

Neurodegenerative disease is a global health concern now. Only Alzheimer's patient number has been reported around 46 million, and this number also has been expected to go beyond 132.5 million by 2050 globally. As a challenge in the study of disease pathology and finding advanced therapy by using animal models shows rightly but not exactly similar to that of human diseases. In addition, several disappointments in animal researches have been shown. Even though the preclinical experiments of transgenic mice models have been improved or cured no less than 300 times, none of these treatments has transitioned through clinical experiments to approval and benefit for patients. If the present animal models still are not able to predict clinical success, it should be accepted to change clinical treatments, or find out the new animal model. Therefore, Currently several reports and our experiences in using neurodegenerative animal models for preclinical studies and nutraceuticals will be shown and could demonstrate some disadvantages, the developing models to improve understanding in the disease condition and provide etiology of disease with drug mechanisms. Moreover, the development of higher neurodegenerative animal models have been proposed and mostly based on genetic characteristics for targeting treatments. With the suitable models concerning of the phenotype similarities to human, the best and effective animal models should be further developed with simply and economic goals. In addition, they should also provide better evaluation, easy to test all parameters and aim to overcome the previous hindrance and present a brief etiology of disease. Taken together, these aspects may explain the limited contribution of animal models to the development of effective disease-modifying therapeutic strategies. The next generation of animal models should be developed with a great challenge to effectively help treat and prevent neurodegenerative diseases.