

# Incorporating Innovative Nanotechnology Epilepsy Treating device in nursing management of adult patients with epilepsy: COVID19 pandemic consideration



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## Abstract

**Introduction:** Epilepsy is a disease categorized by a spontaneous repetition of unprovoked seizures, is one of the most widespread chronic neurological states. The rate of its prevalence is reported to be 0.7–1.0% (Fiest, Sauro, Wiebe, Patten, Kwon & Dykeman, 2017). The Center for Disease Control and Prevention (CDC) proposes that neurological comorbidities, including epilepsy could be a risk factor for COVID-19 (Kuroda, 2020). The concern of the COVID19 pandemic toward patients with epilepsy include the fact that frequent seizures would cause malnutrition, and the nutritional status is associated with the immune system (Crepin, Godet, Chassain, Preux & Desport, 2009). On the other hand, going to emergency rooms because of increased or uncontrollable seizures could expose the patient to coronavirus. Therefore, it's crucial to consider innovative ways to detect and control seizures among these patients.

**Aim:** The current study consists of two folds; the first fold focuses on the comprehensive assessment of adult patients with epilepsy. The second fold of the study describes the innovative nanotechnology epilepsy treating device and suggesting incorporating the proposed device in the nursing management plan of patients with epilepsy. Design: A descriptive research design was espoused in this study. Methods: A convenience sample of 150 adult patients with epilepsy were recruited. Data collection was conducted at the neurology department Kasr Al-Aini University Hospital, and two tools were used to collect the needed data: Sociodemographic datasheet & Comprehensive assessment sheet. The study's second fold is proposed based upon extensive literature review and the results obtained from the study's first fold. Results: The majority of the studied subjects, 82%, had epilepsy for more than 5 years up to 10 years. Almost half of the studied subjects, 49.3%, had 3 epileptic attacks the year before the study. Concerning post-ictal symptoms, 93.3% of the study subjects had headaches or migraines, and 52.9% experienced it severely. In addition to 86% of the studied sample felt fear and anxiety. The presence of aura or warning symptoms before seizure attacks (55.3%) of the studied subjects never had any.

**Conclusion and recommendation:** The current study results highlight the critical issue of having an epileptic seizure without any warning signs, which encourages the initiation of using the proposed nanotechnology device to detect the attack before it happens. Incorporating such a device in a nursing management plan can have a magnificent prognosis of patients with epilepsy regarding control of attacks and prevent post-ictal devastating symptoms, especially that patients with epilepsy have a greater risk of COVID19 infection and subsequent morbidity and mortality.

## Biography

Dr. Ehsan A. Yahia, Doctor of Nursing Science, has two majors B. Sc. Nursing and B. Sc. Mass communication. Dr. Yahia, E. obtained a Master's degree in Medical-Surgical Nursing and Doctorate of nursing science. She believes in a multidisciplinary approach in health care. She had extensive training at the orthopedic physiology lab at the University of California, San Diego UCSD. Moreover, she was part of a research team that proposed a new theory of fluid shift in high altitude, a research project funded by NASA and published at the aerospace medicine conference 2013. She achieved a variety of graduate studies in human physiology, nanotechnology, Biostatistics, computer programming, system analysis, and humanities.

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