

# A cross-sectional study of anxiety, knowledge and behavior in pediatric fever management amongst German parents

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## Background

- Fever is a common symptom in children.
- Many parents have irrational fear regarding potential harms.
- Since 1980 this phenomenon is called “fever phobia” (1).
- High level of anxiety leads to overuse of antipyretics.
- A substantial lack of knowledge has been observed (2).

## Aims

To assess:

- the level of confidence/anxiety in German parents,
- the level of knowledge about fever,
- use of antipyretics and further measures.

## Methods

- A 25-item self-administered questionnaire was developed to study parents’ knowledge and behavior towards fever.
- “Knowledge”: questions about the basic knowledge about fever, such as fever temperature.
- “Behavior”: questions about administering antipyretics and non-medical behaviors such as calf wrap.
- The questionnaire was mostly multiple choice, with several open and 10-Likert-scale questions.
- Parents answered the questions during the pickup time from one of the 17<sup>th</sup> participating kindergartens in Saarland, Germany in 2017-2018.
- At the time of the study children were healthy.

## Results

### Participants:

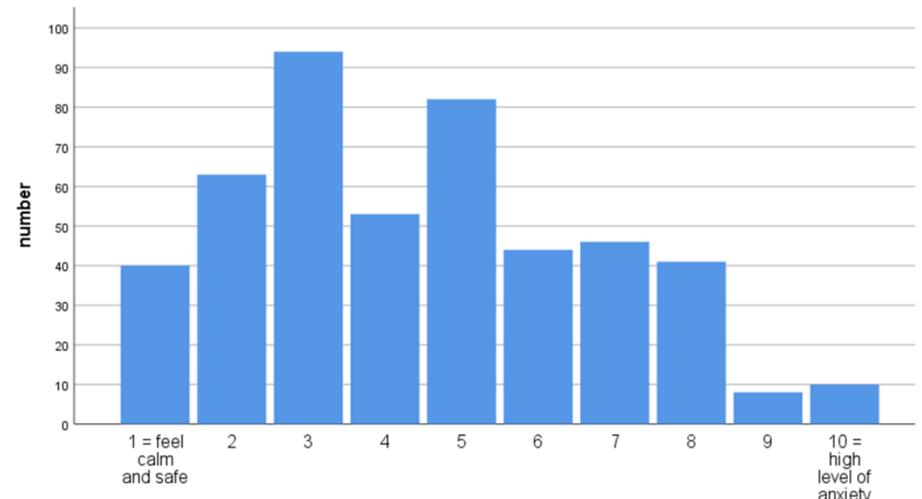
481 parents participated in the study, out of which 394 (82%) were female. The mean and median age of mothers (SD=5; range: 23-52) and fathers (SD=6; range: 28-64) in years were 37 years (IQR=33-41). The majority of participants had 2 children (52%).

Demographics	N (%)
<b>Gender</b>	
Female	394 (82)
<b>Age</b>	
Mothers	Mean 37 years (SD=5)
Fathers	Mean 37 years (SD=6)
<b>Education level</b>	
No education	5 (1)
High school	43 (8.9)
College	265 (55)
University degree	153 (31.8)
No answer/missing	14 (2.9)
<b>Occupation</b>	
Without a job	83 (17.3)
Part-time	234 (48.6)
Full-time	130 (27)
Retired	10 (2.1)
Student	2 (0.6)
No answer/missing	21 (4.4)
<b>Number of children</b>	
1	163 (33.9)
2	252 (52.4)
3+	66 (13.8)

## Conclusions

Despite a better level of knowledge in comparison with other studies, German parents still express a notable level of anxiety regarding pediatric fever, leading to unnecessary measures. Educating parents about fever, its benefits and the ways to manage it, seems important and necessary.

Figure 1: Parental confidence/anxiety when child has fever



### Confidence/anxiety:

- Mean 4.47 (SD= 2.27)
- The answers were dichotomized (1-5) and 69% of participants reported they feel calm when their child is feverish.

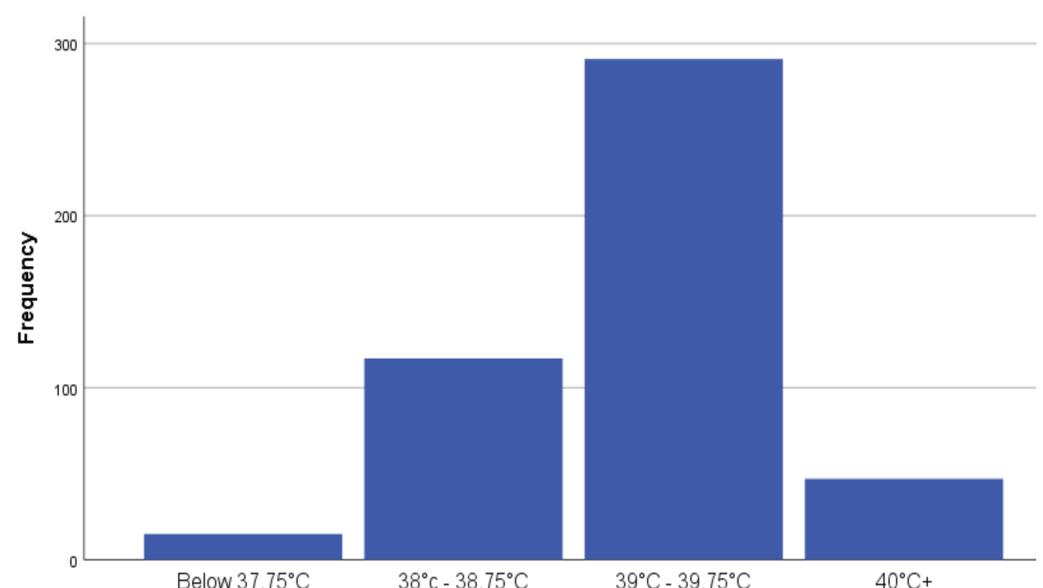
### Knowledge:

- On a 10-point Likert Scale (1 being useful and 10 being harmful) mean of 3.05 (SD=2.03) was achieved; binary (1-5) 89.6% of parents found fever useful.
- Fever was defined between 30 to 40.1°C (mean 38.5, SD=.7).
- Frequent location of measurement were rectum (69%) and ear (47%).
- 95% (n=216) of parents use calf wrap to reduce temperature.

### Behavior (Medication):

- Reasons to administer antipyretics were:
  - to improve the physical wellbeing of their child (75%),
  - to reduce child’s stress (burden) (60%),
  - to prevent febrile seizures (56%),
  - to prevent possible damage caused by high temperature (43.5%).
- Ibuprofen (72%) is preferred, compared to Paracetamol (56%).
- 66.5% of parents would not alternate the both antipyretics.

Figure 2: Temperature parents administer antipyretics



1. Schmitt BD. Fever phobia: misconceptions of parents about fevers. Am J Dis Child. 1980;134(2):176-81.

2. Bong WT, Tan CE. Knowledge and Concerns of Parents Regarding Childhood Fever at a Public Health Clinic in Kuching, East Malaysia. Open Access Maced J Med Sci. 2018;6(10):1928-33.