

# Improving Fever Discharge Education in a Pediatric Emergency Department During the COVID Pandemic

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## Background

- Fever is one of the most common presenting complaints in the pediatric ED
- Fever often has many misconceptions from parents
- Improper understanding of discharge instructions, especially with fever, can have negative health consequences including increased readmission rates
- In the ED setting, multiple forms of discharge education exist, and our standard practice was in the form of written instructions
- Written discharge instructions are typically at literacy levels which exceed the general population's ability to read and comprehend

## Objectives

- Evaluate the effectiveness of novel video discharge instructions (VDI) of caregivers presenting with their children to the pediatric ED
- Evaluate satisfaction of the discharge instruction video

## Methods

- Design:** Quality Improvement Project; Approval obtained by the institution's IRB
- Setting:** Urban, academic children's hospital with 38,000 visits annually located in Winston-Salem, NC
- Innovation:** Embedded QR code within the written instructions linked to a video which discussed: etiologies of fevers, temperature definitions of fever, management strategies, return precautions, follow up instructions, & how to correctly administer weight-based acetaminophen and ibuprofen
- Survey:** Items assessed satisfaction of the video, along with a fever questionnaire to assess knowledge retention
- Subjects:** English-speaking caregivers of patients aged < 18 years; children with a diagnosis of fever; and caregivers with a smart phone or equivalent device

## Methods

### Outcome Measures:

- Fever education scores
- Satisfaction ratings

### Data Analysis:

- Kruskal-Wallis tests to determine difference in difference in knowledge scores between demographic groups
- Fisher's Exact Test to analyze caregiver satisfaction ratings

## Results

- Total of 27 caregivers opened the QR code to participate in the study
- Twenty of those completed the fever questionnaire, satisfaction survey, and demographic survey (Tables 1-3)
- Two participants completed the surveys without watching the instructional video (Table 2)
- Participants with greater than 12 years of education scored higher than those with 12 years of education or less (P= 0.03) (Table 2) on the fever questionnaire
- Each participant indicated high satisfaction scores regarding the video (Table 3)

## Limitations

- Small sample size (N=27)
- Convenience sample, without randomization
- Questionnaires only available in English

## Conclusions

- Thorough communication and discharge education are an integral part of patient care delivery
- VDI was well received and found to satisfy or highly satisfy caregivers
- VDI may be an additional, beneficial route to deliver discharge education



## Tables

Table 1. Demographic Participant Data

Characteristic	Group	Number	Percent
Gender of Care Taker	Female	17	85%
	Male	3	15%
Race of Care Taker	White	13	65%
	Black	5	25%
	American Indian	1	5%
	Unknown	1	5%
Ethnicity	Not-Hispanic	16	80%
	Unknown	3	15%
	Hispanic	1	5%
Relation to Child	Mother	15	75%
	Father	1	5%
	Aunt	1	5%
	Sibling	1	5%
	Other	2	10%
Education Level of Care Taker	Post Graduate Degree	2	10%
	College Grad	8	40%
	Some College	2	10%
	High School Grad	6	30%
	Some High School	1	5%
	Less Than High School	1	5%

Table 2. Non-Parametric Comparison of Median Total Fever Education Scores

Characteristic	Comparison Group 1 (N)	Median Score	Comparison Group 2 (N)	Median Score	P value*
Gender of Care Taker	Female (17)	9	Vs. Male (3)	8	0.3537
Ethnicity	Hispanic Ethnicity (1)	6	Vs. Not Hispanic (19)	9	0.1065
Race	White Race (13)	9	Vs. Minority Race (7)	8	0.1084
Relation to Child	Mother (15)	9	Vs. Not Mother (5)	8	0.5344
Education Level	Completed greater than 12 years of education, (12)	9	Vs. Completed 12 years of education or less (8)	8	0.0280†
Watched the Fever Education Video	Yes (18)	8	No (2)	8	

Table 3. Satisfaction Ratings

Characteristic	N	Extremely Satisfied (%)	Satisfied (%)	Did not Respond (%)	P value*
Gender of care taker					
Female	17	6 (35.3%)	5 (29.4%)	6 (35.3%)	0.999
Male	3	1 (33.3%)	1 (33.3%)	1 (33.4%)	
Race of care taker					
White	13	4 (30.8%)	5 (38.4%)	4 (30.8%)	0.5594
Minority	7	3 (42.8%)	1 (14.4%)	3 (42.8%)	
Ethnicity					
Not-Hispanic	19	7 (36.8%)	6 (31.6%)	6 (31.6%)	
Hispanic	1	0 (0%)	0 (0%)	1 (100%)	sum zero†
Relation to child					
Mother	15	4 (26.7%)	5 (33.3%)	6 (40%)	0.5594
Not-mother	5	3 (60%)	1 (20%)	1 (20%)	
Education level of care taker					
Completed greater than 12 years of education	12	6 (50%)	4 (33.3%)	2 (16.7%)	0.5594
Completed 12 years of education or Less	8	1 (12.5%)	2 (25%)	5 (62.5%)	