
APPLICATION OF MATHEMATICAL MODEL TO THE STUDY OF THE IMPACT OF MIGRAINE TO ACADEMIC PERFORMANCE OF STUDENT OF FEDERAL UNIVERSITY, WUKARI

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ABSTRACT

In this research, we developed mathematical model for the study of the impact of migraine on academic performance of students of Federal University, Wukari. In developing the model, we reviewed the available literature on migraine such as; [4], [1], [2]. In their works, they pointed out the causes of migraine which include; stress, anxiety and depression, fatigue, lack of proper sleep, alcohol, caffeine, irregular eating habits, and food additives like tyramine and so on. We discovered that no work has been done on the impact of migraine on academic performance of student. This motivated us into carrying out this research. The aim of this research is to apply mathematical model to the study of the impact of migraine on academic performance of students in Federal University, Wukari. We carried out qualitative analysis of the model and established the existence and uniqueness of solution to the model. Maple 2023 was used to carry out the analysis. The results of the model analysis revealed that the solution exists, unique and it is bounded. The result of the numerical simulation showed that migraine has adverse impact on academic performance of students. The results also revealed that intervention should not be ruled out when suffering from migraine. We recommend that students should not manage migraine rather they should seek for intervention as soon as they discovered that they have migraine. Students Level Advisers should not only advise on academic matters but also advise students to go for treatment whenever they are not feeling fine.

Keywords Migraine · Academic Performance · Examination · Mathematical Model · numerical simulation

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