

# Program for Promoting Self-Management of Health Status for Nursing Students Based on Oriental Medical Concepts

Shu Chun Chien, PhD, RN<sup>1</sup>, Yoshiko Wazumi, PhD, RN<sup>1</sup>, Toshie Yamamoto, PhD, RN, PHN<sup>2</sup>, Takeshi Matsumoto, PhD<sup>3</sup>, Takashi Maeda, PhD, RN, PHN<sup>4</sup>, Tomoko Katagiri, MSN, RN<sup>4</sup>, Akiko Nagata, MSN, RN<sup>2</sup>, Fusako Kawabe, PhD, RN, PHN<sup>5</sup>

1) Center for Education and Research in Nursing Practice, Graduate School of Nursing, Chiba University, Japan

2) Graduate School of Nursing, Chiba University, Japan 3) Kashiwanoha Acupuncture Clinic of Chiba University Hospital, Japan

4) Yamagata Prefectural University of Health Science, Japan 5) Chiba Prefectural University of Health Science, Japan

## Purpose

Most nursing curriculums include many courses spanning medical knowledge, technology, and nursing skills. However, our research has established that nursing students often show symptoms or signs of afflictions such as menstruation disorders, constipation, and so on. These symptoms or signs are known as the “pre-disease” stage (i.e., the stage before an illness is diagnosed). The purpose of the current research is to apply the concept of Oriental medicine to develop, and examine the effectiveness, of a program aimed at helping to improve the symptoms or signs in the “pre-disease” stage of nursing students.

## Methods

The subjects for this study included five female nursing students from University A, located in near the Tokyo region, and seven (three male, four female) students from University B, located in the Northeast region. Concerning gathering data about the subjects, a combination of data-collecting wearable wrist bands, personal documents covering a span of about two weeks, and interviews were used to record daily life data, including such information as their waking and sleeping times, diet, exercise and important life events for at least six months. Aside from uncomfortable symptoms or signs being confirmed through interviews, the physical condition of the subjects was also measured through *Ryodoraku* – a technique developed by Dr. Nakatani Yoshio that employs a machine to measure the electric potential difference of meridians on the skin in order to ascertain physical strength and the balance of the autonomic nerve system. The scores’ range of healthy people are 40~60  $\mu$ A. Furthermore, an acupuncturist took each student’s pulse and advised them concerning how to apply finger pressure on acupuncture points to alleviate their discomfort. The relationships between the uncomfortable symptoms or signs, the results of the *Ryodoraku* measurements, and the daily life data were analyzed by time-series on an individual basis.

## Results

The participants were all in their 20s and 30s. Their symptoms and signs were showed as table 1 and Table 2. Their lifestyles were all characterized by hard schedules replete with studies and extracurricular activities from their junior high school days until the present. The changes were reflected in the *Ryodoraku* scores. The average scores corresponding to before, during (at an interval of 2.5 to 3 months after beginning), and at the end of the study for the two universities are also given in Tables 1 and 2.

With the exception of case A’ at University B, all of the subjects’ average scores at first became higher and then returned to their initial levels at the end of the study because of the students’ busy schedules, including, for example, exams or job hunting. However, besides case B’ at University B, the balance of the autonomic nerve system of all subjects improved over the course of the period from the interval to the conclusion of the study. The symptoms or signs showed improvement if the subjects practiced the advised finger pressure on acupuncture points or changed their lifestyles. That is to say, their physical conditions have great potential to improve.

The scores of University B were higher than those of University A. The researchers believe that because the deviation value of University A was higher than that of University B, the study assignments were more difficult for the subjects from University A, which influenced their daily lives in ways such as diet, rest, exercises and physical condition. Another likely reason considered was that as most subjects from University B lived together with their families they were able to receive support from their families for maintaining their physical status.

## Conclusions

The results showed that the program could help nursing students by promoting self-management to improve their uncomfortable symptoms and signs with the assistance of the researchers.

Physical symptoms are affected by personal lifestyle, and are also reflected in an individual’s *Ryodoraku* measurements. Educating nursing students so that they can understand the relationship between symptoms and signs, lifestyles and visualization of their physical strength and the balance of the autonomic nerve system with *Ryodoraku* measurements is helpful for enabling them to change their lifestyles based on the concepts of Oriental medicine. This, in turn, will aid them in helping patients to improve their physical condition through natural, noninvasive care methods. It can also be a benefit to medical expenses.

**Table 1 Average Scores of Ryodoraku of University A**

| Average Scores of Ryodoraku         | Sex | Before the study | Interval after 2.5-3 months | End of study | Chief symptoms or signs   |
|-------------------------------------|-----|------------------|-----------------------------|--------------|---|
| Case A                              | F   | 11               | 68                          | 10           | irregularity of menstruation, algomenorrhea, constipation, edema of lower leg, skin allergy                     |
| Case B                              | F   | 21               | 63                          | 30           | irregularity of menstruation, algomenorrhea, constipation, myoma of the uterus                                  |
| Case C                              | F   | 23               | 59                          | 9            | algomenorrhea, feeling of cold, varicosity  |
| Case D                              | F   | 25               | 53                          | 27           | algomenorrhea, constipation, stomach felt bloated, feeling of cold, edema of lower leg, could not sleep soundly |
| Case E                              | F   | 36               | 47                          | 27           | algomenorrhea, constipation   |
| Average Scores of Uni.A(5 students) |     | 23               | 58                          | 21           |   |

**Table 2 Average Scores of Ryodoraku of University B**

| Average Scores of Ryodoraku          | Sex | Before the study | Interval after 2.5 months | End of study | Chief symptoms or signs  |
|--------------------------------------|-----|------------------|---------------------------|--------------|--|
| Case A'                              | F   | 47               | 41                        | 36           | irregularity of menstruation, severe algomenorrhea, constipation, skin allergy   |
| Case B'                              | F   | 55               | 56                        | 41           | algomenorrhea, constipation, headache, backache, could not awake well in the morning, muscle stiffness of the shoulder, stomach felt bloated     |
| Case C'                              | M   | 65               | 99                        | 72           | stomachache, easily have diarrhea, catch a cold, had a ringing in ears   |
| Case D'                              | M   | 35               | 51                        | 47           | obesity, easily have diarrhea, could not sleep soundly   |
| Case E'                              | M   | 60               | 132                       | 53           | could not sleep soundly, lack of sleep, nose allergy, dry eyes   |
| Case F'                              | F   | 48               | 65                        | 48           | constipation, lack of sleep, feeling of cold, muscle stiffness of the shoulder, muscle stiffness of the shoulder, skin allergy, feeling of cold, |
| Case G'                              | F   | 62               | 70                        | 48           | borderline of hypertension, lack of sleep, feeling of cold, algomenorrhea, skin allergy, stomach felt bloated, easily have diarrhea              |
| Average Scores of Uni.B (7 students) |     | 53               | 73                        | 49           |  |