Fatal Pediatric Vehicular Heatstroke and False Memories

NUARC

Graham Pluck[1,2], Pavida Kittikamron[3], María Sol Garcés[2], Antonio Cerone[4]

[1]Department of Psychology, KIMEP University, Kazakhstan; [2]Institute of Neurosciences, Universidad San Francisco de Quito, Ecuador; [3]Faculty of Medicine, Chulalongkorn University, Thailand; [4]School of Engineering and Digital Sciences, Nazarbayev University, Kazakhstan

Главная › Новости

В Атырау мать оставила годовалого ребенка на жаре в машине: малыш едва не задохнулся

Медики спасли жизнь ребенка, оказав ему экстренную помощь.

Марина Рузматова

Фото: Пресс-службу Управления здравоохранения западного региона

667

В Атырау мать оставила своего годовалого малыша в запертой машине, где он едва не задохнулся. К моменту приезда медиков ребенок находился в бессознательном состоянии, с высокой температурой и судорожным синдромом. Благодаря оперативным действиям врачей, жизнь малыша удалось спасти, сообщает El.kz со ссылкой на пресс-службу Управления здравоохранения западного региона.

INTRODUCTION

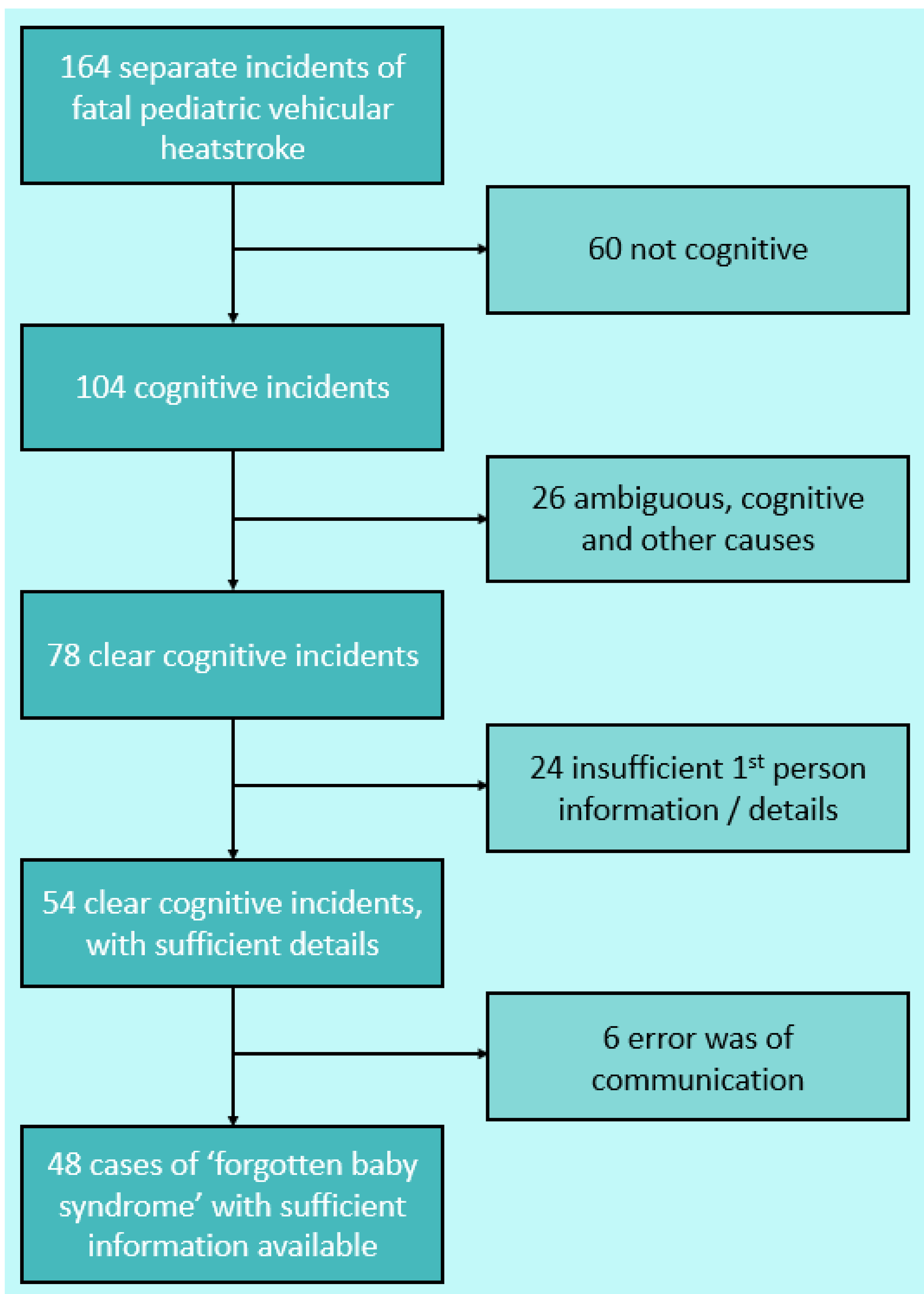
- Every year, in Kazakhstan, and neighboring regions, children die from being accidently left in vehicles. This sometimes called '*forgotten baby syndrome*'.
- Fatal heatstroke, may occur when body temperature > 40°C [1]. If parked in sunlight, temperatures within cars can reach > 25°C higher than the ambient temperature [2]
- No national statistics are available in most countries. There are >4 cases reported each year in Chinese media, and around 38 each year in the US media [3].
- Adults who have lost a child this way are anecdotally reported to experience false memories: They say that they have a memory of removing the child, despite knowing the child died because they did not.
- We aimed to confirm, through rigorous analysis, whether these really occur, and what factors might be associated with them.

METHODS

- Due to the sensitivity and sporadic nature of cases, secondary sources are the only available data.
- We studied details given in news media in the USA, reported on news websites between 2019 and 2023.
- We searched for verbal statements by the adults involved, particularly for reports of false memories. Eligible cases were scored on a scale from 'no false memory' to 'explicit false memory'.
- Three different raters analyzed the reports and agreed on data recorded.

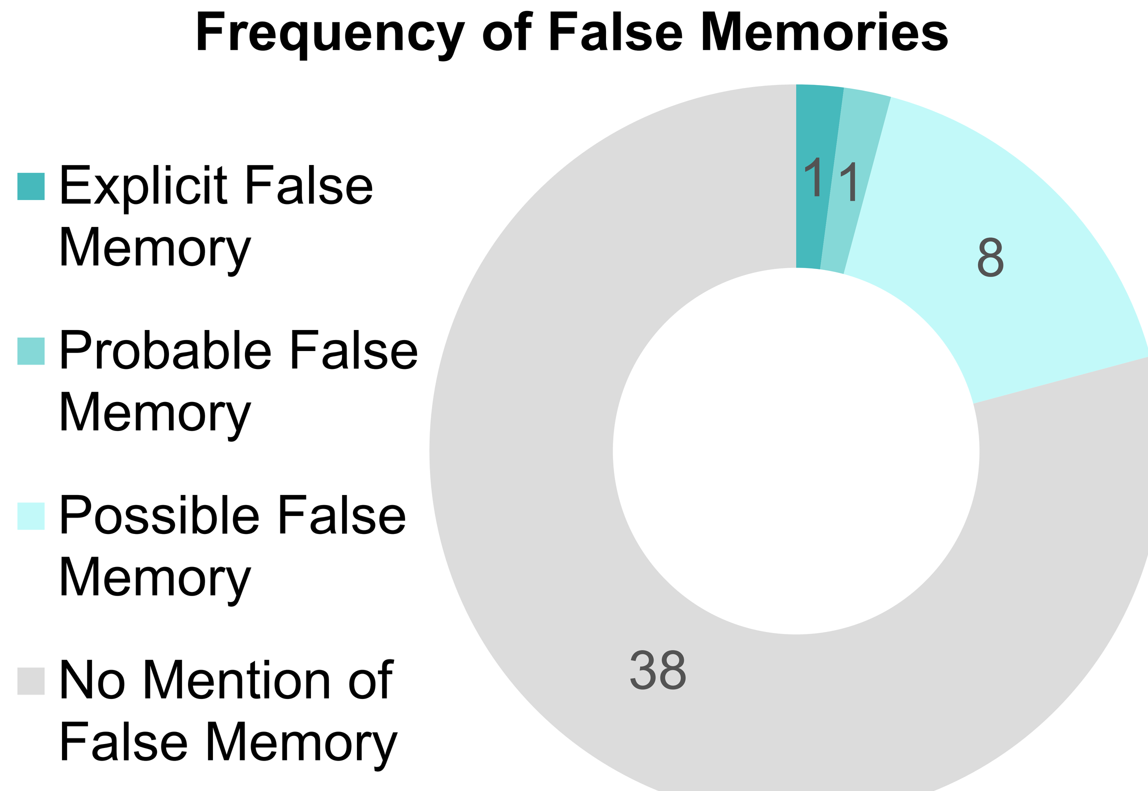
CASE SELECTION

'Forgotten Baby Syndrome' Case Inclusion, from N = 164 Separate Fatal Incidents (166 child deaths)



ANALYSIS

Proportion of Selected Cases (n = 48) and Frequency of False Memories



RESULTS

Comparison of Cases With and Without Possible False Memories

Aspect	All incidents / cases	With possible false memory	No false memory
Male child victim[1]	23/49 (47%)	9/12 (75%)*	3/12 (25%)
Age of child victim (months)	20.4 (13.2)	24.9 (13.6)	19.0 (12.9)
More than one fatality	2/48 (4%)	2/10 (20%)*	0/38 (0%)
Number of children in vehicle	1.7 (1.1)	2.3 (1.4)	1.5 (0.9)
Sex of adults- M:F:B	25:21:2	6:4:0	19:17:2
Only one adult in vehicle	46/48 (96%)	10/10 (100%)	36/38 (95%)
Routineness of journey	2.0 (1.5)	2.0 (1.4)	2.0 (1.5)
Number of stops planned	2.7 (1.5)	2.4 (1.0)	2.8 (1.6)

*Data are shown as mean (+SD) or count (+%). [1] Sex information not available for one case, * = p < .05, M:F:B = male : female : both male and female adults in the vehicle.*

- Accidental death of boys was significantly more associated with false memories than death of girls.
- Incidents with more than one fatality were also associated with the development of false memories.
- Other details of the children, adults, and the journey were not linked to false memories.

WHAT IS CAUSING THESE FALSE MEMORIES?

- It seems possible that response to intense psychological trauma is part of the cause.
- Death of a boy was more likely than death of a girl to involve false memory. There is past research that suggests grief is strongly when child fatalities are male.
- However, the likely mechanism is schema-based memory recall.
- Driving is a very automized activity, meaning it can be done without conscious attention [4].
- Driving is known to produce high levels of false memories that are schema-based, i.e., things that frequently occur in stereotypical journeys [5].
- We suggest that cognitive science theory based on schematic memory representations, such as script theory [6] can explain false memories observed in fatal pediatric vehicular heatstroke.

Sustainable Development Goal

3 GOOD HEALTH AND WELL-BEING

CONCLUSIONS

- Although strong evidence was rare, we can confirm that false memories do occur.
- We found two cases of either explicit or probable false memory following accidental death of a child.
- Tentatively, we provided evidence that false memories occur more often with male fatalities, and more often when there are multiple fatalities.
- We propose an explanation of why false memories occur based on script theory [6].

References

1. Adato B, et al; Fatal heat stroke in children found in parked cars: autopsy findings. Eur. J. Pediatr. 2016 Sep;175:1249-52.
2. Grundstein A, et al; Quantifying the heat-related hazard for children in motor vehicles. B. Am. Meteoral. Soc. 2010 Sep;91(9):1183-92.
3. United Nations Economic Commission for Europe. Global information and statistics – Children left in vehicles, Informal Report at the World Forum for Harmonization of Vehicle Regulations (190th session). https://unece.org/sites/default/files/2023-11/WP.29-191-10e.pdf
4. Summala, H;. Automatization, automation, and modeling of driver's behavior. Rec. Transports Sécurité 2000 Jan-March; 66: 35-45.
5. Charlton SG & Leov J.; Driving without memory: The strength of schema-consistent false memories. Transp. Res. Part F. Traffic Psychol. Behav. 2021; 83: 12-21.
6. Schank RC & Abelson RP; Scripts, plans, goals, and understanding: An inquiry into human knowledge structure; 1977, Lawrence Erlbaum Associates.