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# FAMILY NURSING & HEALTH CARE

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# PATIENT SAFETY & NURSING HEALTHCARE

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## *Yasuko Fukaya*

*Kanto Gakuin University, Japan*

### **Investigation of brain activity during type II communication of the elderly by near infrared spectroscopy**

In our previous studies, we clarified that there were two types of linguistic communication between elderly people in need of long-term care and care providers: “Type I communication: Task oriented communication” and “Type II communication: Life worldly communication”. In geriatric care facilities, the average speech duration per day was 4 minutes, which was extremely short. It was caused by the fact that about 75% of the conversation was occupied by type I communication and the speech of the elderly was restricted. On the other hand, type II communication was proved to increase the elderly speech duration. It was also proved that the lack of type II communication not only affected the quality of life of the elderly but also may affect the deterioration of the mental activity and the occurrence of dementia of the elderly. However, it has not been clarified how these types of communication affect the brain activity. Therefore, this study is aimed to measure the brain activity during type I and type II communication by Near Infrared Spectroscopy (NIRS) and to analyze the difference between them. The subjects were 25 elderly people aged 65 years or older who did not suffer from dementia. The 16 channels of NIRS system (NIRO-200NX, Hamamatsu Photonics K.K., Japan) were applied for each participant. We conducted communication with the elderly using communication guides of each types. Changes in the concentrations of oxygenated hemoglobin (oxy HB), deoxygenated hemoglobin (deoxy HB) and total hemoglobin (total HB) were measured using NIRS to observe the brain activity during the communication. The video recording was also performed with NIRS.

### **Biography**

She has engaged in education and research on deontological nursing and home care nursing. Her research themes are the desirable communication between the elderly and the care staff and the effective way of support for the elderly ADL independence. In particular, her research on the elderly communication is garnering attention around the world. Her article (Fukaya ,et al .2016) will be published as a chapter in eBook "Top 10 Contributions on Nursing & Health Care".

yafukaya@kanto-gakuin.ac.jp

### **Notes:**