



## Effect of emotional distress on PFAPA attacks - a multicenter study during the COVID-19 pandemic

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**Background:** The fact that mental state may serve as a trigger for attacks of periodic fever diseases is known in Familial Mediterranean fever (FMF). There is a lack of information regarding the role of emotional triggers for PFAPA attacks.

**Aim:** To examine whether emotional distress may trigger PFAPA attacks.

**Methods:** Enrolled were patients with active PFAPA, from two Israeli medical centers. Researchers contacted their parents by phone in two occasions: a. within the two weeks of returning to school after the first COVID-19 lockdown; b. during the summer vacation (i.e., non-stressful period). Parents were asked regarding the occurrence of PFAPA attacks within the two weeks preceding the calls. The relative stress levels of the two periods were validated by an emotional distress scale questionnaire. Differences between occurrences of attacks during these two periods of time were recorded.

**Results:** One-hundred and six pediatric patients enrolled in the study. Mean age was  $7.37 \pm 2.9$ . In the stressful period, 41 (38.7%) reported at least one attack during the

preceding 2 weeks, compared to 24 (22.6%) in the non-stressful period ( $p = 0.017$ ). Scores for the mean emotional distress questionnaire were higher in the stressful period compared to the non-stressful period ( $35.6 \pm 8.1$  vs.  $32.1 \pm 7.7$ , respectively,  $P = 0.047$ ).

**Conclusions:** This study shows that during a period of stress for children there were more PFAPA attacks compared to a relaxed period. These findings indicate that mental factors such as stress or excitement may be triggers for PFAPA attacks.

Table 1. Attacks status during prior 2 weeks during stressful or non-stressful event			
Outcome	First call (May 2020)	Second call (August 2020)	P-value
Pediatric emotional distress score (PEDS), mean ( $\pm$ SD)	35.6 ( $\pm$ 8.1)	32.1 ( $\pm$ 7.7)	0.047
Any attacks during last 2 week, n (%)	41 (39.8%)	24 (24.2%)	0.017
Number of attacks			
One, n (%)	27 (25.5%)	19 (17.9%)	0.04
Two, n (%)	14 (13.2%)	5 (4.7%)	