
Report

International Survey Regarding Oral Health Care in Facilities for Elderly in the Dental Hygiene Student Exchange Program

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Abstract : Background: In 2010, Tokushima University School of Dentistry concluded an academic agreement with Metropolia University of Applied Sciences (Metropolia UAS), which offers degree programs of oral health in Finland. We have collaborated through the student exchange program to foster the knowledge of future global dental hygienists in both schools. In this study, we carried out a survey on the attitude of the dental hygiene students regarding oral health care in facilities for the elderly to develop a new international education program for dental hygiene students.

Materials and Methods: The questionnaire on oral health care in facilities for the elderly was given out to the exchange students of Metropolia UAS and students of Tokushima University. Ninety-one (91) dental hygiene students of Metropolia UAS and fifty-six (56) dental hygiene students of Tokushima University participated in this study and statistical analysis were carried out.

Results: One hundred forty-seven (147) students from both schools participated in the survey. 80.2% of the students from Metropolia UAS and 69.6% of the students from Tokushima University chose “Moderate” and “Bad” to the questions of “What is your opinion about the current state of oral health care in health care facilities for the elderly?”. There was no statistically significant difference in the answer to the question “Could you work in a health care facility for the elderly as a dental hygienist?” from students of both schools. There was also a statistically significant difference observed by Chi-squared test in the answer of “Do you think that your knowledge of oral health care for the elderly is sufficient?” and the answers of free writing which suggested that Metropolia UAS students have a more positive attitude towards the knowledge of oral health care for the elderly than Tokushima University students.

Conclusion: The results of this international questionnaire survey suggested that many students of Metropolia UAS can be considered to have enough knowledge of oral health care for elderly when compared with students of Tokushima University.

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I. Introduction

In 2010, Tokushima University School of Dentistry concluded an academic agreement with Metropolia University of Applied Sciences (Metropolia UAS), which is the largest University of Applied Sciences in Finland. It is well known that Finland is one of the countries in Scandinavia with a developed welfare system for their aged society, which would become a social problem as that of Japan. We have collaborated with some international programs to foster dental hygienists who can contribute to an aged society in each country.

This international collaboration consists of three projects. One of them is cooperative research to develop new educational strategies, second is regular long-distance video conferences to understand each other, and the last one is the student exchange program. Many results have already been produced by the cooperative researches; For example, a new common subject, “oral health promotion” was introduced into the curriculum of both universities, and a guide of exercises for oral health care in Japanese, English and Finnish in the joint researches, and so on. We are also holding regular long-distance video conferences to report progress of the programs or discuss future plans.

Among the three programs, the student exchange program is the most important project in this international collaboration. For the inbound program, we have accepted two or three exchange students from Metropolia UAS for 3 months every year while for the outbound program, we have sent 4 to 8 students to Metropolia UAS as exchange students for 8 days every year^{1,2)}. Students in the inbound program can discuss with our students about the difference of oral health care between Finland and Japan. This program is useful for them to be global dental hygienists.

The aim of this study is to clarify the differences in the attitude of students in both schools regarding oral health care in facilities for elderly and to develop a new international education program for dental hygiene students.

II. Materials and Methods

1. Student Exchange Program in 2016 and 2017

We accepted two students in 2016 and one student in 2017 from Metropolia UAS as exchange students.

On the other hand, we sent four students from Tokushima University in 2016 and five students in 2017 to visit Helsinki and they joined the exchange students program in Metropolia UAS.

2. Questionnaire

To investigate the differences in the attitude towards oral health care in facilities for elderly between Metropolia UAS

and Tokushima University, the survey was conducted in both Universities as one component of the student exchange program. The questionnaire was given out in English and Japanese to students in both countries as shown in Fig 1.

3. Participants

Ninety-one dental hygiene students from Metropolia UAS (mean age 26.3 ± 2.83 years) and fifty-six dental hygiene students from Tokushima University (mean age 20.3 ± 2.12 years) participated in this study. The mean age of students from Metropolia UAS was higher than the students from Tokushima University.

4. Statistical analysis

Statistical analysis was carried out with SPSS 20.0 (SPSS Inc., Chicago) and the difference of survey regarding oral health care in facilities for elderly was analyzed by Chi-squared tests. We used a significant level of $p < 0.05$ for regression coefficients.

5. Ethics

This study was approved by the Ethics Committee of the Tokushima University Hospital (No. 2721) and by the Director of Research and Development and the RDI Team in Metropolia UAS.

III. Results

1. Student Exchange Program in 2016 and 2017

The exchange students from Metropolia University of Applied Sciences in 2016 and 2017 joined the special program, including a discussion with our Japanese DH students, practical training in anatomy, visiting the University Hospital as shown in Fig 2.

Four students from Tokushima University in 2016 and five students in 2017 joined the exchange program in Metropolia UAS and learned not only the skills for oral health care in Finland and the curriculum of DH course in Metropolia UAS, but also the comprehensive social welfare system in Finland as shown in Fig 3.

2. International questionnaire survey

① Questionnaire sheet

The number of respondents against the Questionnaire in each grade of both Universities is shown in Table 1.

② Statistical analysis

82.4% of the students from Metropolia UAS and 73.2% of the students from Tokushima University chose “Moderate”, “Bad” and “Very bad” to Q2 as shown in Table 2. There were no significant differences between the answers to Q1, Q2, Q3 and Q5 between both universities (data not shown).

Questionnaire about oral health care in health care facilities for the elderly

Age: _____
 Academic year: _____

Q1. Do you have previous experience of oral health care in health care facilities for the elderly?
 Yes No

Q2. What is your opinion about the current state of oral health care in health care facilities for the elderly?
 Good Moderate Bad Very bad I don't know

Q3. Do you think you can work in a health care facility for the elderly as a dental hygienist?
 Fully agree Agree Slightly disagree Disagree Not sure

Q4. Do you think that your knowledge of oral health care for the elderly is sufficient?
 Fully agree Agree Slightly disagree Disagree Not sure

Q5. What is the major problem of oral health care in health care facilities for the elderly? (Choose 1)
 Insufficient knowledge of nursing staff Attitudes of patients or their relation
 Insufficient skills of nursing staff Attitudes of nursing staff
 Lack of professional oral health care Insufficient equipment
 Other:···What? _____

Q6. How can the situation be improved?

Fig. 1 Questionnaire sheet in English (Q1 ~ Q6)



Fig. 2 The student exchange program in Tokushima University in 2016 (a, b) and in 2017 (c, d).

(a) Practical training at Tokushima University Hospital. (b) Presentation in an elementary school. (c) Group discussion with the students of Tokushima University. (d) Practical training in oral pathology.



Fig. 3 The student exchange program in Metropolia University of Applied Sciences in 2016 (a, b) and in 2017 (c, d).

(a) Clinical practice in the hospital. (b) Discussion with the Lecturer of Metropolia University of Applied Sciences. (c) Clinical practice in the hospital. (d) Visit of an elderly facility in Espoo city.

Table 1 The number of respondents in each grade of both universities

Academic year	Metropolia University of Applied Sciences Degree Program in Oral Hygiene Department of Health Promotion	Tokushima University School of Oral Health and Welfare Faculty of Dentistry
1	15	14
2	35	14
3	37	15
4	4	13
Total (mean age ±SD)	91 (26.3 ±2.83)	56 (20.3 ±2.12)

Table 2 The answers to Question 2 showing the current state of oral health care in health care facilities for the elderly in both countries

	Metropolia University of Applied Sciences	Tokushima University
Good	2	0
Moderate	41	21
Bad	32	18
Very bad	2	2
I don't know	14	15
Total	91	56

Table 3 Analysis of question 4 showing the difference of the knowledge of oral health care for the elderly between Metropolia University of Applied Sciences and Tokushima University

Answer	Metropolia University of Applied Sciences	Tokushima University	P-value
Fully agree + Agree	32	11	0.023*
Slightly agree + Disagree	49	42	

A statistically significant difference is observed in the answer of Q4 by Chi-squared test.
*Significance ($p < 0.05$)

On the other hand, a statistically significant difference was observed between both universities in the answers of “Fully agree + Agree” and “slightly agree + Disagree” to Q4 between both universities in the analysis using Chi-squared test as shown in Table 3.

3. Free description

The students classified all free descriptions into 7 categories namely; education, more nursing staff, financial support, attitude, regular check-ups, equipment and others. The numbers of free descriptions were almost the same in both Universities but it was suggested that Metropolia UAS students have more positive attitude towards the knowledge of oral health care for the elderly than Tokushima University students by the free descriptions as shown in Table 4.

IV. Discussion

We have continued to implement the international student exchange program for dental hygiene students between Metropolia UAS and Tokushima University from 2010. In this study, we carried out an international questionnaire survey in the student exchange program and reported the differences in

the attitude of oral health care in facilities for elderly between students from both universities.

The results indicate that the oral health care in health care facilities for the elderly is not enough in both countries (Q2), and the major problems of oral health care in health care facilities for the elderly are almost the same in both countries (Q5 and Q6).

Though there are no significant differences in Q3, many students of Metropolia UAS think that they will be able to work in a health care facility for the elderly as good dental hygienists. In other words, they have self-confidence in their knowledge and skills as a dental hygienist.

A statistically significant difference is observed in Q4. This result indicated that many students from Metropolia UAS are considered to have enough knowledge of oral health care for elderly when compared with students from Tokushima University and the answers of free writing also suggested that Metropolia UAS students have a more positive attitude towards the knowledge of oral health care for the elderly than Tokushima University students. The reason is not clear, in general, Europeans and Americans tend to value themselves highly³⁾.

Table 4 Extracts of the free description by the students of Metropolia University of Applied Sciences

Classification	Number	Extracts of the Free Writing
Education	28	<ul style="list-style-type: none"> • Improve the education of nursing staff about oral health care. • More education for the nursing staff, focusing especially to changing the attitudes.
More nursing staff	8	<ul style="list-style-type: none"> • Hire more people to take care of the elderly. • Hire more nursing staff or professional oral hygienists.
Financial support	5	<ul style="list-style-type: none"> • More money should be invested in promoting better health care system. • More financial support from the government.
Attitude	4	<ul style="list-style-type: none"> • By improving the skills and the attitude of the nursing staff. • Their attitudes should be improved by promoting the importance of oral health care.
Regular check-ups	4	<ul style="list-style-type: none"> • More personal appointments with dental hygienist
Equipment	2	<ul style="list-style-type: none"> • Better information about oral health care to all the staff and proper equipment for the staff.
Others	6	<ul style="list-style-type: none"> • We have a lot of elderly people now in Finland and it is difficult to take care of them in every way. • More time for the professionals to do their work properly, and get to the root of the problems.

In contrast, most Japanese tend to underestimate their own ability or skills³⁾. If this difference depends on the education level, we must reexamine our curriculum for DH students.

We would like to conduct the same survey to nursing staff in health care facilities in both countries and develop a more effective educational system on oral health care for nursing staffs in facilities for elderly.

V. Conclusion

These results revealed that oral health care in health care facilities for the elderly is not enough in both countries. However, the results also suggested that many students from Metropolia UAS have enough knowledge on oral health care for elderly when compared with students from Tokushima University.

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