30.4%)
<b>Done all first aid correctly</b>	<b>11(15.9%)</b>	<b>58(84.1%)</b>
<b>Dog bite (n=17)</b>		
Wash wound with soap & water	16(94.1%)	1(5.9%)
Identify the dog	14(82.4%)	3(17.6%)
<b>Done all first aid correctly</b>	<b>14(82.4%)</b>	<b>3(17.6%)</b>

\*Categories shown are not mutually exclusive.

**Table 2:** Transport time from the incident to center or hospital with facility

<b>Characteristics (n=400)</b>	<b>Transport time</b>	<b>Percent (%)</b>
Within golden hour	237	59.3
After golden hour	163	40.8

**Table 3:** Mean knowledge score, its percentages, standard deviation for each injury type and total score

<b>Type of injury</b>	<b>Mean score &amp; SD</b>	<b>Percent(%) &amp; SD</b>
Head injury	3.03(SD±0.88)	75.7 (SD±22.1)
Nose bleeding	1.66(SD±0.72)	41.5(SD±18.0)
Bleeding wound	2.78(SD±0.99)	69.5(SD±24.0)
Fracture	2.85(SD±1.01)	71.1(SD±25.0)
Hot water burn	2.54(SD±0.84)	63.5(SD±21.0)
Snake bite	2.56(SD±0.85)	64.0(SD±21.2)
Dog bite	2.56(SD±0.85)	64.0(SD±21.2)
Choking	2.88(SD±1.00)	72.0(SD±25.0)
Foreign body in eye	3.12(SD±0.73)	78.0(SD±18.2)
Foreign body in ear	3.21(SD±0.77)	80.2(SD±19.2)
<b>Total</b>	<b>28.40(SD±3.93)</b>	<b>71.12(SD±9.82)</b>

head injury and only 36 (43.4%) did first aid correctly. There were 9 children who had hot water burns and 7 children with nose bleeds. For hot water burn only three received correct first aid practice. Although eight received pour cold water before admission to the hospital, four applied unsterile creams and oils before admitting to the hospital. Out of seven children who had nose bleeding only one had received first aid correctly.

When inquired regarding availability of a first aid box and a helper at the time of the incident, first aid box was not available in 103(25.7%) and helper was not available in 104(26%) at the time of injury.

Table 2 shows that majority of children 239 (59.5%) were transported within the golden hour and most of the injured children were transported by three wheelers (57%, n=228). Among all the injured children only 109 (27.3%) were transported with a suitable vehicle (car, van or cab/jeep). At the time of injury majority had available of communication method (e.g. availability of a phone) (87.8%, n=350). However the emergency telephone number was available/knew in lesser number of care givers (21.5%,n=85).

### ***Knowledge regarding type of injury***

The mean score was 28.4 (SD  $\pm$ 3.93). When the scores were computed into percentage, the score ranged from 37% to 97.5% with a mean score of 71.12 (SD  $\pm$ 9.82). The lowest score was obtained for the question on nose bleeding. For all the other questions the overall knowledge score was above 50%. Majority of care givers had good first aid knowledge (60.5%, n=242) (Table 3).

As shown in table 4, the proportion of care givers with good first aid knowledge was high among care givers of education level above or passed

O/L than care givers of education level below O/L. This observed difference was statistically significant ( $p < 0.001$ ). The proportion of care givers with good first aid knowledge was high among care givers who had first aid training than care givers without first aid training. This observed difference was statistically significant ( $p < 0.001$ ).

The proportion of injured children transported within golden hour was high among children received care by care givers with good first aid knowledge than care givers with poor first aid knowledge. The observed difference was statistically significant ( $P < 0.05$ ) (Table 5).

The proportions of children with available of first aid box with basic equipment/drugs were high among children provided care by care givers with age more than thirty than below thirty ( $X^2=4.268, df=1, P=0.039$ ) and care givers with education level equal or more than O/L than below O/L ( $X^2=30.59, df=1, P=0.000$ ).

### **Discussion**

Childhood injuries are a growing problem all over the world. It is important not only to prevent injuries but also to mitigate the consequences following an injury (9). The present study showed an increasing percentage of admissions with increasing age up to 48 months and majority of the injured children were males (63%). A similar study done in the LRH accident service, Lamabadusooriya in 2001 on the epidemiology of child hood trauma had showed increasing trend with increasing age till age nine and 57 % of the injured children were male (4). The activity level increasing with increased age leading to more exposure to the environment with reduced supervision by the care giver might be the possible reasons for increase in injury when a child grows older. The World Report on Child Injury 2008 also mentions that the death rate of male children exceeds the death rate of female children in all age group (10).

**Table 4:** Association between first aid knowledge and care giver socio demographic and other factors

Characteristics (n=400)	First aid knowledge		Total	Level of Significance
	Good	Poor		
<b>Age</b>				
<30 years	67(46.5%)	77(53.5%)	144(100%)	X <sup>2</sup> =1.247
≥30 years	134(52.3%)	122(47.7%)	256(100%)	df=1
				<b>p=0.264</b>
<b>Education level*</b>				
<O/L	39(32.0%)	83(68.0%)	122(100%)	X <sup>2</sup> =23.471
≥O/L	162(58.3%)	116(41.7%)	278(100%)	df=1
				<b>p=0.000</b>
<b>Employment status</b>				
Unemployed	165(50.6%)	161(49.4%)	326(100%)	X <sup>2</sup> =0.093
Employed	36(48.6%)	38(51.4%)	74(100%)	df=1
				<b>p=0.760</b>
<b>First aid training</b>				
Present	50(74.6%)	17(25.4%)	67(100%)	X <sup>2</sup> =19.13
Absent	151(45.3%)	182(54.7%)	332(100%)	df=1
				<b>p=0.000</b>

**Table 5:** Association of transport of injured child within golden hour and socio demographic, economic and other factors of care giver

Characteristic	Transport		Total	Level of Significance
	Within golden hour (n=237)	After golden hour (n=163)		
<b>Age</b>				
< 30 years	93(64.6%)	51(35.4%)	144(100%)	X <sup>2</sup> =2.651
≥30 years	144(56.3%)	112(43.8%)	256(100%)	df=1
				<b>P=0.104</b>
<b>Education level</b>				
<O/L	76(62.3%)	46(37.7%)	122(100%)	X <sup>2</sup> =0.569
≥O/L	162(58.3%)	116(41.7%)	27( 100%)	df=1
				<b>P=0.451</b>
<b>First aid knowledge</b>				
Good	146(60.3%)	96(39.7%)	242(100%)	X <sup>2</sup> =5.93
Poor	92(58.2%)	66(41.8%)	158(100%)	df=1
				<b>P=0.015</b>

As indicated in the present study the majority of care givers belonged to the age group of 30-39 years (54.5%). This was supported by the community base study done on childhood poisoning among the age of 1-4 years by Ranasinghe (2010) which revealed that the majority of mothers (65.7%) belonged to same age category. In our study the education level of the care giver  $\geq$  O/L was 69% and similar results 66.7% were shown the same author (11). The no schooling percentage among care givers was 1% in the present study, which is an important factor since literacy is important in first aid care.

The present study indicated that only 15.7% of care givers had first aid training during their life time. A similar study done in China among preschool teachers showed only 30.6% had first aid training before. That can be explained as China is a developed country and preschool teachers are expected to be more educated as well as equipped with skills, compared to care givers in Sri Lanka (12).

The present study showed that the major mechanism of injury was fall (77.3%) the second and third being road traffic accidents (RTA, 5.0%) and mammalian bites (4.5%). These findings were supported by Lamabadusooriya who indicated 70% fall and 8% RTA. Another study which was done in a similar setting among below 13 year children done by Dharmawardene in 2007 showed fall was 49.6% and RTA was 9.6% (8). Age group of two studies was difference might be the reason for difference incident of injuries. Children are more active, playful and lack awareness of danger and climbing to heights might be the reason for that high percentage in fall.

The present study results showed that the commonest type of injury according to the nature was bleeding wounds (38%). The second commonest type was contusion (27.3%), head injury (20.8%) and fractures (17.3%)

respectively. Out of 17 children admitted with dog bite, 16 (94.1%) had the wound washed with soap and water. A community based study done on health seeking behavior of dog bite victims in the Colombo District revealed that only 58% washed the wound with soap and water (13). The difference may be due to the above mentioned study being done for all age groups including adults. In the present study, the study population was children which made care givers pay more attention and therefore the practice of care givers might be higher than the normal population.

When considering hot water burn, out of nine patients, eight poured cold water before admitting to the hospital. A study done in the USA regional burn unit revealed that out of 211 patients' records, 72.7% recorded cooling their burn before being admitted to hospital (14). In this study it was revealed that four had unsterile cream applied on the burn wound which will cause infections later.

Out of seven children with nose bleeding only one received the correct practice. The studies done in other countries also revealed correct first aid for nose bleeding is low. A cross sectional study done in Karachchi among medical students revealed only 7.4% selected the correct answer for nose bleeding (15).

First aid is a lifesaving method in certain types of injuries and incorrect practice affects the outcome of the injury badly. Especially children in that age group have not yet learned to be aware of both themselves and various dangers in the environment, making them more prone to injuries. The children in this age group spend most of the time with the care giver. Correct first aid at the site also reduces the possibility of hospital admissions later. For example, incorrect first aid for bleeding wounds cause infection later. Considering all the above factors, good first aid knowledge of care giver was taken as above 70% and poor below 70%. In a similar

study done in Shanghai, China among preschool teachers, a score of 80% or greater was required to pass (12).

The present study showed the majority of the care givers (60.5%) had good first aid knowledge. First aid knowledge about head injury and foreign body in the ear showed a high score more than 75%. Except for nose bleeding (41.5%) other questions scored more than 50%. Among the care givers with good first aid knowledge a higher proportion belonged to more than or equal to 30 years of age. The older age group having more experience than the younger age group could have been the reason for this finding. Studies done among preschool teachers in China (12) showed a higher score in the young employed than the old employed. The explanation given was that the younger generation was getting to higher educational levels and were already been exposed to newer knowledge regarding first aid.

The present study showed that among the care givers with good first aid knowledge, a higher proportion had a pass or were educated above O/L and had first aid training. A community based cross sectional study with multiple regression analysis done among preschool teachers in China showed scores were significantly higher among staff members with more education level ( $t=2.069, p=0.039$ ) and those who had received first aid training before ( $t=2.506, p=0.012$ ). Another community based cross sectional study done in Singapore among care givers of children aged below 15 years showed that the higher the education level of the mothers, the more likely that they practiced correct first aid on childhood injuries and its prevention. That study suggested the necessity for parents and care givers to be educated on correct first aid (16).

An intervention study done in Anuradhapura regarding snake bite revealed negative practices can be influenced through correct first aid

education (17). Another study in Uganda regarding knowledge and skill assessment after a one-day first aid training program revealed that with effective first aid training, lay persons can retain their knowledge and with that knowledge, their correct practice improved with time (18).

The Global Burden of Disease 2004 (19) update recognized poor scene management in low and middle income countries as a reason for high trauma death and societal level factors and socio economic disparity within the country as causes for regional disparities of trauma death.

Therefore the present study revealed that more than the knowledge on first aid care of the care giver, the socio economic factors of the child will affect in maintaining the first aid box with equipment. Developing countries like Sri Lanka do not have an organized emergency response system for transfer of trauma patient to hospitals. The absence of this system and consequent delays is liable to have caused many complications.

The present study showed a majority of children were transported during the golden hour. The majority of children were transported using three wheelers (57%). Only 27.3% used a suitable vehicle to transport the injured children such as a car, van, jeep or cab. None of the patients were transported using an ambulance, which is used mainly in developing countries with trauma management centers. The children taken to the hospital after the golden hour indicated that the delayed to decide to go to the hospital (47.2%) and traffic (37.4%) were the main reasons for the delay consequently.

A cross sectional study done in a South Indian tertiary hospital regarding pre-hospital care among injury cases revealed that the median time between injury and admission to a tertiary care hospital was more than 60 minutes. Most reached the hospital beyond the golden hour, as many were not aware of which hospital to contact soon after the injury and nearly half of

them changed the hospital before visiting the tertiary hospital. The present study revealed that out of the children admitted after the golden hour only 2.5% gave the reason as delayed at first center without facility (20).

Sri Lanka established the pre-hospital care system (“1 1 0”) in 2005 which underwent review in 2010 in five of its cities. Out of the total participants in the survey, 32.4% indicated that they will use three-wheelers to transport the patient and only 11.10% said that if ambulances are available they will wait till the ambulance arrived at the scene. This showed that three-wheelers were the popular method of transport of injured people in Sri Lanka.

### Conclusions

Although the knowledge of care givers regarding first aid was good, their correct practice of first aid was low. More attention has to be given to areas where the correct first aid practice is very low such as immobilizing the fractured limb and management of nose bleeding. Correct first aid practices for injuries can be visualized by displaying posters in the well-baby clinics and preschools. Three-wheelers were the main vehicles used to transport the injured children. Therefore it is recommended that practical sessions should be conducted for three-wheel drivers on first aid as well as the correct method of transport of injured children. Though the majority of care givers had some form of communication methods at the time of injury only a few knew the emergency number. Therefore, it is recommended to increase the publicity of the existing pre-hospital care number and other important emergency numbers within the population.

### Conflicts of interest

None declared.

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## ***Author Guidelines***

### **1. Content**

The journal will publish the following categories of articles:

- Presidential address of the College
- Original Research articles (2,500 words without tables & diagrams Maximum of five tables & two diagrams)
- Review/Update articles (2,500 words)
- Continuing Medical Education articles
- Health Systems Research articles
- Reports, communications and letters (Short communications 1,500 words & Research letters 750 words)

### **2. Guidelines for submission of a manuscript for publication**

Online submission facility has been introduced recently through the Sri Lanka journals online (SLJOL) website hosted by the International Network for the Availability of Scientific Publications (INASP). First, the authors need to visit Sri Lanka Journals Online website <http://jccpsl.sljol.info> and select the Journal of the College of Community Physicians of Sri Lanka. Choose the 'Submit an Article' link and register with the Journal, using a username and password. Thereafter authors should follow 5- step article submission process which is a simple and self-guided process.

Manuscript should be prepared using MS Word with double spacing on A4 (11" x 8.5") size paper with the 1.5" left hand and 1" right hand margin. All pages must be numbered in sequence.

The manuscript should be accompanied by a cover letter that the paper has not been published

elsewhere nor submitted to another journal for consideration of publication. The name, full mailing address and telephone number of the corresponding author should be given. All authors should sign the covering letter stating that they agree to transfer copyright to the College of Community Physicians of Sri Lanka, if the article is accepted for publication. A letter of ethical clearance should be attached. All authors should declare any conflict of interest. Contribution of authors for the research should be mentioned if there is more than one author.

Neither the editor nor publisher accepts responsibility for the views of authors expressed in their articles. The Editor reserves the right to make amendments to the papers submitted although, whenever possible, they will seek the author's consent to any changes made.

### **3. Organization of the manuscript**

The sections should be arranged in the following sequence with each section starting on a new page.

#### **3.1 Title page**

Title page should show main title, sub-titles if any, authors listed in the form and order in which they are to appear in the published article, institutional affiliation/s of author/s and the number of words in the manuscript exclusive of abstract, references, acknowledgements and tables.

#### **3.2 Abstract**

Abstract should be limited to 200 words organized into objectives, methodology, results and conclusions. Immediately below the abstract 3-6 key words that identify the main topics in the paper should be given.

#### **3.3 Text**

Text should be arranged under introduction, methodology, results, discussion, conclusions

and acknowledgements. Acknowledgements should be limited only to persons who have contributed to the scientific content, provided financial or technical support.

### 3.4 References

Referencing should be by numbers (Vancouver system) in the order in which they are cited in the text. Use Arabic numerals within parentheses. Do not superscript. For further details of the Vancouver system refer: International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. *British Medical Journal* 1988; 296; 401-5.

List all authors when six or fewer. When seven or more list only the first six and add et al. Give complete name of the journal, year of publication, volume, first and the last page numbers.

e.g.

Belsey MA. The epidemiology of favism. *Bulletin of the World Health Organization* 1973; 48: 10-13.

### 3.5 Tables

All tables must be typed double spaces, each on a separate sheet of paper and numbered using Arabic numerals in the order in which they are cited in the text.

### 3.6 Figures

Figures should be numbered in the order in which they are cited in the text.

***Please note that the email submissions will not be accepted from 1st January 2016 onwards. Authors should submit manuscripts through Journal Management System of Sri Lanka Journal Online website: <http://jccpsl.sljol.info>.***

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