Fluid deficiency in children and cognitive impairment

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A study from Tufts University, Boston concluded in 2006: In children, the risk of dehydration is greater than in adults because they have a higher ratio of surface area to mass. Additionally, children have a different sense of thirst and different body cooling mechanisms than adults. The total water content of children's bodies differs from that of adults, and the water content of boys and girls decreases with maturation. Research on young adults shows that mild dehydration, corresponding to only 1 to 2 % of body weight loss, can lead to significant impairment of cognitive function. Dehydration in infants is associated with confusion, irritability, and lethargy; in children, it can lead to impairment of cognitive performance. https://pubmed.ncbi.nlm.nih.gov/17063927/

In a study from 2009 (link below), it was tested how children's mental performance changes when they are asked to drink water during school time. The cognitive abilities of 40 children (average age 8 years and 7 months) were examined twice in the afternoon, once after drinking 300 ml of water and on another day when no water was offered. Memory was assessed by recalling 15 previously presented objects. Memory performance was significantly better when water was consumed. However, drinking did not change the children's ability to concentrate on things. https://pubmed.ncbi.nlm.nih.gov/19445987/

In 2011, another study (link below) concluded that body temperature regulation in pre-pubertal athletes differs from that in adults. Therefore, it is important to consider the specific fluid requirements of this age group in order to avoid the risk of dehydration and reduced athletic performance. Relative to their body size, children have lower sweat water losses during sports than adults. Nevertheless, the percentage of dehydration in pre- and post-pubertal athletes is similar. Additionally, voluntary drinking volumes in children relative to their body size are comparable to or greater than in adults. With adequate opportunity to drink during sports, thirst-driven fluid intake should prevent significant dehydration in child athletes. The amount can be conservatively calculated with an hourly fluid intake of 13 ml/kg body weight. Equally important is fluid intake after training (approximately 4 ml/kg for each hour of training) to

avoid starting subsequent training sessions in a dehydrated state. https://pubmed.ncbi.nlm.nih.gov/21425887/

(Why sugary drinks are not among the recommended "thirst quenchers" you can see here: https://t.me/truuinfochannel/52)

Conclusion see the following post:

Hydration and cognitive function in children - PubMed
https://pubmed.ncbi.nlm.nih.gov/17063927

It's good.
to be truu.