

## Original Article

### The knowledge level and practices on childhood injuries and interventions among parents at home

Navin Kumar Devaraj

#### Abstract:

**Background:** There are many common household emergencies that may involve children. This includes poisoning, falls, burns, choking, animal bites, very high fever and also febrile fits. Knowledge about preventive measures to prevent these accidents at home as well as knowing what to do when it occurs may help in preventing further complications and may aid in recovery. Therefore, this study aims to find out the general public knowledge regarding the preventive steps and early emergency steps that can be taken upon emergencies occurring among children.

**Methods:** A cross sectional study incorporating a questionnaire/instrument that included brief socio-demographic data and a total of 10 questions on common household injuries and emergencies, and either preventive steps or early interventions was used. The topics covered were 6 core topics on poisoning, falls, burns, choking, animal bites, high fever and also febrile fits.

**Results:** The total number of respondents was 119 parents. This study overall showed a good knowledge, attitude and practice among the parents towards common emergency inflicting children. Older aged and female parent were found to have more knowledge and positive attitude towards common emergencies among children, respectively.

**Conclusion:** Group identified as having a lower knowledge, attitude and/or practice should be targeted in future community education programmes to increase the knowledge as well positive attitudes and practices towards identifying and managing common emergencies among children.

**Keywords:** safety; emergencies; children; parents; home

Bangladesh Journal of Medical Science Vol. 21 No. 01 January'22 Page : 140-144  
DOI: <https://doi.org/10.3329/bjms.v21i1.56340>

## Introduction

Globally road traffic accidents, fire-related burns, drowning and falls combined, contributes to the top 15 causes of mortality among children aged 0–19 years.<sup>1</sup> In those below five years of age, the majority of injuries occur in the home itself.<sup>2</sup> Domestic accidents have been singled out as a major threat to the safety of pre-school children in many developed countries. For example, in the Netherlands these injuries caused many avoidable deaths in those under five years of age.<sup>3</sup> These accidents contributes to 50,000 children having to be treated in hospital yearly which equates to 6% of all children aged less than five years at the national level. Higher levels of injury morbidity and mortality occurs most often among those from a poorer background.<sup>4</sup>

There is a dearth of studies done looking at the practice, attitude and knowledge of parent regarding

common household accidents and injuries that can occur in their children such as poisoning, falls, burns, choking, animal bites, high fever and also febrile fits and the possible early intervention steps that can be taken.

Therefore, this study aims to determine the practices, attitude and knowledge level among parents regarding common household emergencies and injuries and early interventional steps. The information gathered from this will help determine the actual practice, attitude and level of knowledge regarding common household emergencies and early interventions that can be taken. Any gaps identified from this research can help to design an effective educational program to address these flaws.

## Methods

A cross sectional study incorporating a questionnaire/instrument that included brief socio-demographic

**Correspondence:** Navin Kumar Devaraj, Department of Family Medicine, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia. 43400 Serdang, Selangor, Malaysia. E Mail: [knavin@upm.edu.my](mailto:knavin@upm.edu.my)

data and a total of 10 questions on common household injuries and emergencies, and either preventive steps or early interventions was used. The topics covered were 6 core topics on poisoning, falls, burns, choking, animal bites, high fever and also febrile fits.

Respondents are those general public attending health talks held by medical lecturers from the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia from June 2019 to November 2019. These can include in UPM or outside UPM sites.

The general public attending health talks on common emergencies among children held by medical lecturers from the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia must be a parent and aged 18 years and above

Due to a need to include all attendees to be fair to them who have spent time and efforts to attend the talks, a convenient sampling method will be employed to include all attendees except for those who refuse consent. The topics covered will be 6 core topics on poisoning, falls, burns, choking, animal bites, high fever and also febrile fits. The minimum sample size calculated accounting for 20% non-respondents was 97 participants (based on the highest percentage of knowledge question that was correctly answered i.e. 94.4% based on a study by Nadeeya et al, 2016 using the following formula:<sup>5</sup>

$$n = \pi(1 - \pi)(Z/E)^2 = 0.944(1 - 0.056)(1.96/0.05)^2 = 81$$

students in which n is the sample size, Z is the standard normal value corresponding to the desired confidence level,  $\pi$  is the prevalence of interest and E is maximum error that is allowed (margin of error).

All statistical analysis were done using the Statistical Package for Social Sciences (SPSS version 23). Total scores were derived from the number of correct answers on three domains of knowledge, attitude and practice. Chi-square test or Fisher exact tests were used for the categories or dichotomous predictors.

All analyses were done with 95% confidence intervals (CI), and the level of significance will be set at  $p < 0.05$ .

**Ethical clearance:** Ethics approval was obtained from the JKEUPM (Universiti Putra Malaysia Medical Ethics Committee) prior to commencement of this study [UPM/TNCPI/RMC/JKEUPM/1.4.18.2 (JKEUPM)]

## Results

Table 1 shows the socio-demographic characteristics

of the respondents. The total number of respondents were 119 parents. The median age of the participants were 33 years. Majority of the respondents were female (96,80.7%), Malay (116,97.6%), and non-professional (104, 87.4%). The median number of children were 3.

**Table 1. Socio-demographic characteristics of the respondents (N=119)**

Characteristics	Frequency	%
	Median (IQR)	
Age, years	33.0 (5)	
<b>Gender</b>		
Male	23	19.3
Female	96	80.7
<b>Ethnic group</b>		
Malay	116	97.6
Chinese	1	0.8
Indian	1	0.8
Others	1	0.8
<b>Occupational group</b>		
Professional	15	12.6
Non- Professional	104	87.4
	Median (IQR)	
<b>Number of children</b>	3(0)	

Table 2 shows the median score of the three domains of assessment. The maximum score for the knowledge, practice and attitude domains were 4,3 and 3, respectively. The median score obtained by the respondent for the knowledge, practice and attitude domains were 3,2 and 2, respectively

**Table 2. Median score of the 3 domains of assessments**

Domain	Median (IQR)
Total knowledge score	3(1)
Total practice score	2(1)
Total attitude score	2(1)

Table 3 shows the factors associated with total knowledge scores. Variables that had a p value of  $< 0.25$  in the univariate logistic regression were entered into the multivariate logistic regression to determine the predictors for higher knowledge score. It was found that being an older parent had a 1.1 time more likelihood to have higher knowledge on common childhood emergencies (95% 1.033-1.260,  $p=0.009$ ).

**Table 3. Factors associated with total knowledge scores**

Characteristics	Knowledge n (%)		Univariate analysis			Multivariate analysis		
	Good	Poor(n=50) (n=69)	Odds ratio	95%CI	P value	Odds ratio	95%CI	P value
<b>Age, years</b> Median (IQR)	33(7.5)	33(1.25)	1.142	1.039-1.256	<b>0.006</b>	1.141	1.033-1.260	<b>0.009</b>
<b>Gender</b>								
Male	6(26.1)	17(73.9)	0.185	0.067-0.513	<b>0.001</b>	0.265	0.052-1.340	0.108
Female	63(65.6)	33(34.4)	ref		ref	ref		ref
<b>Ethnic group</b>								
Malay	68(58.6)	48(41.4)	ref	ref	ref			
Chinese	0(0)	1(100)	0	0	1.000			
Indian	0(0)	1(100)	0	0	1.000			
Others	1(100)	0(0)	0	0	1.000			
<b>Occupational group</b>								
Professional	3(20)	12(80)	0.144	0.038-0.542	<b>0.004</b>	0.528	0.070-4.000	0.536
Non-Professional	66(63.5)	38(36.5)	ref		ref	ref		ref
<b>Number of children</b> Median (IQR)	3(0)	3(0.25)	0.894	0.527-1.515	0.676			

Table 4 shows the factors associated with total practice scores. Variables that had a p value of < 0.25 in the univariate logistic regression were entered into the multivariate logistic regression to determine the predictors for higher practice score. Even though gender and occupational groups were significantly associated with total practices scores in univariate analysis, none of the factors were found to be significant in multivariate analysis.

**Table 4. Factors associated with total practice scores**

Characteristics	Practice n(%)		Univariate analysis			Multivariate analysis		
	Good (n=69)	Poor (n=50)	Odds ratio	95%CI	P value	Odds ratio	95%CI	P value
<b>Age, years</b> Median (IQR)	33(5)	33(5)	1.004	0.928-1.087	0.915			
<b>Gender</b>								
Male	5(21.7)	18(78.3)	0.207	0.071-0.604	<b>0.004</b>	807737478.303	0	0.999
Female	55(57.3)	41(42.7)	ref		ref	ref	ref	ref
<b>Ethnic group</b>								
Malay	60(51.7)	56(48.3)	ref	ref	ref			
Chinese	0(0)	1(100)	0	0	1.000			
Indian	0(0)	1(100)	0	0	1.000			
Others	0(0)	1(100)	0	0	1.000			
<b>Occupational group</b>								
Professional	5(33.3)	10(66.7)	0.445	0.142-1.393	<b>0.165</b>	0	0	0.999
Non-Professional	55(52.9)	49(47.1)	ref		ref	ref	ref	ref
<b>Number of children</b> Median (IQR)	3(0)	3(1)	0.937	0.558-1.575	0.807			

Table 5 shows the factors associated with total attitude scores. Variables that had a p value of < 0.25 in the univariate logistic regression were entered into the multivariate logistic regression to determine the predictors for higher attitude score. It was found that being a male parent had a 0.07 time less likelihood to have a better attitude on common childhood emergencies (95% 0.013-0.390, p=0.002).

**Table 5. Factors associated with total attitude scores**

Characteristics	Attitude n(%)		Univariate analysis			Multivariate analysis		
	Good (n=69)	Poor(n=50)	Odds ratio	95%CI	P value	Odds ratio	95%CI	P value
<b>Age, years</b> Median (IQR)	33(5)	32.5(5)	1.028	0.910-1.160	0.660			
<b>Gender</b>								
Male	12(52.2)	11(47.8)	0.060	0.018-0.202	<0.001	0.071	0.013-0.390	0.002
Female	91(94.5)	5(5.5)	ref		ref	ref		ref
<b>Ethnic group</b>								
Malay	103(88.8)	13(11.2)	ref	0	1.000			
Chinese	0(0)	1(100)	0	0	1.000			
Indian	0(0)	1(100)	0	0	1.000			
Others	0(0)	1(100)	0	0	1.000			
<b>Occupational group</b>								
Professional	8(53.3)	7(46.7)	0.108	0.032-0.368	<0.001	0.993	0.170-5.810	0.994
Non- Professional	95(91.3)	9(8.7)	ref		ref	ref		ref
<b>Number of children</b> Median (IQR)	3(0)	2(2)	2.868	1.384-5.943	0.005	1.452	0.797-2.646	0.223

## Discussion

The majority of the respondents in this study were in their 30's, female, Malay and non-professional. This correlate strongly with the demographic constituent of a typical government institutions.

Majority of the respondent also had 3 kids. This also strongly correlate with the current national survey by the Department of Statistics, Malaysia which estimates the average household members to be around 4.2 members.<sup>6</sup>

In this study, respondents who were older were found to have higher knowledge scores on common childhood emergencies. This is not unexpected as those of older age may have been a parent for a longer period of time and may have been involved in similar incidents in the past and therefore are more knowledgeable on this topic. This is in agreement with a study by Harere R et al which showed that that higher knowledge scores were associated with age, having experience of previous child injuries and also additional factors such as monthly income and taking previous first aid courses.<sup>7</sup>

None of the factors had a significant association with the practice score. This indicate that most parents will do their best in emergency situation, prioritising the

safety of their child. This agrees with a systematic review which states that parents will seek emergency department help if they find even a slight risk to deterioration in child's health, worldwide.<sup>8</sup>

Females were found to have higher attitude scores as compared to the male parents. As is well known, female gender tends to be more health conscious and also discuss health issues more actively with their friends and relatives. This would have possibly contributed to the positive findings in this study. These findings are supported by two previous studies which that woman are more likely to be health seekers as compared to man as well as to actively search the internet more often for health related information.<sup>9-10</sup>

The plus point of this study is that it tackled important safety issues that may affect children as compared to previous literature that focused more on handling communicable and mental health issues in the same age group such as pneumonia, diarrhoeal diseases and also autism.<sup>11-13</sup>

In conclusion, this study overall showed a good knowledge, attitude and practice among the parents towards common emergency inflicting children. Older aged and female parent were found to have more knowledge and positive attitude towards

common emergencies among children, respectively.

Group identified as having a lower knowledge, attitude and/or practice should be targeted in future community education programmes to increase the knowledge as well positive attitudes and practices towards identifying and managing common emergencies among children.

### Acknowledgement

The authors would like to thank the parents for their

kind participation in this study.

**Source of funding:** This study is self-funded

**Conflict of Interest:** There is no conflict of interest

**Contribution of the authors:** NKD is the sole author who did the data gathering and is the idea owner of this study, conceptualize the study design, wrote and submitted the manuscript, edited and approved the final draft.

### References

1. Peden M, Oyegbite K, Ozanne-Smith J, Hyder AA, Branche C, Rahman AK, Rivara F, Bartolomeos K. World report on child injury prevention. Geneva: World Health Organization; 2009.
2. Pearson M, Garside R, Moxham T, Anderson R. Preventing unintentional injuries to children in the home: a systematic review of the effectiveness of programmes supplying and/or installing home safety equipment. *Health promotion international*. 2010;**26**(3):376-92.
3. Centraal Bureau voor de Statistiek (1986-1988) Overtedenen now Doodsoorzaak, Leeftijd en Geslacht in het Jaar 1985-1987. CBS, Voorburg, Series A1
4. Dowswell T, Towner E. Social deprivation and the prevention of unintentional injury in childhood: a systematic review. *Health education research*. 2002 Apr 1;**17**(2):221-37.
5. Nadeeya MN, Rosnah S, Zairina AR, Shamsuddin K. Knowledge and perception towards home injury in children and safety measures among Malaysian urban mothers. *International Journal of Public Health and Clinical Sciences*. 2016 May **16**;3(2):100-13.
6. Department of Statistics Malaysia. Report on characteristics of Household 2010 [press release] [ 2014 29 January] [cited j2019 July 15]. Available from: [https://www.dosm.gov.my/v1/images/stories/files/LatestReleases/population/Web\\_Release\\_Ciri\\_IR2010.pdf](https://www.dosm.gov.my/v1/images/stories/files/LatestReleases/population/Web_Release_Ciri_IR2010.pdf)
7. Harere R, Makhdoom Y, Sonbul H. Knowledge Regarding First Aid of Childhood Emergency Conditions among Caregivers Attending Primary Health Care Centers. *Imperial Journal of Interdisciplinary Research* 2017; **3**(11):616-26
8. Butun A, Linden M, Lynn F, McGaughey J. Exploring parents' reasons for attending the emergency department for children with minor illnesses: a mixed methods systematic review. *Emergency Medicine Journal* 2018; **36**:39-46.
9. Bidmon S, Terlutter R. Gender Differences in Searching for Health Information on the Internet and the Virtual Patient-Physician Relationship in Germany: Exploratory Results on How Men and Women Differ and Why. *J Med Internet Res*. 2015;**17**(6):e156.
10. Stefan E. Gender differences in health information behaviour: a Finnish population-based survey. *Health Promotion International* 2015;**30**(3):736-45
11. Biswas HB, Chaimongkol N, Pongjaturawit Y. Factors Associated with Mothers' Perceived Quality of Life among Young Children with Pneumonia in Dhaka. *Bangladesh. International Journal of Human and Health Sciences (IJHHS)* 2019; **3**(4): 196-200
12. Basu, P, Chakrabarty A, Bhattacharya S, Bhattachary K, Dasgupta U, Bhattacharya, S, Ali K. Assessment on the awareness level about diarrhoea and its management among mothers attending outpatient department in a rural hospital of West Bengal, India. *Bangladesh Journal of Medical Science* 2019; **18**(2):267-73.
13. Upoma, T, Moonajilin, MS, Rahman ME, Ferdous MZ. Mothers Initial Challenges Having Children with Autism Spectrum Disorders in Bangladesh. *Bangladesh Journal of Medical Science* 2020; **19**(2):268-72.