Purpose
Uncomfortable symptoms or signs heralding the approaching onset of a disease constitute an important stage of human health in the field of oriental medicine. If these symptoms or signs during such a “pre-disease” stage (before an illness is diagnosed) can be alleviated by natural, noninvasive care methods, then the illness can be prevented. Uncomfortable symptoms or signs are related to individual lifestyles. Results from previous studies revealed that nursing students had several symptoms or signs despite their young age (mainly in their twenties). One of the most important roles of nursing is to promote others’ health condition. Helping nursing students to establish their own health concepts to improve their symptoms or signs during such a “pre-disease” stage is a meaningful educational approach. The purpose of this study is to identify the relationships between Ryodoraku measurements and the lifestyles of nursing students who have physical chief complaints. The Ryodoraku measurements were intended to help nursing students to more objectively assess their physical conditions.

Methods
The subjects for this study were five female nursing students. A combination of data-collecting wearable wrist bands, personal documents, and interviews were used to record daily life data, including such information as their waking and sleeping times, diet, and exercise, 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 Yoshiyo 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. Furthermore, an acupuncturist examined 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
Two of the participants were undergraduates and three were graduate students (in their 20s and 30s). Their common symptoms were problems with menstruation, constipation, and gastrointestinal symptoms. The Ryodoraku results indicated that the kidney and spleen meridians were suppressed, while the bladder and gallbladder meridians were excited. Their lifestyles were all characterized by hard schedules replete with studies and extracurricular activities from their junior high school days until the present.

One example that illustrates the correlation of symptoms and signs, Ryodoraku measurements, and daily life records is that of an undergraduate student, A. When she began her participation in this study, A complained that she suffered from irregular menstruation and leg edema. The eldest daughter in her family, she had a brother and sister, and all three had spent their childhood daytimes with their grandparents as their parents both worked. She and her sister were afflicted with serious skin allergies at the time. In spite of developing suppurative suppuration on her legs, she attended track club activities when she was a junior high school student. After entering high school, she also joined a theater club due to developing an interest in theater. She went to high school every morning at seven a.m. for regular track club training. After school, she attended theater club rehearsals until nine p.m. Because she did not have time to eat dinner before going to the theater club, she would eat two rice balls in her mother’s car on the commute.

Owing to this demanding schedule, sometimes A could not get up in the morning. Upon entering university she began living by herself. She attended a dancing club and also had a part-time job four days every week.

The trend of her Ryodoraku measurements revealed that her kidney meridian was suppressed, and her spleen, heart, and pericardium meridians were all excited. This meant that A’s daily activities were too demanding for her. The condition of the kidney meridian influences female menstruation and the excretion of water. However, after practicing finger pressure on the acupuncture points “Sp6” of Spleen meridian which the acupuncturist had advised, her irregular menstruation improved and the leg edema disappeared. In addition, the Ryodoraku measurements showed that A’s physical strength and the balance of her autonomic nerve system had become better than before. Fig. 1 shows the changes in the average score of Ryodoraku measurements, indicating A’s physical strength.

Fig. 1: Changes in Average Ryodoraku Scores for Subject A

Figure 2 Relationships between social lives and private lives

Conclusions
The results showed that the social lives of nursing students, including such things as their studies, extracurricular activities, and part-time jobs could significantly affect their private lives. If their lives were difficult to maintain in their present status, they were forced to make changes (Fig. 2). 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 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.