

48311305 : สาขาวิชาวิทยาศาสตร์สิ่งแวดล้อม

คำสำคัญ : แคลคเมียม/ความเป็นพิษต่อสารพันธุกรรม/ความผิดปกติของโครโมโซม/กรดฟัลลิก

นางนุช กำลังแพทย์ : การศึกษาแคลคเมียมและสารประกอบเชิงซ้อนอินทรีย์ แคลคเมียม-กรดฟัลลิกต่อความผิดปกติทางพันธุกรรมของผักบั้งจีน. อาจารย์ที่ปรึกษาวิทยานิพนธ์ :

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47261414 : MAJOR : SPECIAL EDUCATION PSYCHOLOGY

KEY WORD : ACTIVITIES REINFORCEMENT / HEAD ROCKING BEHAVIOR / AUTISTIC CHILD

PIKUL TUMBOONTOB : THE RESULT OF ACTIVITIES REINFORCEMENT

TO REDUCE HEAD ROCKING BEHAVIORS OF THE AUTISTIC CHILD. AN INDEPENDENT STUDY

ADVISOR : ASST. PROF. SUREERAT BURANAWANNA. 69 pp.

The purpose of this research was to study the result of activities reinforcement to reduce the autistic child's head rocking behavior. Subject was an autistic boy of 6 years old in Special Educational Center at Regional 5 Suphan Buri with problem of head rocking behavior. The research was a single subject experimentation with ABA model. The experimental procedure was divided into 3 phases. The first phase was a base line period which took one week. The second phase was an experimentation period covered four weeks. In this phase the subject was treated by prompt with activities reinforcement. The third phase was a withdrawal period covered one week. The experimentation was conducted once a day for six weeks on Tuesday to Friday for 15 minutes each at 10.45 – 11.00 a.m. The instruments used to collect data were recording form to record rocking head behavior, a checklist of subject's favourable reinforcers and schedules of activities reinforcement.

The result found that the autistic subject's head rocking behavior reduced after treated with activities reinforcement as compared by mean score of the baseline phase ( $\bar{X} = 17.50$ ) which was higher than mean score of the experimentation phase ( $\bar{X} = 10.94$ ) and mean score of the withdrawal phase ( $\bar{X} = 10.00$ ).

48311305: MAJOR: ENVIRONMENTAL SCIENCE

KEY WORD: CADMIUM/GENOTOXICITY/CHROMOSOME ABERRATION/FULVIC ACID

NONGNUCH GUMLUNGPAT: THE STUDY OF Cd AND ORGANOMETALIC

Cd-FA COMPLEX ON THE GENOTOXICITY OF *Ipomoea aquatica* FORSK. THESIS ADVISOR:

ASST. PROF. NATDHERA SANMANEE., Ph.D. 83 pp.

The purpose of this study was to investigate the effect of cadmium ion ( $\text{Cd}^{2+}$ ) in comparison with the organometallic cadmium-fulvic acid complex (Cd-FA) on the genotoxicity of cell division at *Ipomoea aquatica* Forsk root tips. The concentrations used in this study were  $10^{-6}$ ,  $10^{-7}$ ,  $10^{-8}$ ,  $10^{-9}$ , and  $10^{-10}$  M with the duration of exposure 24 h following by 48 h recovery period.

The results indicated that increasing concentration of  $\text{Cd}^{2+}$  starting from  $10^{-8}$  M reduced mitotic index (MI) and enhanced mitotic aberration (MA) significantly difference than the controls—deionized water (DI) and fulvic acid (FA) ( $p < 0.05$ ). In contrast, the very low concentrations of  $\text{Cd}^{2+}$   $10^{-10}$  and  $10^{-9}$  M yielded significantly higher MI than the controls ( $p < 0.05$ ). These two contradict effects were reduced in the presence of FA. The Cd-FA in this case had different effect onto the cells and/or ability to be absorbed into the cells. Therefore, the order of magnitude effects onto the cell division of MI and MA were the same which was  $\text{Cd} > \text{Cd-FA} > \text{FA}$ .