Original Article

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

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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 as 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

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. In those below five years of age, the majority of injuries occur in the home itself. 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. 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.

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 determines 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

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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:

\[ n = \pi (1 - \pi)\left(\frac{Z}{E}\right)^2 = 0.944(1-0.056)(1.96/0.05)^2 = 81 \]

Table 1 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 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% CI 1.033-1.260, p=0.009).

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

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

**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. Factors associated with total knowledge scores**

| Predictor                     | Odds Ratio  |
|-------------------------------|-------------|
| Education                     |             |
| Socio-economic status         |             |
| Occupation                    |             |
| Gender                        |             |
| Age                           |             |

**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 3. Factors associated with total knowledge scores

| Characteristics | Knowledge n (%) | Univariate analysis | Multivariate analysis |
|-----------------|-----------------|---------------------|-----------------------|
|                 | Good (n=50)     | Poor (n=69)         | Odds ratio | 95% CI | P value | Odds ratio | 95% CI | P value |
| Age, years      |                 |                     |            |       |         |            |       |         |
| Median (IQR)    | 33(7.5)         | 33(1.25)            | 1.142      | 1.039-1.256 | 0.006 | 1.141      | 1.033-1.260 | 0.009 |
| Gender          |                 |                     |            |       |         |            |       |         |
| Male            | 6(26.1)         | 17(73.9)            | 0.185      | 0.067-0.513 | 0.001 | 0.265      | 0.052-1.340 | 0.108 |
| Female          | 63(65.6)        | 33(34.4)            | ref        | ref    | ref     | ref        | ref    | ref     |
| Ethnic group    |                 |                     |            |       |         |            |       |         |
| Malay           | 68(58.6)        | 48(41.4)            | ref        | ref    | ref     | 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   |            |        |         |
| Occupational group |             |                     |            |       |         |            |       |         |
| Professional    | 3(20)           | 12(80)              | 0.144      | 0.038-0.542 | 0.004 | 0.528      | 0.070-4.000 | 0.536 |
| Non-Professional| 66(63.5)        | 38(36.5)            | ref        | ref    | ref     | ref        | ref    | ref     |
| Number of children |         |                     |            |       |         |            |       |         |
| 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 |
| Age, years      | 33(5)        | 33(5)               | 1.004      | 0.928-1.087 | 0.915 |           |        |         |
| Gender          | 5(21.7)      | 18(78.3)            | 0.207      | 0.071-0.604 | 0.004 | 807737478.303 | ref | 0.999 |
| Male            | 55(57.3)     | 41(42.7)            | ref        | ref    | ref     | ref        | ref    | ref     |
| Female          | 0(0)         | 1(100)              | 0          | 0      | 1.000   |            |        |         |
| Ethnic group    | 60(51.7)     | 56(48.3)            | ref        | ref    | ref     | ref        | ref    | ref     |
| Malay           | 0(0)         | 1(100)              | 0          | 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   |            |        |         |
| Occupational group |         |                     |            |       |         |            |       |         |
| Professional    | 5(33.3)      | 10(66.7)            | 0.445      | 0.142-1.393 | 0.165 | 0 ref      | 0 ref  | 0.999 |
| Non-Professional| 55(52.9)     | 49(47.1)            | ref        | ref    | ref     | ref        | ref    | ref     |
| Number of children |         |                     |            |       |         |            |       |         |
| 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(%) | Good (n=69) | Poor(n=50) | Univariate analysis | Odds ratio | 95%CI | P value | Multivariate analysis | Odds ratio | 95%CI | P value |
|-----------------|---------------|-------------|-------------|---------------------|------------|-------|---------|-----------------------|------------|-------|---------|
| Age, years      |               |             |             |                     |            |       |         |                       |            |       |         |
| Median (IQR)    | 33(5)         | 32.5(5)     | 1.028       | 0.910-1.160         | 0.660      |       |         |                       |            |       |         |
| Gender          |               |             |             |                     |            |       |         |                       |            |       |         |
|                 | Male          | 12(52.2)    | 11(47.8)    | 0.060               | <0.001     | ref   | 0.018-0.202 |                       | 0.002      | ref   | 0.013-0.390 |
|                 | Female        | 91(94.5)    | 5(5.5)      | 0.018-0.202         | <0.001     | ref   | 0.071 ref |                       | 0.002      | ref   | 0.013-0.390 |
| Ethnic group    |               |             |             |                     |            |       |         |                       |            |       |         |
| Malay           | 103(88.8)     | 13(11.2)    | ref         | 0                   | 1.000      |       |         |                       |            |       |         |
| Chinese         | 0(0)          | 0(0)        | 0           | 0                   | 1.000      |       |         |                       |            |       |         |
| Indian          | 0(0)          | 0(0)        | 0           | 0                   | 1.000      |       |         |                       |            |       |         |
| Others          | 0(0)          | 0(0)        | 0           | 0                   | 1.000      |       |         |                       |            |       |         |
| Occupational group |             |             |             |                     |            |       |         |                       |            |       |         |
| Professional    | 8(53.3)       | 7(46.7)     | 0.108       | 0.032-0.368         | <0.001     | ref   | 0.993 ref |                       | 0.994      | ref   | 0.170-5.810 |
| Non- Professional| 95(91.3)      | 9(8.7)      | 95(91.3)    | 95(91.3)            |            |       |         |                       |            |       |         |
| Number of children |       |             |             |                     |            |       |         |                       |            |       |         |
| 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.

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.

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.

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.

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.

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.

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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.

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