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Promotion and enhancement of communication and discussion skills through clinical pharmacy courses taught in English at a Japanese School of Pharmacy

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ABSTRACT

In 2006, the Japanese pharmacy education system shifted from a 4-year to a 6-year curriculum One of the major emphases of the new 6-year pharmacy curriculum is patient-centered clinical pharmacy, and it is expected that the students will leave the program with good communication skills not only with other health professionals but also with patients. Teaching pharmacy students to become excellent communicators is no easy task, and in the previous 4-year Japanese pharmacy curriculum, pharmacy practice and communication skills were de-emphasized in favor of basic science, laboratory practice and research skills. One strategy to enhance students' communication and critical thinking skills is the use of small group discussions and case-based learning. We evaluated the impact of a small group case-based discussion in a group of pharmacy students in Japan. Students' motivation to learn clinical pharmacy and their perceptions of the importance of learning communication skills were evaluated. After the session, most students felt that they should receive more training in clinical pharmacy and communication.

Keywords: *Communication skill, small group discussion, facilitator, clinical pharmacy, Japanese pharmacy*

INTRODUCTION

Since the 1970s, pharmacy practice and education have been evolving to emphasize a patient- rather than a product-oriented type of practice (Rising, 1946; Youngken, 1953; Brodie, 19966; Parker, 1967). The acceptance of the entry-level Pharm.D. for all U.S. pharmacy graduates reflects this change. Moreover, this evolution in pharmacy practice and education is occurring world-wide, as reflected by the International Pharmacy Federation (FIP) Policy on Good Practice in Pharmacy Education and Guidelines for Good Pharmacy Practice. In both policy statements, the importance of communication skills is emphasized.

Successful teaching of communication, problem-solving and decision making skills requires a variety of teaching techniques, especially methods that involve active learning. A common method in U.S. clinical pharmacy education is the use of small group discussions in a variety of courses. The small group workshop has been reported to be an improved student learning method in various fields. McKinley et al. stated that working with a series of question sheets, the students focus on establishing a knowledge base and solving problems relating to physiology. Their experience showed an improvement in student motivation and attitude and improved feedback to students (McKinley & William, 1994). Another study reports that participants of small group learning willingly presented individual dilemmas, validated each other's concerns, shared uncertainty in management strategies, and responded positively to new clinical perspectives (Sommers, Morgan, Johnson, & Yatabe, 2007).

Pharmacists' communication skills are regarded as being valuable in various fields of practice. Nilaward et al stated that pharmacists' communication with children was assumed to increase the extent to which a medication was taken as prescribed as well as enabled children to develop future behaviors conducive to health (Nilaward, Mason, & Newton, 2005). Furthermore, Hargie et al identified the 11 core skills and 45 related sub-categories as a representation of the repertoire of skills employed by community pharmacists with the importance and the frequency of effective communication skills. They found that building rapport, explaining, questioning, listening, and non-verbal communication are the five most important communication skills employed by community pharmacists (Hargie, Morrow, & Woodman, 2000). Patients also ranked the level of the pharmacist's communication performance as the most important cue used by participants in their ratings of service encounter satisfaction, perceptions of overall service quality, and trust in

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the service provider (Bentley, Stroup, Wilkin, & Bouldin, 2005).

Norwood conducted a study to determine if the provision of clinical pharmacy services with increased patient communication to a given population would result in that population having a subsequent improvement in its attitude toward pharmacy. The results showed that increased patient communication about drug therapy can result in improved consumer attitudes toward pharmacy (Norwood, 1975).

In order for pharmacists to effectively communicate with patients, it is necessary to identify and overcome various barriers. In the United States, a sample of community pharmacists who were members of the American Pharmacy Association were surveyed to examine influences on their communication with consumers about antibiotics and antibiotic resistance (Coleman, 2003). It was stated that although most pharmacists agreed with the importance of the pharmacists' role in educating patients, they also noted that several barriers, such as time constraints, lack of educational materials, and fear of harming relations with physicians, prevent them from engaging in educational campaigns (Coleman, 2003; Moutel, Duchange, Francois, Shrara, Theodorou, Noel, Montgolfier, Callies, Bricaire, Herve, Leport, & The APOCO-COPOLOTE Study Group, 2005).

Kam et al. assessed whether electronic communication between the general practitioner physician and the pharmacist provides better information than paper-based communication regarding current medication when a patient is admitted to the hospital. They found that electronic communication between the general practitioner and the community pharmacist results in better communication (Kam, Jong, Tromp, Moorman, & Lei, 2001).

In all patient care settings, it is essential for the pharmacist to provide effective patient education, counseling, and have good communication skills for assessing patient disease states. Small group discussions and case-based learning allow the students to practice and improve their communication, patient assessment and problem-solving skills before they have their practice site rotations.

Historically, pharmacy education in Japan has primarily focused on lectures and laboratory exercises. In the typical Japanese pharmacy school classroom, the students rarely ask questions or challenge the instructor for mutual communication. Moreover, pharmacy instructors in Japan typically do not encourage students to ask questions. This reluctance to ask questions and to have an open discussion in the classroom setting is a barrier that must be removed in order to allow pharmacy students in Japan to develop good communication skills. Allen et al showed that with proper training of students and faculty, such educational techniques can be achieved very successfully in health care education (Allen, Sargeant, Mann, Fleming, & Premi, 2003; Sommers, Morgan, Johnson, & Yatabe, 2006).

In medical and co-medical education, facilitated group discussions have become widely used (Allen, Sargeant, Mann, Fleming, & Premi, 2003; Sommers, Morgan, Johnson, & Yatabe, 2006; Mckinley & Stoll, 1994). Facilitated group discussions provide an alternative method to lecturing and one-on-one approaches for conducting educational interventions at various professional settings. They are an interactive form of education wherein lecturers generate the specific topics to be addressed and share their knowledge and experience with other group members through discussion. The educator becomes a facilitator who encourages students to discuss freely among themselves their own approach to the various professional problems posed during the session. Possible benefits to participants include more confidence, better communication skills, improved thinking skills, and increased motivation and commitments to better professional behavior (Abusabha, Peacock, & Achterberg, 1999). Carlisle et al. explored the feasibility of introducing inter-professional education and reported findings from focus group interviews. Each focus group had a couple of facilitators who led the group discussion. They mentioned that it is important for inter-professional education to be integrated with inter-professional experiences in clinical practice (Carlisle, Cooper, & Watkins, 2004). It is our understanding that facilitators played an important role in their successful introduction of inter-professional education within health professional educational programs.

Carlisle et al. used problem-based learning (PBL) to deliver a postgraduate research methods module and conducted a small evaluation study to explore its efficacy. They reported that all those involved in the PBL process reinforced the pivotal role of the facilitator (Carlisl & Ibbotson, 2005). Gelula stated that because what they learn is retained longer when they are able to engage in active learning, the discussion group learning processes are at the center of medical education. He also mentioned that the clinical instructor who uses small group discussions effectively will find that his role as information provider is diminished but that his role as facilitator is greatly enhanced (Gelula, 1997). Wuenschell et al. described the workshop intended to prepare faculty for their roles in a newly instituted problem-based learning (PBL) dental program. They designed the facilitation of learning workshop to familiarize participants with the role of the facilitator in the small-group learning complex, the skills required for facilitation, and the identification of student behaviors requiring facilitator intervention. Consequently, they stated that the opportunity to observe and participate in a realistically simulated PBL group was most commonly identified as an effective workshop element by attendees, with participant discussions and opportunities for input from experienced facilitators and students also cited as effective (Wuenschell, Dalrymple, & Shuler, 2007).

Within contemporary medical, pharmaceutical and nursing curricula, problem-based learning methodologies are now extensively utilized (Jones, 2001). Johnston et al stated that one factor which had been found to be vital to the successful use of these methodologies in the school of nursing was the effectiveness of the facilitator (Johnston & Tinning, 2001). In the medical school as well, a facilitator plays an important role in teaching communication skills. Wagner reported that students working in groups of 30 completing activities based on video developed by the Bayer Institute for HealthCare Communication, and then two groups of three students each worked with behavioral or physician facilitator (Wagner, Lentz, & Heslop, 2002).

We have attempted to promote students' communication and problem-solving skills and discussion techniques through

clinical pharmacy education delivered to a group of Japanese pharmacy students by an American Visiting Professor.

METHODS

Lecture outlines and student assessment schedules

Lectures were provided by a faculty member from the College of Pharmacy, University of Arizona, USA. At least one faculty member from Kobe Gakuin University supported the lecture as a translator and took on the role of the discussion group facilitator. The entire contents of the lecture series are shown in Appendix 1.

Class organization

The class was an elective course involving 1st year, 2nd year and 3rd year students. Each class was presented in English with Power Point slides containing some Japanese translation Japanese faculty members supported each class for translation and/or summary of the lecture in Japanese. During and after each class students were given an opportunity to ask questions, and the instructor encouraged in-class discussion.

Small group discussion and student presentation: Students were provided with a diabetes patient case in Japanese several days prior to the scheduled discussion session, and they were assigned to review the case and develop a care plan using the methods. emphasized in the class. After the case discussion session was completed, a member from each group presented the group's care plan and recommendations to the entire class.

Facilitator training: A training session was held for the Japanese faculty members who would serve as facilitators regarding key facilitation techniques. Encouraging a student-centered discussion with minimal facilitator "lecturing" was emphasized.

Data analysis

Students' assessment and questionnaires were analyzed using descriptive and comparative statistics, and major descriptive essay-type questions were summarized and presented.

RESULTS

After each lecture, a short "One Minute" Evaluation questionnaire was administered. The questionnaires consisted of nine topics. The results from all classes are summarized and presented in Figures 1a-1d.

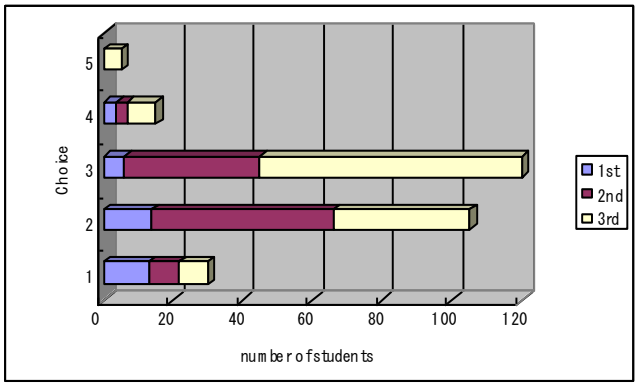

Fig 1a Results of student distribution on ONE MINUTE EVALUATION question 3

Note choice; 1.Very difficult 2.difficult 3.neutral 4 easy 5 very easy

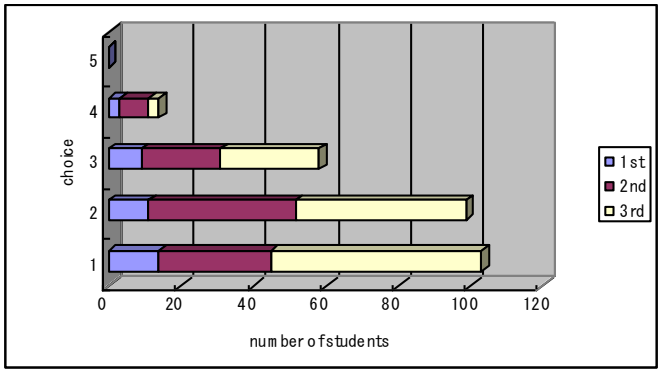

Fig 1b Results of student distribution on ONE MINUTE EVALUATION question 4

Note choice; 1.Very interesting 2. Interesting 3.neutral 4.not interesting 5. not interesting at all

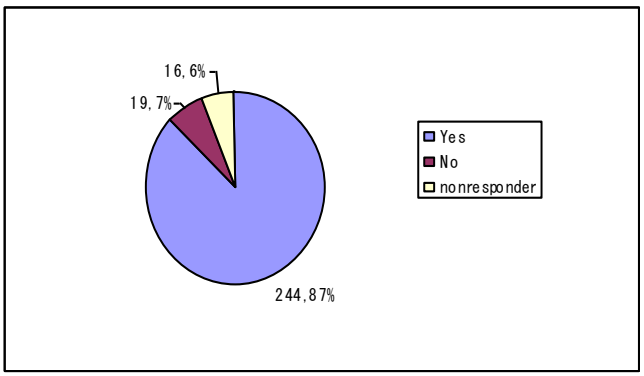

Fig 1c Results of student distribution on ONE MINUTE EVALUATION question 5

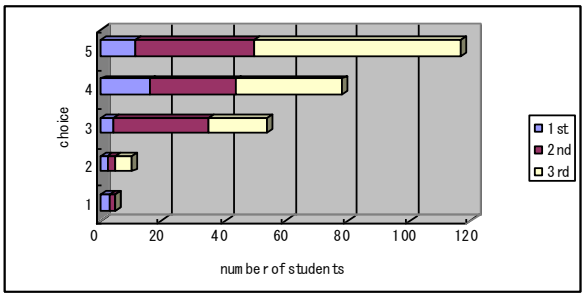

Fig 1d Results of student distribution on ONE MINUTE EVALUATION question 6

Note choice; 1.does not need at all 2. does not need 3.neutral 4.need 5. need very much .

Q3) How difficult was this lecture?

While 49% of the students selected either "difficult" or "very difficult", 44 % of the students felt that the difficulty of this course was about neutral. As was expected, a large number of more the first year students (73%) answered either ""difficult" or very difficult" as compared with the other years. Although the course was taught in English and most of the materials were fairly new to the students, the course contents were within the learners' comprehension range, since almost 50 % of students felt that the course was not difficult.

Q4) How interesting was this lecture?

About 73 % of the students selected either interesting or very interesting. The lecture was presented by PowerPoint slides using various illustrations, and case studies and it was also well-coordinated as a whole. Therefore, most of the students felt that the lecture was either interesting or very interesting.

Q5) Would you like to learn more about the topic?

Eighty-seven % of the students answered that they would like to learn more about the topics. This question is interrelated with Questionnaire 4, and it can generally be said that the more they are interested, the more they want to learn. At the same time we can say that the material taught stimulated the desire to learn, because it is a combination of pharmacology and therapeutics based on real clinical settings.

Q6) Do you think that this type of lecture should be included in the curriculum of Japanese school of pharmacy?

For this question 71 % of the students answered that this type of lecture is needed or highly needed in Japanese schools/ colleges of pharmacy. It is also worth highlighting that despite of the fact that the course was taught in English and difficult to learn, the students were interested in the course and wanted to learn more.

Frequently-observed essay type answers were listed as follows:

1) Communication in pharmacy practice is very important (n = 40). This answer was especially noted for the lecture on "patient assessment", and "anticoagulation therapy"

2) Monitoring of patients is important (n = 10). This answer was especially noted for the lecture on "anticoagulation therapy"

3) We need to take care of patients and patients' family (n = 15). This answer was especially noted for the lecture on "Alzheimer's disease'

4) It is important to change the patient's life style (n = 30). This answer was especially noted for the lecture on "diabetes mellitus".

5) I enjoyed this class because everything was new to me (n =30).

6) English was difficult for me (n = 20).

Based on the students' feedback it can be said that the students not only learned drug therapy, but also and more importantly, they learned how the pharmacist should deal with patients from the holistic stand-point including patients' life style and family intervention and interaction. They also learned that communication skills and discussion skills are essential to accomplish their goals. In order to teach communication skills and discussion skills successfully, we would like to propose the following criteria to follow in class.

1. The students should study the patient's case before the class and be well prepared
2. All opinions and presentations must be carefully listened to and respected, even if they are not entirely correct.
3. Only one person should speak at one time and should not be interrupted.
4. Everyone must have a chance to speak.

Pre- and Post-survey

The results of the pre- and post-lecture series surveys are shown in Figure 2a-2b for questions 1 and 3. Figures for the results of the remaining questions are abridged due to the limitation of the manuscript space.

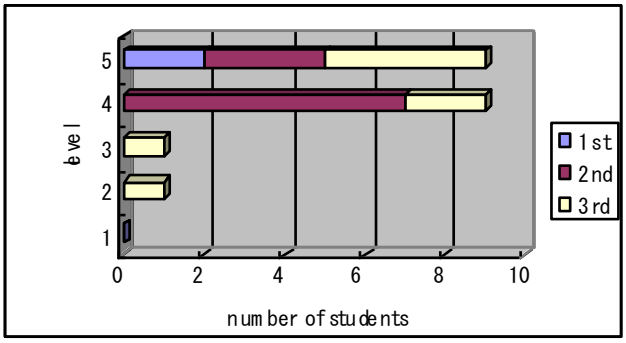

Fig 2a Student distribution on question 1

Note: Students selected one out of the following five multiple choices, and this choice scale was used for all questions except for Q 4 and 9 which are "yes and no"questions..

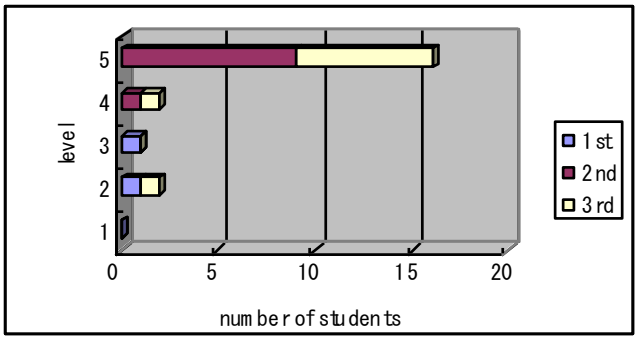

Fig 2b Student distribution on question 3

For the question whether the topic is new or not (Q1), about 90 % of the students answered that the topics were totally new or nearly new to them. Although the class was a mixture of the first to third year students and the course topics included rather common topics such as diabetic mellitus, infectious diseases, and Alzheimer's disease, it is somewhat surprising to know that most of the students felt the topics were new. This may, in part, be related to the results seen in Q2, in which about 70 % of the students felt that the topics were very complicated to somewhat complicated for them.

About 90 % of the students felt that the topics were important for the pharmacist, and all students felt that the course contents were useful materials and necessary knowledge as to for a future pharmacist. Those feelings of the students resulted in creating an incentive for them to learn pertinent topics more often (about 90 %) than otherwise.

As far as questions related to discussion and communication (Q6, Q7, and Q8) the students felt that the discussion-type class was a good way to learn pharmacotherapy (about 90 %), and about 75 % of the students enjoyed the discussion very much. It is not a surprising response that 100 % of the students realized that communication skills were important and useful for them to fulfill their future pharmacist's role satisfactorily.

About 70 % of the students felt that schools/colleges of pharmacy need more clinical pharmacists to be teachers (Q10), and also about 70 % of the students realized that it is essential for pharmacists to communicate in English (Q11). We also asked the students about their sense of pride in becoming a pharmacist (Q12), and 95% of the students responded positively by stating that they are proud of becoming a pharmacist in the future.

The Mann-Whitney U test was conducted to evaluate the significance level between the years of the Pharmacy School for questions 1-12. The significant difference was found in question 3 between the first year and the second year ($p = 0.00480$), and the first and third ($p = 0.00102$). For all other questions, no significant difference was observed among the years of the Pharmacy School.

DISCUSSION

Importance of innovative pharmacotherapy education

Throughout the long history of Japanese pharmacy education, the curriculum has been focused on drugs, with only a small portion of the curriculum focused on common diseases or applied pharmacotherapy. In the new 6-year Japanese pharmacy curriculum, considerable emphasis has been placed on clinical pharmacy and pharmacotherapy. The pharmacotherapy course conducted at Kobe Gakuin University presented in this paper was designed to develop an educational program to help students achieve understanding of pharmacotherpeutics and clinical pharmacy practice.

It has been advocated in the last few decades that pharmacists should devote themselves to a team health care practice with physicians, nurses, and other health professionals in order to improve patients' drug therapy outcomes. We would like to propose that promotion and exercise of the team health care practice in the educational level is an effective and valuable approach to achieve more extensive involvement of pharmacists to the team health care practice in their future pharmacy practice. The educational program presented in this paper is one of those approaches to accomplish the pharmaceutical goal of the tam health care practice.

The assessments conducted in this course revealed that after learning various approaches and aspects to patient care students realized the importance of such approaches as management of life style, prevention of diseases, and education of patients, as an important part of the patients' therapy. Students wanted to learn more of the innovative aspects of pharmacotherapy offered to them, and they thought it was important for them to learn those aspects as part of their education. It is, therefore, a responsibility of Japanese schools and colleges of pharmacy to have qualified faculty members to teach clinical pharmacy topics, and to train their faculty in new and innovative educational techniques.

Improvement of communication skills

The core curriculum of the new six-year program in Japan includes an emphasis and improvement of communication skills. In order for pharmacists to be identified in our society as a drug therapy expert, it is essential for pharmacists not only to be knowledgeable on drugs themselves but also to be able to construct a strong professional relationship with patients and other health professionals. Such relationships can be based on adequate knowledge and training, in pharmacy practice and the pharmacist's ability to communicate their knowledge and skills with other health professionals and patients.

In our current case study with a small group discussion, we were able to observe an effective didactical method to enhance communication skills of pharmacy students, wherein certain criteria and conditions should be taken into consideration, that is:

1) All opinions must be listened to and respected, even if "wrong";

2) Students should feel safe to say anything;

3) Only one person speaks at a time and everyone must have a

chance to speak;

4) Seating arrangements should be in a circle; and

5) Discussions should be student-centered, not facilitator-centered

It is often said that Japanese students are shy to speak up in public and will not participate in discussion type sessions. However, our attempt to carry out discussion sessions by incorporating the above-mentioned criteria proved that Japanese students had no problems in conducting active discussion with their classmates. They were all highly-motivated and actively participated in the discussion. A questionnaire survey conducted at the end of the class also indicated that the students enjoyed this discussion type of the class, and wanted to have an increased number of similar kinds of the course work in the future.

One of the issues, which remains to be solved in the future pharmaceutical education in Japan and in many other countries is how to foster competent facilitators who are able to support lectures. In Japan most of the teachers conduct the class by lecture style only with very few small group discussion (SGD) sessions carried out to supplement the lecture. In order for the discussion session to be successful, facilitators must be trained in assuring such discussions so as to achieve their educational purposes. As a step to develop an effective SGD, faculty should participate in actual SGD sessions to better appreciate the role of a facilitator.

CONCLUSION

Pharmacotherapy courses should be taught not only from the specific drug-therapy standpoint but also from a holistic standpoint which includes improvement of patients' life style, prevention of disease aggravation of the patients, and enhancement of patients' quality of life. Training a pharmacy student to improve patients' drug therapy outcomes not only requires teaching knowledge, but must also involve the student to learn skills such as patient assessment, problem-solving and communication. While such an educational focus in the pharmacy curriculum in the U.S. is not new, in many countries such as Japan, training students to practice in a patient-oriented environment is very new. Such an innovation in curriculum not only will modify the content of our courses, but will also modify how we teach our students. Developing pharmacotherapy courses and implementing small group discussions are one part of the overall innovation in pharmacy education in Japan.

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APPENDIX 1

DAY 1

— Lecture topic: Patient Assessment

— Lecture description: Discussion of why pharmaceutical care is important, concept of drug therapy problems and methods used to assess and improve patient drug therapy

— Assessment: 1) One Minute Evaluation, and 2) the pre-survey on students' knowledge on the subjects and students' background

DAY 2

— Lecture topic; Anticoagulation Therapy

— Lecture description: Practical aspects of the use of anticoagulant drugs such as heparin and warfarin in the treatment of thromboembolic diseases

— Assessment: One Minute Evaluation,

DAY 3

— Lecture topic; Alzheimer's Disease and other dementias

— Lecture description; Epidemiology, pathophysiology and treatment of Alzheimer's disease and other dementias.

— Assessment: One Minute Evaluation,

DAY 4

— Lecture topic; Epidemiology and Pathophysiology of Type 2 diabetes

— Lecture description; Discussion of the prevalence, risk factors, underlying mechanisms and identification of type 2 diabetes

— Assessment: One Minute Evaluation,

DAY 5

— Lecture topic; Treatment of Type 2 diabetes

— Lecture description; Discussion of therapeutics, both non-pharmacologic and pharmacologic, of diabetes, and how therapy is monitored

— Assessment: One Minute Evaluation

— Assignment; case presentation of Type 2 diabetes, and the discussion announcement on that case on the last day of the lecture series

DAY 6

— Lecture topic; Overview of thyroid disease; hyperthyroidism,

— Lecture description; physiology and assessment of thyroid function; epidemiology, causes, signs and symptoms; treatment and monitoring of hyperthyroidism and Hypothyroidism

— Assessment: One Minute Evaluation,

DAY 7

— Lecture topic; Hypothyroidism

— Lecture description; Epidemiology, causes, signs and symptoms; treatment and monitoring of hypothyroidism

— Assessment: One Minute Evaluation,

DAY 8

— lecture topic; Viral infections I

— Lecture description; Overview of viral infections; herpes virus infections; RSV

— Assessment: One Minute Evaluation,

DAY 9

— Lecture topic; Viral infections II

— Lecture description; Influenza, smallpox

— Assessment: One Minute Evaluation

DAY 10

— Discussion and presentation; Learning how to improve patient drug therapy (2 sessions—1 lecture, 1 student discussion and presentation)

— Class description; Discussion of educational concepts and techniques used to learn how to become a patient-centered pharmacist (small group discussions, patient case presentations, communication skills, etc.) in context of new Japanese pharmacy curriculum

— Assessment; 1) One Minute Evaluation, 2) post-survey on students' knowledge on the subjects and students' background (exactly the same questionnaire as the first day), and 3) over-all survey of the students' experience of the course