

SHORT COMMUNICATION

Avicenna's Advice for Parents of Children with Epilepsy; Compared to Current Evidence

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Abstract

Despite the availability of valuable studies on the history of medicine, the profound significance of these mediaeval outstanding medical works on the further development of medicine is underappreciated. With the present study, I intended to consider an important historical topic about advice for parents of children with epilepsy introduced by Avicenna. Interestingly, Avicenna's advice for parents of children with epilepsy showed striking parallels between current knowledge and the text written by Avicenna, centuries before.

Key words: Avicenna, Child, Epilepsy, Parents

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Introduction

Avicenna was born in 980 in Bukhara (Uzbekistan) and died in 1037 in Hamadan (Iran). In the history of medicine, he is ranked alongside Hippocrates and Galen for his impact on the medical knowledge and practice through his writings. His “Al-Qanun fi al-Tibb”, or “Canon of Medicine”, was one of the primary sources of medical education in the West until the eighteenth century (Gorji and Khaleghi Ghadiri, 2001, pp. 455–461).

“It is my heart’s desire to start off with speaking about the general and common principles of both parts of medicine, namely, theory and practice,” Avicenna writes at the beginning of his Canon.” (Schipperges, 1987, pp. 24-34)

The Canon of Medicine consists of five books containing approximately one million Arabic words on 1000 pages, written in a completely systematic manner. The first book deals with general principles of medicine, the second with simple drugs, the third with cognition and disease treatment, the fourth with diseases that are not specific to one limb and are systematic, and the fifth with compound drugs (Gorji and Khaleghi Ghadiri, 2001, pp. 455–461).

A Comparison between Avicenna’s Recommendations and Recent Evidence for Parents of Children with Epilepsy

Avicenna published numerous compilations in a variety of medical fields, including neurology, in which he discussed epilepsy in addition to other neurological disorders (Gorji and Khaleghi Ghadiri, 2001, pp. 455–461). I wanted to look at an important historical topic about advice for parents of children with epilepsy that Avicenna brought up in his book (the Canon of Medicine). I translated his recommendations mentioned in the chapter on epilepsy (Figures 1 and 2) into the English language. As summarized in Table 1, Avicenna’s advice to parents of children with epilepsy revealed considerable parallels between the current knowledge and Avicenna’s text written centuries before.

Table 1: Comparison of Avicenna’s advice for parents of children with epilepsy and Recent Data

Avicenna's advice for parents of children with epilepsy	Recent Data
I. Improve breast milk quality of breastfeeding mothers of epileptic infants. A breastfeeding woman should avoid everything that produces watery, spoiled, or thickened milk and prevents intercourse and pregnancy.	To the best of my knowledge, I did not find specific advice for breastfeeding mothers of epileptic infants in recent studies.
II. And this child with epilepsy must avoid everything causing a feeling of panic or disturbance, such as loud sounds and rumblings, such as the sound of drums, trumpets, thunder, jingle, and shriek of cries.	Visual stimuli are the most common cause of reflex seizures, followed by sensory, auditory, somatosensory, olfactory, or proprioceptive stimuli. More complex triggers, such as reading, hearing music, or praxis, are less common. Reflex seizure,s are treated by limiting exposure to the provoking stimulus and using standard antiepileptic drugs (AEDs) (Striano, et al., 2012, pp. 1–11; Kasteleijn-Nolst Trenité, 2012, pp. 105–113).
III. And to avoid staying up late	People with epilepsy need to get the proper amount of sleep. Losing sleep can increase the frequency of seizures in people with epilepsy, including those who have never had seizures before, although this connection isn't present in all patients (Newsom, 2009, no page; van Golde, Gutter and de Weerd, 2011, pp. 357–368).



<p>IV. To avoid anger and fear.</p>	<p>Some people's seizures are reduced by interventions based on the identification of seizure-provoking factors, such as stress, and the development of better-coping mechanisms. There is some evidence that yoga and biofeedback may be effective in lowering seizure frequency. The findings of intervention studies represent the potential for the development and empirical testing of nonpharmacologic treatment modalities that specifically target stress as a seizure-promoting factor (Novakova et al., 2013, pp. 1866–1876).</p>
<p>V. And to avoid extreme cold and extreme heat.</p>	<p>According to a study done by the Epilepsy Society, 62% of individuals with uncontrolled seizures have more seizures when the weather is unusually hot (Christidis, McCarthy, and Stott, 2020, p. 3093). Unstable weather conditions increase the frequency of seizures in nearly half of the epileptic patients during spring, autumn, and winter, but only 7% during summer, according to research by Motta et al (Motta, et al., 2011, pp. 561–566).</p>
<p>VI. And to avoid indigestion</p>	<p>Clinical research has shed new light on the complicated connection between epilepsy and the microbiota-gut-brain axis (MGBA), indicating a bidirectional relationship between abnormal bowel movements and the occurrence of seizures (Avorio et al., 2021, p. 705126).</p> <p>Most seizures in drug-resistant patients occurred during times of irregular bowel movements, particularly constipation, according to research by Avorio F, Cerulli Irelli E, Morano A, et al (Avorio et al., 2021, p. 705126).</p> <p>The number of days with seizures and the number of days with regular bowel movements had a weak but significant negative correlation ($p = 0.04$). In a multivariable logistic regression analysis, functional gastrointestinal disorders (FGID) were found to be significantly associated with temporal lobe epilepsy when compared to other lobar localizations (Avorio, et al., 2021, p. 705126).</p>
<p>VII. He also has to gently exercise before eating, and he is not allowed to move thereafter.</p>	<p>The benefits of regular moderate exercise on gut microbiota may be responsible for some of the beneficial effects of exercise on the brain (Arida, 2021, p. 165979), (Capovilla et al., 2016, pp. 6–12)</p> <p>Consuming food after exercise will help muscles recover and replenish their glycogen reserves (Maximize your workout by knowing what - and when - to eat, 2021, no page).</p> <p>Do not exercise right after eating. As it typically takes 2-4 hours for a meal to be completely digested, it is advised to exercise 1-2 hours after a moderate-sized meal and 30 minutes after a snack. This is shown to have no negative side effects (Exercise and epilepsy Org, no page; Preiato RD CSCS, 2021, no page; de Oliveira, Burini and Jeukendrup, 2014, pp. S79–S85; Samborski, Chmielarz-Czarnocińska and Grzymisławski, 2013, pp. 396–400).</p>



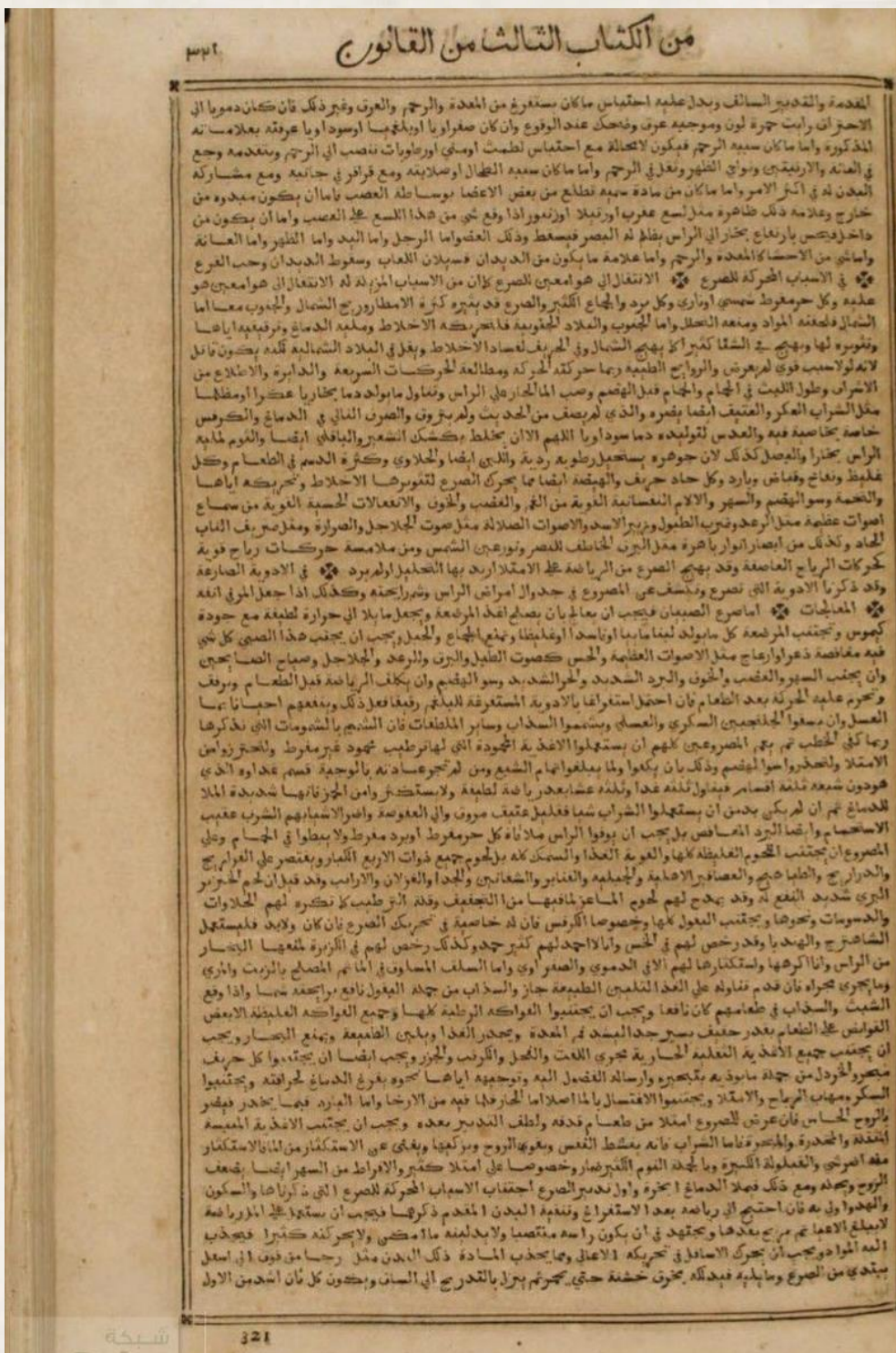


Figure 1. The photograph is showing page 321 of “Canon of Medicine” in the Arabic language. (Avicenna, 1025, p. 321)

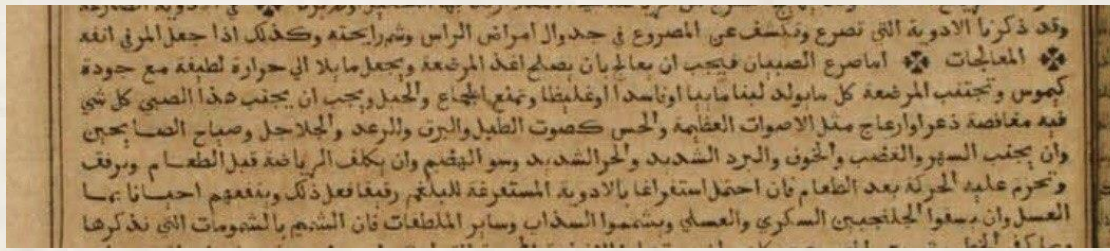


Figure 2. This Photograph represents a section of page 321 of “Canon of Medicine’s” chapter on epileptic children (the paragraph of advice for parents of children with epilepsy) in the Arabic language. (Avicenna, 1025, p. 321)

Conclusion

Although valuable studies on the history of medicine are available, the profound impact of these mediaeval outstanding medical works on the further development of medicine is less discussed. In his book, the Canon of Medicine, Avicenna gave guidance for parents of children with epilepsy. This is a significant historical issue. Avicenna’s counsel to parents of children with epilepsy reveals astonishing similarities between current thinking and his text written centuries ago. The increased availability of Avicenna’s work in translation, the Canon of Medicine, should help to raise awareness of his research and expertise, particularly in the study and treatment of the nervous system.

Conflict of Interest

None.

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