

# Knowledge and Practices on Fever and Home Management of a Febrile Child and Antipyretic Use: A Sri Lankan Experience

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## Research article

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# Abstract

**Background:** Fever, a common childhood experience requires correct home management and seeking medical advice at the correct time. The aim of this study was to assess the knowledge and practices of fever home management of a febrile child among the primary caregivers.

**Methods:** A descriptive cross-sectional study was carried out in four randomly selected wards at the Lady Ridgeway Hospital, in Sri Lanka. among 400 primary caregivers of children less than 12 years of age admitted with fever. A pre-tested, pre-coded, interviewer administered questionnaire was used to collect information. Measurement of temperature by the participants were also observed.

**Results:** Normal body temperature was correctly mentioned by 46.2% and mercury thermometer was identified as the best thermometer by 45.8%. Nearly 3/4th stated that the dose of antipyretics should be calculated according to age and or body weight and their knowledge on dose calculations showed that in 70.9% the calculated dose was considered safe and effective. In practice, 54% of the study population had used a thermometer for detection and/or monitoring of fever. Paracetamol was used by 99% of the study population alone or in combination by to treat the febrile child at home before the hospital admission. Non-Steroidal Anti-Inflammatory Drugs were also used by 1.5%. The dose of paracetamol given to the child was too low for 6.5% while it was too high for 24.5%. Statistically significant associations ( $p < 0.05$ ) were seen for correct technique of temperature measurement with higher education, higher family income and having a single child.

**Conclusions:** This study adds to the contemporary fever management literature, by assessing problem from another dimension, which was the knowledge and practices of the primary caregivers in providing home management to a febrile child. Several knowledge and practice gaps were identified, which could be corrected through the clinical and public healthcare system.

## Background

In the backdrop of emerging of new infections and reemergence of certain infection in the world today, the identification and management of childhood fever becomes an important aspect to consider. Fever in childhood is a common acute presentation and is usually due to an infection or any other inflammatory process and may be the first manifestation of a severe infection such as a bacterial pneumonia, meningitis or viral encephalitis, although mostly, it is a self-limiting mild viral illness (1). In the tropical and subtropical countries fever due to infection may be the onset of a potentially fatal dengue haemorrhagic fever (DHF). In Sri Lanka too, where infections are a leading cause for childhood morbidity and mortality, fever is the most common reason for childhood hospital admissions (2). It is more of a worry, as the Dengue infection and the complicated states of it are prevalent in all parts of the island at present with several outbreaks since 2004 (3) .

The outcome of childhood fever is dependent on the primary caregivers (PCGs) knowledge, practices on management of a febrile child at home, and seeking appropriate medical advice at the correct time from a qualified medical practitioner. Studies that have assessed the knowledge of Medical Officers in the management of children with febrile illnesses both globally and locally have identified gaps (4,5). It was seen from the study conducted in Sri Lanka that some of the practitioners prescribe Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) (18) in the management of fever, which in the context of dengue endemicity can be harmful leading to

complications such as bleeding in dengue syndrome (6,7). Anecdotal evidence clearly shows that PCGs of children, do not have adequate and correct knowledge regarding childhood fever and therefore, do not practice correct procedures in the management of a febrile illness of their child at home (8). Correct knowledge and practices of PCGs can empower caregivers, increasing their confidence to provide optimum care to a febrile child and enable them to give optimal home-based practices and to seek proper and timely medical assistance (9,10). Within this context we conducted this research to assess the knowledge on childhood fever and the knowledge and practices on home management of a febrile child among the primary caregivers of children less than 12 years of age.

## Methods

**Design and Setting:** We carried out a hospital based descriptive cross-sectional study at the Lady Ridgeway Hospital for children, which is the premier teaching hospital for children in Sri Lanka with around 250 children admitted to its six general paediatric wards daily. The study was conducted during June and July 2017. The study protocol was reviewed by the Ethics Review Committees of the Sri Lanka College of Paediatricians and the Ethics review Committee of the Lady Ridgeway Hospital. The Ministry of Health Sri Lanka and the respective ward consultants gave permission to carry out the study.

**Study participants, sample and data collection:** Primary caregivers (PCG) of children under 12 years of age admitted with fever, who had been otherwise normal prior to this episode of fever were the study participants. A PCG was defined as the person providing care for the referenced child most of the time during the day. We excluded the PCGs of children with previously diagnosed chronic diseases such as thalassemia, nephrotic syndrome, chronic liver disease and who were having absolute and relative contraindications for administration of accepted antipyretics. A total of 384 PCGs were studied, from four of the six general paediatric wards which were randomly selected. Systematic sampling was used to select 100 PCGs from each ward using the ward admission register. Data collection was carried out by trained pre-intern medical officers. Participants were briefed about the study and informed written consent was taken using the information sheet and consent form in their own language. Questioning was carried out in a private place and in a confidential manner. Necessary care was taken to minimize any discomfort or delay to the caregiver, the child or to the ward staff.

**Study instruments and variables:** A pre-tested, pre-coded, validated interviewer administered questionnaire was used to collect information on socio-demographic characteristics of the PCG, information about the child, knowledge on childhood fever, knowledge and current practices on identification and measurement of fever at home, knowledge on causes and effects of childhood fever, knowledge and practices at home on management of a febrile child. This was developed by the research team and is given as an additional file. Effect of paracetamol dose was calculated based on age and weight of the child using the British National Formulary 2016-2017(11); and the dose was categorized as follows; under dose :  $<10\text{mg} / \text{Kg}$  body weight, *correct dose*:  $10- <15\text{mg} / \text{Kg}$  body weight, *acceptable dose*:  $15-18.75 \text{mg} / \text{Kg}$  body weight, *over dose*:  $>18.75-25 \text{mg} / \text{Kg}$  body weight, and *potentially toxic dose* :  $>25 \text{mg} / \text{Kg}$  body weight. The PCGs were asked to demonstrate the manner in which they measure temperature and was categorised as good and poor based on the observations.

**Statistical analysis:** Data were described as frequencies and percentages The percentage of responses to the questions has been calculated on the total of participants. The PCGs socio-demographic characteristics were assessed for association practice components on home management of febrile child using chi square statistic.

'p' value <0.05 was taken as statistically significant. SPSS (Statistical Package for the Social Sciences) software version 21.0 was used for data analysis.

## Results

### Study population and sample (Table 1)

The age of the PCG ranged from 18 to 62 years with majority (94.5%) being mothers. Around 3/4<sup>th</sup> of the PCGs were full time home makers, had 2 or more children with 38% having upper secondary education. The PCGs stated that with regards to the reference child, 91.5% has had fever before the current episode, 7.5% and had a history of convulsions and 7.3% has had a family history of convulsions.

### Knowledge on Fever (Table 2)

Normal body temperature value within the correct range (12) for axillary temperature was correctly mentioned by 46.2% of the PCGs. Although 52.8% knew that there is a change in normal body temperature during a day, only 3.5% knew the correct pattern of diurnal variation of normal body temperature. Majority of PCGs were able to mention the common causes for fever. Fits (convulsions) were identified as an effect of fever by 73.8% of PCGs. Only 1/3<sup>rd</sup> mentioned dehydration as one of the effects.

### Temperature monitoring and other supportive measures (Table 3)

Majority (96.2 %) mentioned that use of a thermometer is the best method to identify fever. However, only 54% of PCGs had used the thermometer during the current episode of fever. The axilla was mentioned as the best site for measurement of body temperature by 83.0%, although practiced by only 58.7%. Majority (70.2%) knew that the thermometer should be kept at the site for more than 2 minutes or until the beep in case of a digital thermometer while 16% did not know the duration. However, in practice, only 51.2% said that they kept the thermometer for the correct duration while 40% did not use a thermometer at all and 8.8% did not keep the thermometer for an adequate length of time. Mercury thermometer was considered as the best thermometer by 45.8% while 34% mentioned digital thermometer as the best type of thermometer, while 20% said they did not know about thermometers. In practice 33.0% and 27.0% of the PCGs used the mercury and digital thermometers respectively. Tepid sponging with or without physical methods was perceived to be effective in reducing body temperature during a febrile episode by 97.0% while 91.7% practiced it during the current episode of fever. Oral hydration, rest, adequate feeding during illness was recognized as important by great majority. However, the proportion that practiced it during the current episode was less.

### Antipyretic use (Table 4)

Majority of the PCGs (97.5%) have used only paracetamol before seeking medical advice. A great majority (97.7%) knew and practiced the appropriate measurement method for administration of the antipyretic dose. Nearly 3/4<sup>th</sup> stated that the dose should be calculated according to age and or body weight. However, only 66.8% practiced it accordingly during this episode, while 31.5% stated that they asked others or gave a dose previously recommended by a doctor, friends or relatives. Nearly half knew the correct dosing interval of 4-6 hours while 49.3% thought it should be given less frequently. Figure 1 shows that nearly half of the PCGs have

visited an allopathic general practitioner before admitting the child to the ward, while 7.5% did not seek any other medical assistance before admission.

The knowledge on dose calculations showed that the dose considered appropriate was safe and effective in 70.9%, while it was unsafe for nearly one fifth of the study population being overdose for 14.5% and at potentially toxic level for 5.3%. The calculated dose was ineffective therapeutically for 5.3% of the reference child. In practice, 24.5% of the PCGs had given paracetamol in an unsafe dosage, 18.5% getting an overdose and 6% a potentially toxic dose. An ineffective under dose was given to 6.5% of the children.

### **Temperature measurement – observation (Table 5)**

Overall 58.8% demonstrated the correct technique in temperature measurement. PCGs who were mothers, those who had a higher level of education, higher level of monthly family income and had only a single child demonstrated good technique which was statistically significant at  $p < 0.05$ .

## **Discussion**

This study assessed the knowledge of childhood fever and knowledge and practices on home management of a febrile child among 400 PCGs of children admitted with fever, together with their socio-demographic predictors. To the authors' knowledge, this is the first study assessing knowledge and practice of different aspects of home management namely temperature measurement, antipyretic use, physical measures to reduce temperature and supportive care in Sri Lanka, a developing country.

Results were analyzed considering guidelines and recommendations (12, 13). It revealed that less than half of the PCGs correctly identified the normal body temperature, while 52% knew of the temperature changes during the day. Blumenthal reported that 30% of the parents in the United Kingdom (UK) did not know the normal body temperature (14). A national survey conducted by Bertille et al in France revealed that 11% of parent's defined fever by a threshold lower than that recommended by the French drug agency and 66% of parents considered a lower cut off temperature for starting antipyretic drug treatment (15). The knowledge on the causes of fever was better than the knowledge on effects of fever. These findings highlighted that effective health education messages should be appropriately targeted based on evidence (15).

One major finding is that 40% had not used a thermometer for measuring the temperature although 96% have identified it as the best method. This might be due to lack of purchasing power of a digital thermometer, or simply due to the fact the PCGs think that touch method is also as effective. It was also seen that use of mercury (33%) thermometer and digital (27%) thermometers were comparable. In contrast a study in Iran showed that the most common method of temperature measurement was the forehead fever strip, the reason being that many mothers being unable to read a mercury thermometer (16). However, in India (Agrawal ) 75% of the parents used the digital thermometer and the rest used the mercury thermometer (10).

The recommendations in the NICE guidelines is to use axillary or tympanic method although, mainly based on safety issues (13). The national guidelines do not recommend oral temperature measurement (12). In this study 58.7% used the axillary method which is lower than the rate reported in India which was 80%. (10). Similarly, Polat et al in 2012 (17) revealed that the technique of measuring the body temperature by the caregivers in Turkey was not satisfactory as caregivers stated that they were not certain about the correct site (90%) and the

best type of thermometer (95%) for body temperature measurement. Therefore, it is seen that although identifying temperature is seemed a simple technique there are gaps in correct practices in various parts of the world.

Fever reducing physical measurements techniques showed varying patterns and are comparable with Gunduz et al study in Turkey where around half of the mothers used fever-reducing techniques, such as the application of tepid cloths and cold baths, cologne and vinegar (18). Similarly in USA nearly 75% of the parents surveyed used sponging, although two thirds of them performed the technique incorrectly with alcohol, cold water or cold rags (19).

In the present study 99% of the study sample had given paracetamol to their children at home before visiting the medical practitioner. The use of antipyretics among children before accessing medical care with fever ranged (32.3%- 90.3%) across the globe (10,20, 21,22,23). Antipyretics are available over the counter in Sri Lanka. Considering the above it remains a doubt whether all these children needed paracetamol as the knowledge on normal body temperature values, fever temperature values, the practices on the method of identification of fever and the technique of measuring body temperature were inadequate among the PCGs as discussed earlier.

In this study, 6.5% of the PCGs had given a low dose of paracetamol while nearly 25% of them had given it in an unsafe manner (overdose or at potentially toxic level). Although only 1% of the study population thought that giving an overdose is not harmful, 4.7% had given a higher dose of paracetamol intentionally. Similar to this study, Chiappini et al showed that one third parents thought that a higher dose of an antipyretic is not dangerous (4). The carers may believe that a higher dose will bring the fever down faster, not realizing that it can harm the child. This may be due to the excessive worry and anxiety of the PCGs (20,21). Fever management education should highlight the correct dose of antipyretic, method of calculating it correctly, administrating at the correct frequency as well as the possible harmful effects if given in an overdose. It is prudent that parents are properly educated regarding fever management, to ensure that correct antipyretics are safely administered.

This study revealed that 31.5% of the study population determined the dose of paracetamol according to the advice obtained from friends, relatives or a previous visit to a medical officer or by their own experience. Bertille et al also reported that the parents administered the paracetamol according to a previous prescription for the same child (15). Since the current age of the child as well as the weight have increased since obtaining the previous prescription, this method can lead to an under dosing of the antipyretic. The present study showed that 49.7% of the study population gave paracetamol 4–6 hourly while another 48.2% gave at more than 6 hourly intervals, while only 0.8% gave at less than 4 hourly intervals in an unsafe manner. Bertille et al found that 24% of the parents who administered paracetamol and 14% who administered ibuprofen, complied with the recommendations (15).

Our investigation has potential limitations and interpretation of findings should be done accordingly. The findings of this study cannot be generalised to the entire population in Sri Lanka since the study population was the PCGs of children admitted to the premier government teaching hospital for children at a highly urbanised location. Rural areas were not well represented. The PCGs in this study who admitted their children to the government hospital may be different from those who admitted their children to certain private hospitals in Sri Lanka, where the level of comfort might be different. In Sri Lanka people coming to the government hospitals do not have to pay for the care they receive. Thus, some groups such as those with a high-income level, those in

certain occupations and in high educational level may not be represented within this population due to difference in health seeking behaviour. Practices were assessed based on self-report and not on observations. Thus, the findings may be different to what was actually carried out at home.

## **Conclusion**

While the primary caregivers have a general knowledge regarding fever and home management of a febrile child, they lack an in-depth knowledge to manage the situation with understanding the good care practices. The health care system has not been able to effectively educate parents and caregivers adequately about fever and management of a febrile child at home. findings highlight the variability in parents' practices and importance for health professionals to explore each parent's specific educational needs and target education interventions to reduce non-evidence based behaviours. Educational programs targeted to educate parents and other PCGs through the available health system may be an effective action to change the parents' understanding and management of fever.

## **Abbreviations**

PCG: Principal care giver

NICE: National Institute for Health and Care Excellence

## **Declarations**

### **Ethics approval and consent to participate**

This study obtained ethical approval from the Ethics Review Committees of the Sri Lanka College of Paediatricians. All participants were informed about the study and provided written informed consent before the study was conducted. The written informed consent was approved by the ethics committee.

### **Availability of data and materials:**

Datasets used and analyzed during this study are available from the corresponding author on reasonable request.

### **Consent for publication**

All the data presented are in aggregate form and no individual data area presented. Therefore, not applicable.

### **Competing interests**

The authors declare that they have no conflicts of interests.

**Funding:** None

### **Authors' contributions and consent for publication**

HD –made contribution to the design, planning the study, literature search, acquisition of data, analysis and interpretation of the results, drafting the manuscript and revising it critically and has given final approval of the version to be published.

SDW - contributed to the planning of the study, assisted in planning and carrying out data analysis, drawing conclusions and in revising it critically for important intellectual content the preparation of the research paper and has given final approval of the version to be published.

KW – contributed to the planning of the study, planning data analysis, drawing conclusions and in revising it critically for important intellectual content the preparation of the research paper and has given final approval of the version to be published.

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## Tables

**Table 1 Characteristics of the PCG and the reference child (N= 400)**

| <b>Variable</b>                               | <b>No.</b> | <b>%</b> |
|-----------------------------------------------|------------|----------|
| <b>Characteristics of PCG</b>                 |            |          |
| Type of PCG                                   |            |          |
| Mother                                        | 378        | 94.5     |
| Other                                         | 22         | 5.5      |
| District of residence                         |            |          |
| Colombo                                       | 260        | 65.0     |
| Gampaha                                       | 117        | 29.2     |
| Other                                         | 23         | 5.8      |
| Age category (in years}                       |            |          |
| 18-35                                         | 218        | 54.5     |
| 36-62                                         | 182        | 45.5     |
| Ethnicity                                     |            |          |
| Sinhalese                                     | 247        | 61.8     |
| Tamil                                         | 70         | 17.4     |
| Moors/Malay                                   | 83         | 20.8     |
| Highest educational level                     |            |          |
| G.C.E. O/L and below                          | 246        | 61.5     |
| G.C.E. A/L and above                          | 154        | 38.5     |
| Monthly family income(Rs)                     |            |          |
| <50,000                                       | 289        | 72.3     |
| 50,000 or more                                | 111        | 27.7     |
| Occupation type                               |            |          |
| Full time Part time or Self employed          | 95         | 23.8     |
| Full time engaged in household work           | 305        | 76.3     |
| Number of children                            |            |          |
| 1                                             | 101        | 25.3     |
| 2-6                                           | 299        | 74.8     |
| <b>Characteristics of the reference Child</b> |            |          |
| Gender of the child                           |            |          |
| Male                                          | 215        | 53.7     |

|                                                   |     |      |
|---------------------------------------------------|-----|------|
| Female                                            | 185 | 46.3 |
| <b>Age groups(years)</b>                          |     |      |
| <1                                                | 49  | 12.3 |
| < 5                                               | 120 | 30.0 |
| 5- <12                                            | 231 | 57.7 |
| Occurrence of fever before this episode           | 366 | 91.5 |
| Occurrence of past history of febrile convulsions | 30  | 7.5  |
| Family history of febrile convulsions             | 29  | 7.3  |

**Table 2 Knowledge on Fever: normal temperature and changes, causes and effects of fever**

| Indicator (n=400)                                | Correctly identified |      |
|--------------------------------------------------|----------------------|------|
|                                                  | No.                  | %    |
| <b>Normal body temperature values*</b>           | 185                  | 46.2 |
| <b>Change in body temperature during the day</b> | 211                  | 52.8 |
| <b>Diurnal variation</b>                         | 14                   | 3.5  |
| <b>Cause for fever</b>                           |                      |      |
| Common cold                                      | 354                  | 88.5 |
| Pneumonia                                        | 380                  | 95.0 |
| Brain fever                                      | 317                  | 79.3 |
| Diarrhoea                                        | 290                  | 72.6 |
| Dengue fever                                     | 395                  | 98.8 |
| <b>Effects of fever</b>                          |                      |      |
| Discomfort                                       | 258                  | 64.5 |
| Dehydration                                      | 134                  | 33.5 |
| Fits                                             | 295                  | 73.8 |

**Table 3: Knowledge and practice of temperature measurement monitoring and other supportive measures to reduce temperature**

| Temperature measurement, monitoring and supportive methods | Knowledge |      | Practice |      |
|------------------------------------------------------------|-----------|------|----------|------|
|                                                            | No.       | %    | No.      | %    |
| <b>Method to identify fever</b>                            |           |      |          |      |
| Thermometer                                                | 385       | 96.2 | 216      | 54.0 |
| Touch                                                      | 15        | 3.8  | 183      | 45.8 |
| Other means                                                |           |      | 01       | 0.2  |
| <b>Site of temperature measurement</b>                     |           |      |          |      |
| Axilla                                                     | 332       | 83.0 | 235      | 58.7 |
| Rectal                                                     | 04        | 1.0  | 00       | 00   |
| Oral cavity                                                | 42        | 10.5 | 05       | 1.3  |
| Forehead                                                   | 02        | 0.5  | 00       | 00   |
| Not used a thermometer                                     |           |      | 160      | 40.0 |
| <b>Length of time to keep thermometer at the site</b>      |           |      |          |      |
| < one minute                                               | 12        | 3.0  | 08       | 2.0  |
| 1-2 minutes                                                | 43        | 10.8 | 27       | 6.8  |
| > 2 minutes                                                | 182       | 45.5 | 111      | 27.7 |
| Until the beep                                             | 99        | 24.7 | 94       | 23.5 |
| Not used a thermometer                                     |           |      | 160      | 40.0 |
| Do not know                                                | 64        | 16.0 |          |      |
| <b>Type of thermometer to use</b>                          |           |      |          |      |
| Mercury                                                    | 183       | 45.8 | 132      | 33.0 |
| Digital                                                    | 136       | 34.0 | 108      | 27.0 |
| Ear                                                        | 01        | 0.2  | 00       | 00   |
| Not used                                                   |           |      | 160      | 40.0 |
| Do not know                                                | 80        | 20.0 |          |      |
| <b>Physical measures to reduce temperature</b>             |           |      |          |      |
| Tepid sponging only                                        | 07        | 1.8  | 89       | 22.2 |
| Tepid sponging+ reduce clothes                             | 375       | 93.7 | 275      | 68.8 |
| Tepid sponging+ reduce clothes+ wrapped clothes            | 05        | 1.3  | 01       | 0.2  |
| Tepid sponging + wrapped clothes                           | 01        | 0.2  | 02       | 0.5  |
| Reduce clothes only                                        | 07        | 1.8  | 23       | 5.8  |

|                                      |     |      |     |      |
|--------------------------------------|-----|------|-----|------|
| None of the above                    | 03  | 0.7  | 10  | 2.5  |
| Do not know                          | 02  | 0.5  |     |      |
| <b>Give more fluids to the child</b> | 379 | 94.8 | 365 | 91.3 |
| <b>Rests the child</b>               | 374 | 93.6 | 358 | 89.5 |
| <b>Improve on feeding</b>            | 307 | 76.8 | 154 | 38.5 |
| <b>Keeps night vigil</b>             | 348 | 87.0 | 227 | 56.8 |
|                                      |     |      |     |      |

**Table 4: Knowledge and practice of antipyretic use**

| Administration of antipyretics                                                                 | Knowledge- best measure |      | Practiced |      |
|------------------------------------------------------------------------------------------------|-------------------------|------|-----------|------|
|                                                                                                | No.                     | %    | No.       | %    |
| <b>Type of antipyretic</b>                                                                     |                         |      |           |      |
| Paracetamol only                                                                               | 339                     | 84.7 | 390       | 97.5 |
| Paracetamol +NSAIDs                                                                            | 48                      | 12.0 | 06        | 1.5  |
| Paracetamol + NSAIDs+Ayurvedic tablet                                                          | 02                      | 0.5  |           |      |
| Do not know                                                                                    | 11                      | 2.8  |           |      |
| None                                                                                           |                         |      | 04        | 1.0  |
| <b>Method of administration of the correct dose</b>                                            |                         |      |           |      |
| Specific dosimeter, other dosimeter, dropper or syringe                                        | 148                     | 37.0 | 148       | 37.0 |
| Other(household teaspoon)                                                                      | 06                      | 1.5  | 05        | 1.3  |
| Tablet size                                                                                    | 243                     | 60.7 | 243       | 60.7 |
| Do not know                                                                                    | 03                      | 0.8  |           |      |
| No antipyretic given                                                                           |                         |      | 04        | 1.0  |
| <b>Methods of determining the dose</b>                                                         |                         |      |           |      |
| According to age and /or body weight                                                           | 294                     | 73.5 | 267       | 66.8 |
| Ask others (previous dose recommended by a doctor, friends and relatives, experience or media) | 99                      | 24.7 | 126       | 31.5 |
| Do not know                                                                                    | 07                      | 1.8  | 03        | 0.7  |
| No antipyretic given                                                                           |                         |      | 04        | 1.0  |
| <b>Method of administration of the correct dose</b>                                            |                         |      |           |      |
| Specific dosimeter, other dosimeter, dropper or syringe                                        | 148                     | 37.0 | 148       | 37.0 |
| Other(household teaspoon)                                                                      | 06                      | 1.5  | 05        | 1.3  |
| Tablet size                                                                                    | 243                     | 60.7 | 243       | 60.7 |
| Do not know                                                                                    | 03                      | 0.8  |           |      |
| No antipyretic given                                                                           |                         |      | 04        | 1.0  |
| <b>Interval between doses</b>                                                                  |                         |      |           |      |
| < 4 hourly                                                                                     | 04                      | 1.0  | 03        | 0.8  |
| 4-6 hourly                                                                                     | 191                     | 47.7 | 199       | 49.7 |

|                                 |     |      |     |      |
|---------------------------------|-----|------|-----|------|
| > 6 hourly                      | 197 | 49.3 | 193 | 48.2 |
| Do not know                     | 08  | 2.0  | 01  | 0.3  |
| No paracetamol given            |     |      | 04  | 1.0  |
| <b>Dosing appropriateness</b>   |     |      |     |      |
| Ineffective - Under dose        | 21  | 5.3  | 26  | 6.5  |
| Safe and effective -Correct     | 156 | 38.9 | 151 | 37.7 |
| Safe and effective - Acceptable | 128 | 32.0 | 118 | 29.5 |
| Unsafe -Overdose                | 58  | 14.5 | 74  | 18.5 |
| Unsafe - Potentially toxic      | 21  | 5.3  | 24  | 6.0  |
| Do not know                     | 16  | 4.0  | 03  | 0.8  |
| No paracetamol given            |     |      | 04  | 1.0  |

**Table 5: Technique of body temperature measurement and associated factors**

| <b>Sociodemographic characteristics</b> | <b>Good</b>    |       | <b>Poor</b>    |       | <b>P value</b> |
|-----------------------------------------|----------------|-------|----------------|-------|----------------|
|                                         | N= 235, 58.8%) |       | (N=165, 41.2%) |       |                |
| <b>Type of PCG</b>                      |                |       |                |       |                |
| Mother                                  | 227            | 60.1% | 151            | 39.9% | <b>p=0.028</b> |
| Other                                   | 08             | 36.4% | 14             | 63.6% |                |
| <b>Age groups (years)</b>               |                |       |                |       |                |
| 18-34                                   | 134            | 61.5% | 84             | 38.5% |                |
| 35-62                                   | 101            | 55.5% | 81             | 44.5% | p=0.227        |
| <b>Education</b>                        |                |       |                |       |                |
| G.C.E. O/L and                          | 110            | 44.7% | 136            | 55.3% | <b>p=0.001</b> |
| G.C.E. A/L and above                    | 125            | 81.2% | 29             | 18.8% |                |
| <b>Monthly family Income (Rs)</b>       |                |       |                |       |                |
| <50,000                                 | 148            | 51.2% | 141            | 48.8% | <b>p=0.001</b> |
| 50,000 or more                          | 87             | 78.4% | 24             | 21.6% |                |
| <b>Occupation</b>                       |                |       |                |       |                |
| Full time, Part time or Self-employed   | 62             | 65.3% | 33             | 34.7% | p=0.14         |
| Full time engaged in household work     | 173            | 56.7% | 132            | 43.3% |                |
| <b>No of children</b>                   |                |       |                |       |                |
| One child                               | 71             | 70.3% | 30             | 29.7% | <b>p=0.006</b> |
| More than once child                    | 164            | 54.8% | 135            | 45.2% |                |

## Figures

## Type of medical practitioner visited

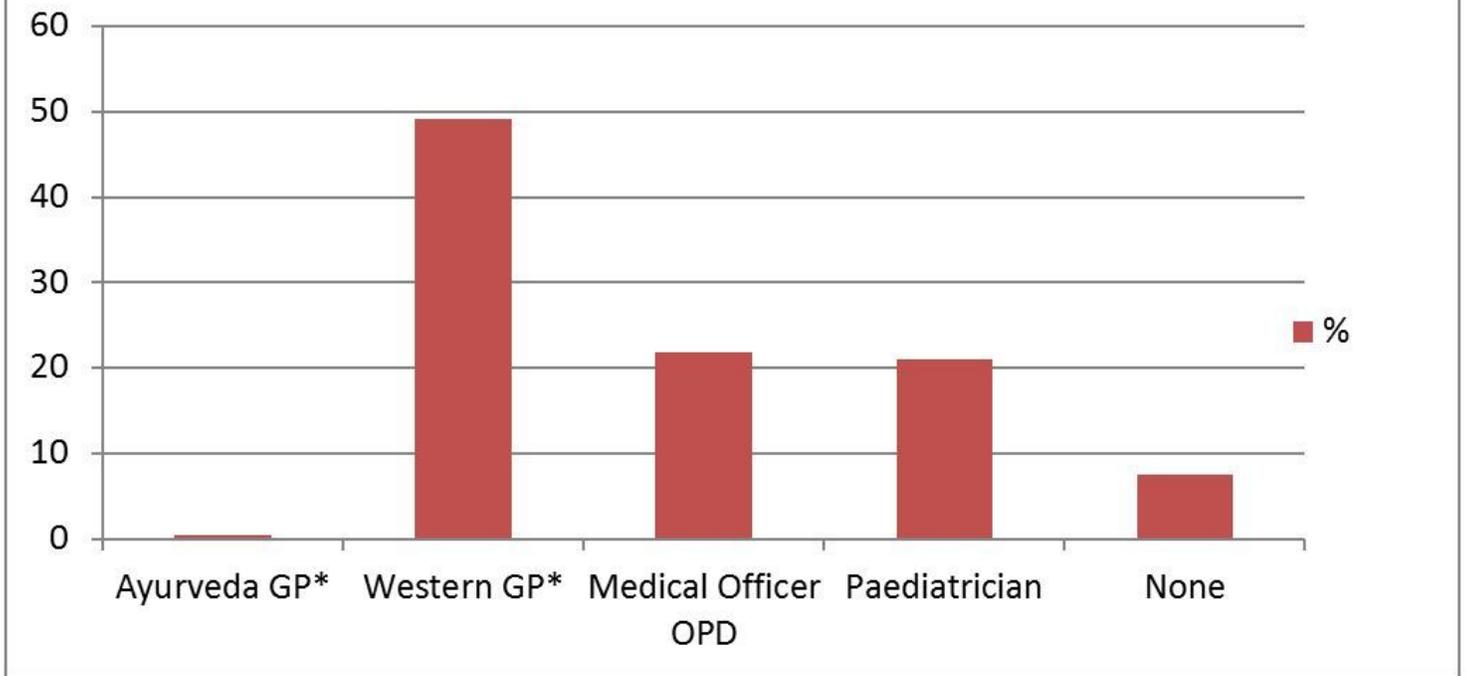


Figure 1

Type of medical practitioner visited.

## Supplementary Files

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- [additionalfileEnglishquestionnaire.pdf](#)