

Common Presenting Symptoms In Children Seeking First Aid Service In A Urban School

Sharma L¹, Sharma D¹

¹Kalash Health Care Centre

ABSTRACT

Introduction: School is an important place next to home where a child learns to be healthy. Children may seek first aid services in a school for various reasons, so there should be a proper health system in school where these problems are addressed.

Method: This is a descriptive observational study done at N. K Sing Memorial English Preparatory School. The study duration was 12 month from Baisakh 2067 to Chaitra 2067. Data were collected in school hours from 9 am to 4 pm everyday except on government holidays and vacation. List of presenting complaints from all systems were given and nursing staff were appointed in the dispensary who were trained to collect data. Number of visits in dispensary was recorded rather than the number of patients.

Result: Total 4082 visits were taken for the study; the average visits per day were 19.8 with SD \pm 5.3. Out of 4082 visits, 44.1% of visits were by males and 55.9% of visits were by females. The mean age was 9.7 years with SD \pm 2.2 years, 4.9% of visits were from age group less than 5 years, 52.3% of visits were from age group 5 to 10 years and 42.8% of visits were from the age group more than 10 years. The top five symptoms bringing students to dispensary were trauma (15.6%), Diarrhea and vomiting (14.7%), cough and Cold (11.3%) and Headache (10.7%). Visits were relatively more common in summer (66.1%).

Conclusion: There are various health necessities of school going children which need immediate first aid support. The strategy should be implemented to reinforce this need in school health program.

CORRESPONDENCE

Dr. Lucky Sharma
Medical Officer
Kalash Health Care Centre
Mail4khcc@yahoo.com

INTRODUCTION

School is an important place next to home where children spend most of their time. This is a gathering place for the child aged 5 to 17 years which is particularly prone and susceptible to many communicable diseases and vulnerable to physical, mental and physical hazards. So, there is a close relationship between health and education, as well as the need to embed health into the educational environment for all students.¹⁻⁶

Understanding the need of school health program, Ministry of Health and Population and Ministry of Education of the Government of Nepal, jointly prepared and endorsed the National School Health and Nutrition Strategy in June 2006. The main goal of the School Health and Nutrition Program is to develop physical, mental, emotional and educational status of the school children.

This goal is supported by four strategic objectives which include Improvement in use of School Health and Nutrition Services by school children; improving healthy school environment; improving health and nutrition behaviors and habits; improving and strengthening community support system and policy environment.⁷

So as a part of school health program, this study is focusing on the common health problems for school children during school hours. This study will also help to find out the necessity of first aid services in schools. Besides there is no study reported seeing the patterns of dispensary visits, so this study will help to enlighten the health related problems in a urban school.

METHODS

This is a descriptive observational study done at N. K Sing Memorial English Preparatory School. An official permission was taken from school authority. The study duration was 12 months from Baisakh 2067 to Chaitra 2067. Data were collected in school hours from 9 am to 4 pm everyday except on government holidays and vacation.

List of presenting complaints from all systems was given and nursing staff were appointed in the dispensary who were trained to collect data. Number of visits to dispensary were recorded rather than the number of patients. A trial of data collection was conducted in Chaitra 2066 for one month to ensure that the data collection was proper and without flaws. All children

visiting dispensary with medical problems were included in study. Children visiting to dispensary with causes other than medical (and if judged to be malingering) were excluded from the study. Malingering was subjective decision based on classed skipped and return to normal after the class is over. Baisakh to Ashwin (March to August) was considered as summer and Kartik to Chaitra (September to February) was considered as winter.

The initial record was maintained in a register which was then transferred monthly in to Microsoft Excel. Dual data entry was done and data were matched to avoid the errors. Data analysis was done using SPSS 16.0. Chi square test was used and $P < 0.05$ was taken as statistically significant.

RESULTS

There were 1500 students in the school where this study was conducted out of which 56.1% were female and 43.9% were male in the year when this study was conducted. The mean age was 9.7 years with $SD \pm 2.2$ years, 4.9% of visit was from age group < 5 years, 52.3% from the age group 5 to 10 years of age and 42.8% from age group more than 10 years. There were 4105 dispensary visits in the year, of which 4082 visits were taken for the study as 23 students who were malingering were excluded from the study. The average visits per day were 19.8 with $SD \pm 5.3$. Out of 4082 visits, 44.1% of visits were by males and 55.9% of visits were by females.

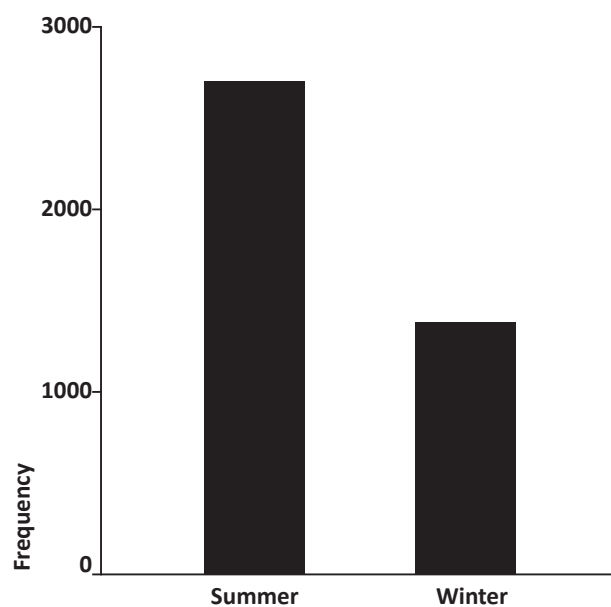


Figure 1: Frequency of visit in summer and winter

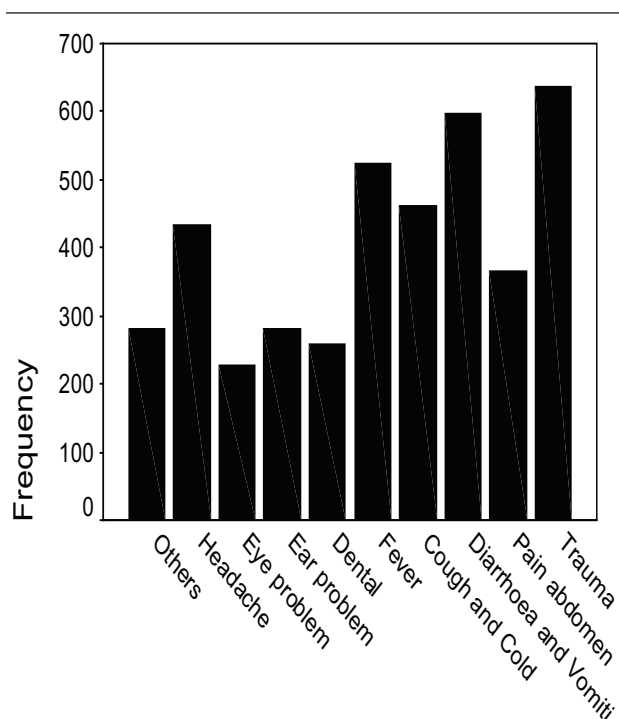


Figure 2: List of common presenting problems

Other problems included epistaxis, watering and itchy eyes without redness, dental caries (not painful), ear discharge and dysmenorrhoea.

The following table (1) shows relation of presenting problem and age category. The statistically significant chi square test suggests the dependence of different presenting symptoms with age category.

Presenting problems	Age Category (years)		
	< 5	5-10	>10
Trauma	5%	16.1 %	16.7%
Diarrhea and Vomiting	7.1 %	17.6 %	12.0 %
Fever	37.9 %	8.5 %	15.4 %
Cough and cold	3.0 %	19.5 %	2.3 %
Headache	2.5 %	9.0 %	13.6 %
Pain abdomen	6.1 %	14.3 %	2.9 %
Earache	1.0 %	10.3 %	4.9 %
Toothache	0.5 %	3.7 %	10.4 %
Red eye	35.9 %	0.0 %	9.1 %
Others	5.6 %	7.1 %	6.8 %
Total	100%	100%	100%

Table 1: Presenting complain in different age groups (Chi square significance < 0.05)

The table 2 shows relation of presenting problem and sex. The statistically significant chi square test suggests the dependence of different presenting symptoms with sex.

Presenting problems	Sex	
	Male	Female
Trauma	13.1 %	17.6 %
Diarrhea and Vomiting	20.5 %	10.1 %
Fever	11.6 %	13.9 %
Cough and cold	7.4 %	14.4 %
Headache	8.7 %	12.2 %
Pain abdomen	15.3 %	4.0 %
Earache	11.8 %	11.0 %
Toothache	10.8 %	2.9 %
Red eye	3.9 %	7.0 %
Others	6.8 %	6.9 %
Total	100 %	100 %

Table 2: Presenting complain in different sex (Chi square significance < 0.05)

The table 3 shows relation of presenting problem and season. The statistically significant chi square test suggests the dependence of different presenting symptoms with season.

Presenting problems	Season	
	Summer	Winter
Trauma	13.3 %	20.2 %
Diarrhea and Vomiting	19.3 %	5.6 %
Fever	8.6 %	21.1%
Cough and cold	7.9 %	18.0 %
Headache	8.9 %	14.0 %
Pain abdomen	13.6 %	0.1 %
Earache	7.6 %	5.6 %
Toothache	5.3 %	8.5 %
Red eye	8.5 %	0.0 %
Others	6.8 %	7.1 %
Total	100 %	100 %

Figure 3: Presenting complain in summer and winter (Chi square significance < 0.05)

Presenting Complain	Sex	<5 Years (%)	5-10 Years (%)	>10 years (%)	P value
Trauma	Male	7.1	39.8	33.7	0.2
	Female	92.9	60.2	66.1	
Diarrhea and vomiting	Male	6.3	58.2	71.8	<0.05
	Female	94.7	41.8	21.2	
Fever	Male	2.7	45.9	45.7	<0.05
	Female	97.3	54.4	54.3	
Cough and cold	Male	33.3	28.1	36.6	0.5
	Female	66.7	71.9	63.4	
Headache	Male	60.0	17.1	51.1	<0.05
	Female	40.0	82.9	48.9	
Pain abdomen	Male	90.1	70.8	94.1	<0.05
	Female	9.9	29.2	5.9	

Table 4: Relation of proportion of top five presenting complain with sex and age

The above table shows that almost all female in the age group less than 5 are sustaining injuries however statistically sex is not dependent to age category. Similarly most of the female in the age group less than is prone to diarrhea and fever. The chi square test for age group and sex in terms of diarrhea and vomiting is statistically significant. Cough and cold is more seen in female throughout all age group. Chi square test for sex and age category in terms of cough and cold is statistically not significant. Headache is more seen in female in age group 5-10 years. Pain abdomen was more prevalent in male. The chi square test for sex and age in terms of headache and pain abdomen is also statistically significant.

Presenting Complain	Sex	Summer Years (%)	Winter Years (%)	P value
Trauma	Male	52.0	17.9	<0.05
	Female	48.0	18.1	
Diarrhea and vomiting	Male	70.3	2.6	<0.05
	Female	29.7	97.4	
Fever	Male	36.9	41.8	<0.05
	Female	63.1	52.2	
Cough and cold	Male	33.3	28.1	<0.05
	Female	66.7	71.9	
Headache	Male	42.3	28.4	<0.05
	Female	57.7	71.6	
Pain abdomen	Male	75.2	2.3	0.2
	Female	24.8	97.7	

Table 5: Relation of proportion of top five presenting complain with age and season

Trauma, diarrhea-vomiting and pain abdomen more in male in summer however it is more in female in winter. The chi square test for sex and season in terms of trauma, diarrhea-vomiting and pain abdomen is statistically significant. Fever and cough-cold is more in female throughout the season. The chi square test for sex and age in terms of fever and cough-cold is also statistically significant.

DISCUSSION

The average dispensary visit is 19.8 per day which is about 2-3 students per hour. This highlights the necessity of implementing a proper dispensary service in school as a part of school health program. A dispensary can function as the central place for collecting the health records of children so that it can provide the clear picture of health in a school. This will help in implementing actions needed to strengthen the health status of children.

In our study 0.5% of the students who were excluded, visited dispensary specially because they wanted to skip class or had not finished their assignment. Maximum number of visits to dispensary was by females (55.9%) possibly because proportion of girls was higher than male. The major health concerns of females were trauma, cough and cold, fever, headache, diarrhea and vomiting.

It was clear that most of the cases were in summer (66.1%) and mostly contributed by diarrhea and vomiting followed by trauma and then pain abdomen. Diarrhea and vomiting was more common in males and more prevalent in the age group 5-10 years of age. A study done in April 2003 in Nepal suggests diarrheal cases and Rotavirus positivity infections occurred throughout the year though the intensity was not uniform and appeared to peak in late winter (Jan-Feb), and to a lesser degree, during the summer/monsoon months (Apr-Aug). The same study also showed that males (67.5%) were affected more and was more prevalent in the age group 6 to 11 years (42.8%) which was similar to our study.⁸

The major five symptoms for dispensary visit that contributed more than 10% each for dispensary visit was Trauma, Diarrhoea/Vomiting, Fever, Cough/cold and headache. There were no studies seeing the patterns of dispensary visit in a school, however a study done in United States seeing the cause of absenteeism from school revealed the major causes to be gastrointestinal

distress, respiratory problems in which the major causes were Asthma, dysmenorrhoea and headache.⁹

The most common presenting complaint in the age group less than 5 years was fever, in the age group 5-10 years was cough and cold similarly in the age group more than 10 years it was trauma. Trauma was more observed in female than in male. A study done in Kathmandu with school adolescent showed that in urban areas, falls (59%) were the most common injuries, followed by transport-related injuries (50%); in semi-urban areas, falls (66%) and cuts (65%) were the most common injuries, followed by transport-related injuries (34%). At the time of falls, boys were generally engaged in sports while girls were engaged in walking on streets or on stairs in houses, in both areas. Falls from trees among boys and falls from roofs among girls were also common in semi-urban areas.¹⁰

Fever and headache was found to be more common on winter. The winter prevalence of fever is due to peaking of cough and cold during winter and was common with the age group 5-10 years. Headache was found to be more common in the female age grouped more than 10 years and in winter.

Conclusion

The strategy adopted by Government of Nepal as School health and nutrition program is very important for the healthy development of children. Besides all preventive strategies the important areas to be emphasized in the curative measure is establishment of first aid care centre in school. Significant number of children has health issue every day that needs first aid service. Dispensary or first aid centre in school can also act as the centre or all data gathering as well as imparting health education to the students.

REFERENCES

1. Association for Supervision and Curriculum Development. The whole child and health and learning*. ASCD Adopted Positions. 2004.
2. Council of Chief State School Officers. Assuring school success for students at risk: A policy statement of the Council of Chief State School Officers.* November 1987.
3. Council of Chief State School Officers. Policy statement on school health.* 2004.
4. National School Boards Association. Beliefs and Policies of the National School Boards Association. Alexandria, VA: National School Boards Association; 2009.
5. National Association of State Boards of Education. Public policy positions of the National State Boards of Education.* Alexandria, VA: National School Boards Association; 2009.
6. American Association of School Administrators. AASAPosition statements.* [pdf 106k] Position statement 3: Getting children ready for success in school, July 2006; Position statement 18: Providing a safe and nurturing environment for students, July 2007.
7. National School Health and Nutrition Strategy, Nepal; GON; 2006
8. M Shariff, M Deb, R Singh. A study of diarrhea among children in eastern Nepal with special reference to Rotavirus. *Indian Journal of Medical Microbiology* 2003; 21 (2):87-90
9. Cristopher A. Kearney, Arva Bensaheb. School Absenteeism and School refusal behavior, A review and suggestion for school based health profession. *Journal of School Health*. Jan 2006;Vol 76(1);3-7
10. K. Poudel-Tandukar, S. Nakahara, M. Ichikawa, K.C. Poudel, A.B. Joshi and S. Wakai. Unintentional injuries among school adolescents in Kathmandu, Nepal: A descriptive study. *Public Health*. 2006 July; Volume 120(7) Pages 641-649