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Changes in attitudes of first-year dental school students toward end-of-life care after a lecture

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Abstract

Objective: *End-of-life care is important to improve the quality of life of terminally ill patients. However, dental school students have few opportunities to learn about such care. The present study was performed to allow future curriculum planning by chronologically examining the influence of an end-of-life care lecture on students' attitudes toward end-of-life care.*

Methods: *The participants were 48 first-year dental school students (25 men and 23 women; medianage, 19.5y; range, 18 – 26y). The students' attitudes toward end-of-life care were measured using a shortened version of the Frommelt Attitude Toward Care of the Dying Scale, Form B, Japanese version.The survey was carried out three times—prior to the lecture, immediately after the lecture, and 7 months after the lecture to capture changes over time. The Wilcoxon signed-rank test was used for statistical analysis.*

Results: *A 100% collection rate/valid response rate was achieved before and immediately after the lecture. Furthermore, 91.7% of those who responded to the survey returned valid responses 7 months after the lecture. Of the six items, the post-lecture score for "it is meaningful for me to care for dying patients" increased significantly from the pre-lecture score ($p < 0.05$), but that recorded 7 months after the lecture did not show a significant difference from the pre-lecture score ($p > 0.05$).*

Conclusion: *One-off lectures have limited influence on attitudes and awareness regarding end-of-life care among first-year dental students. Thus, a systematic curriculum over 6 years is necessary.*

Keywords: *dental school student, end-of-life care, education, attitude, change*

Introduction

End-of-life care is important to improve the quality of life (QOL) of terminally ill patients, such as cancer patients [1,2]. Various physical and psychosocial distresses occur among cancer patients at the end-of-life stage. Oral problems, including dry mouth, mucositis, and candidiasis, can develop and become aggravated as the disease progresses, and the patient gradually becomes unable to eat [3-5]. Oral care for dementia patients has also attracted attention. The proportion of older people with dementia is increasing steadily in many countries [6-8]. Many older people with dementia live in nursing homes [9], and most require assistance with personal care [10]. Many studies have demonstrated poor oral health status among the institutionalized elderly population, and emphasized the importance of maintenance of oral hygiene [11-16]. There has been a great deal of recent discussion regarding the requirement of appropriate oral management for end-of-life patients. Dentists can contribute to QOL of end-of-life patients.However, dentists report a general lack of training related to end-of-life care issues. About one third of responding dentists, regardless of their involvement with hospice care, reported dissatisfaction with their education in the area of the end-of-life needs [17].

The lack of education on end-of-life care may create stress for dentists when dealing with end-of-life situations. Therefore, multiple surveys indicated that dying, death, and bereavement education should be added to the dental school curriculum [18,19]. Sirmons et al. performed a survey in 2009 regarding the inclusion of end-of-life issues in the curriculum of US dental schools (n = 58) and examined changes in education compared to a study of dental schools performed in 1989 [20]. The findings indicated that dental schools place more emphasis on end-of-life issues now compared to 20 years ago [20]. However, the majority of dentists agreed that more emphasis should be placed on communication skills with patients on end-of-life issues [20]. Moreover, the overwhelming majority of dentists felt that dental school did not prepare them to relate to patients on end-of-life issues [20].

Preparing an education curriculum dealing with end-of-life care is a pressing issue. We are in the early stages of curriculum reform at Okayama University Dental School. Recently, our dental school began a series of lectures in this area: first-year, a one-off lecture on end-of-life care and dentists; third-year, problem-based learning practice in nursing homes; fifth-year, 15 lectures on home care medicine, 15 lectures on acute medical care, two lectures on death and life studies, and two lectures on dementia; final (6th)-year, training for dental visiting care and clinical dental training in hospital dentistry. Classes dealing with end-of-life care are increasing, but many are still trials. As curriculum reform and opening classes have just started, dental school students will graduate receiving the entire curriculum of end-of-life care in 5–6 years.

We started to present a one-off lecture on end-of-life care for the

first-year students. In this study, we examined the influence of our one-off lecture on end-of-life care for the first-year dental school students by examining their attitudes and awareness regarding end-of-life care using an attitude measurement scale before, immediately after, and 7 months after the lecture to facilitate future curriculum planning.

Participants and Methods

Participants

Participants were first-year students, 8 months after admission, at Okayama University Dental School. A total of 48 students (25 men, 23 women; median age, 19.5 y; range, 18 – 26 y) were enrolled. In Japan, elementary school (6 – 11 y) and junior high school (12 – 15 y) are compulsory usually until 15 years old. Graduation from high school (usually 3 years: 16 – 18 y) is needed to enter university. Therefore, the youngest participants were 18 years old, and the majority were around 18 – 20 years old. When this study was performed, students were mainly taking liberal arts subjects, with a few classes in major subjects in dental school.

This study was performed in accordance with the ethical guidelines for educational studies of the Japan Society for Medical Education. All participants were informed that participation in this study was on a voluntary basis, there was no relationship between the evaluation of subjects and this research, and there was no disadvantage incurred by non-participation in the research.

Measurement of students' attitudes toward end-of-life care

To measure student attitudes toward end-of-life care, participants were asked to complete the Japanese shortened version of the Frommelt attitudes toward care of the dying part B (FATCOD-B) scale [21].

FATCOD-B scale is a validated tool designed to measure non-family caregivers' attitudes toward providing care to people that are terminally ill and their families [22]. A non-family caregiver is defined as a person providing care to a dying person, professional or non-professional, who is not a member of the patient's family [22]. FATCOD-B has been used widely to measure undergraduate nursing and medical students' attitudes towardend-of-life care [23-26].The FATCOD-B instrument has 30 Likert-type items which are scored on a five-point scale from "5 = strongly agree," "4 = agree," "3 = uncertain," "2 = disagree," to "1 = strongly disagree." The instrument consists of equal numbers of positively and negatively worded items; therefore, higher scores reflect more positive attitudes. The validity and reliability of the FATCOD-B have been demonstrated previously [22].

FATCOD-B-J was based on Frommelt's original FATCOD and was translated into Japanese and validated by Nakai et al.; the shortened version has also been validated [21]. In this study, the shortened version of FATCOD-B-J was used because of time limitations for participants. The query list is shown in Table 1.

Contents of the lecture

A 90-minute class on end-of-life care was given, consisting of a lecture and group discussion for approximately 45 minutes each. The lecture presented an overview of oral supportive care and its importance, including clinical examples in our university hospitals, and an overview of the role of dentists in multidisciplinary end-of-life care. To increase students' interest, not only a one-way lecture from a faculty member was given, but also efforts were made to promote interactive discussion between the faculty member and students. Briefly, questions regarding knowledge about end-of-life care, e.g., the timing of starting palliative care, were given to students, and students were asked to raise their hand when they thought that the correct answers were shown, accompanied by discussion. Afterwards, a group discussion (2 – 3 students per group) was performed after showing a scenario on the behavior of dentists in end-of-life care. One scenario was "If you were a dentists and your close friend had end-stage cancer, what would you do for your friend as a dentist?"Another scenario was "If you were a dentist, what would you do for a terminal patient with dry mouth?" The student groups presented and discussed their ideas with the whole class.The hidden intent of the faculty member was to promote students' active attitude toward end-of-life care as a dentist.

I. Patient related items
1. Providing care to a dying person is a worthwhile experience. 3. I would be uncomfortable talking about impending death with the dying person. 14. I am afraid to become friends with a dying person.
II. Family related items
12. The family should be involved in the physical care of the dying person. 18. Families should be concerned about helping their dying member make the best of his or her remaining life. 24. The dying person and his or her family should be the in charge decision makers.

Table 1. Query list of FATCOD-Form B (22)-J [Shortened version] [21]

Data analysis

Differences in the results obtained (pre-lecture compared to post-lecture, and pre-lecture compared to 7 months later) were analyzed using Wilcoxon's signed-rank test with IBM SPSS Statistics 24.

Results

A 100% collection rate/valid response rate was achieved both before and immediately after the lecture. Furthermore, 91.7% of those who responded to the survey returned valid responses 7 months after the lecture. Changes in students' attitudes toward and awareness of end-of-life care between pre- and post-lecture, and 7 months after the lecture are shown in figure 1.With regard to the inverse items (No.3: "I would be uncomfortable talking about impending death with the dying person" and No. 14: "I am afraid to become friends with a dying person"), for which a negative answer had a higher score of each item, the score was obtained by subtracting the score from 6 points.

Of the three patient-related items, the post-lecture score for "Giving care to the dying person is a worthwhile experience" increased significantly from the pre-lecture score ($p < 0.05$, Wilcoxon's signed-rank test) but the score recorded 7 months after the lecture was not significantly different from that obtained prior to the lecture ($p > 0.05$). Scores of the other items did not change

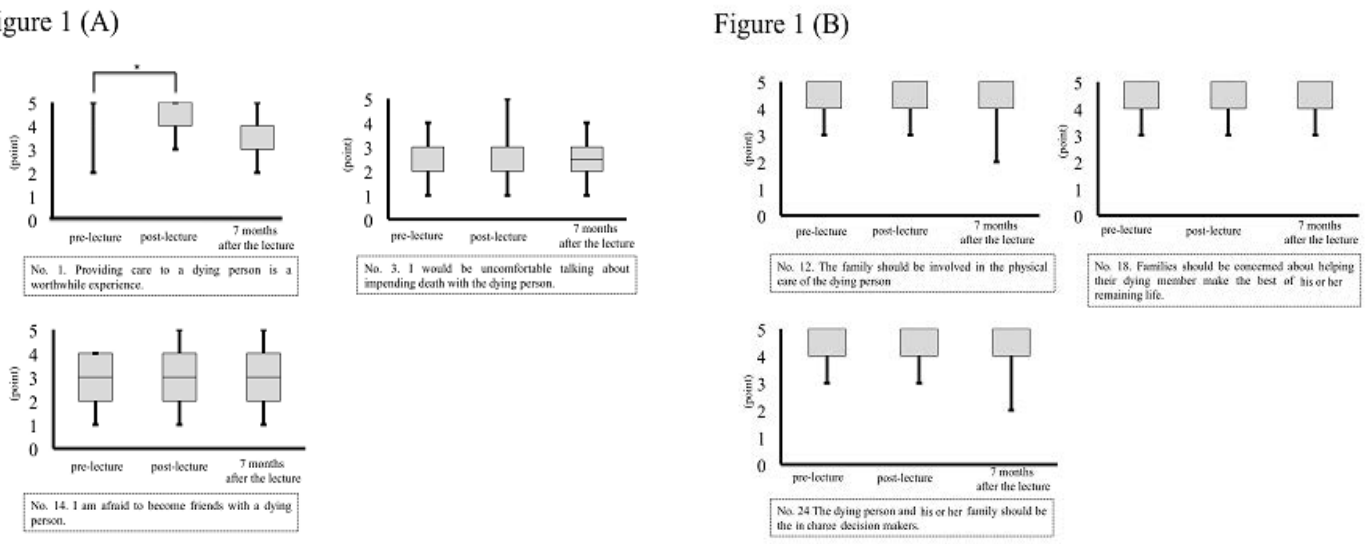

Figure 1. Changes in students' attitudes toward and awareness of end-of-life care: pre- and post-lecture, and 7 months after lecture
(A) Patient-related items (B) Family-related items

*P < 0.05, Wilcoxon's signed-rank test

significantly with values of 3 – 4.

The scores for all three family-related items were not changed significantly with high scores of 4 – 5.

Discussion

The results of the present study indicated both a positive effect and limitations of the one-off lecture on end-of life care for first-year dental school students. In terms of the three items related to the family's role in patient care, dentistry undergraduates were highly conscious of these ideas from the beginning; there was no notable difference between before, immediately after, or 7 months after the lecture.In terms of the three items related to the patient, the item of desire to cherish the care for end-of-life patients, "Giving care to the dying person is a worthwhile experience" increased temporarily, but decreased again after 7 months. Negative feelings toward patients' death remained; for items "I would be uncomfortable talking about impending death with the dying person" and "I am afraid to become friends with a dying person" showed relatively low scores both pre- and post-lecture, and did not change after 7 months. As dentistry is generally considered an occupation that is not involved in patients' deaths, the first-year dental school students could imaging their role in end-of-life care from the position of a family member, but not from the position of medical staff.

The effect of a one-off lecture was not retained for 7 months. There has been a great deal of recent discussion regarding the requirements of appropriate oral management for end-of-life patients, and attempts to introduce end-of-life care education in some dental schools are currently underway in Japan. However, almost all such these attempts have been limited to one-off specialized lectures. More active forms of learning (e.g., doing for oneself or teaching another person) are required. Iranmanesh et al. suggested that adding palliative care education, accompanied by a reflective narrative approach, to the nursing curriculum is necessary to improve quality of care at the end of life [27].

Wechter et al. reported that providing students with the opportunity to observe and participate in end-of-life care has a positive effect on attitudes toward care for the dying. They recommende dearly incorporation of direct exposure to end-of-life care practice into the medical school curriculum [26]. After lectures, additional education, such as direct exposure, could be effective. It has been suggested that both registered nurses and nursing students with greater experience of caring for patients who are dying have more favorable attitudes toward end-of-life care [28,29]. Similarly, it has been suggested that increased exposure to patients receiving end-of-life care will improve newly qualified doctors' competence and confidence in delivering care to such patients [30]. There is evidence that increased exposure to patients who are dying and their families can improve attitudes toward end-of-life care. In the absence of such clinical exposure, simulation provides experiential learning with outcomes comparable toclinical practice. Active experiential learning in the form of simulation teaching helps to improve the attitudes of undergraduate nursing and medical students toward end-of-life care [29].

It is necessary to establish a continuous and effective curriculum throughout 6 years of dental school to produce dentists that can engage in end-of-life care. It is desirable to allow students to have experience with end-of-life care patients to grow and improve their attitudes toward this population, while simulation can be effective if clinical exposure is impossible. As described in the Introduction, we are in the early stages of reforming the 6-year dental school curriculum. Continuous education regarding end-of-life care for 6 years could radically alter students' attitude to end-of-life care, and allow dentists to help in preserving patients' dignity. We plan not to only evaluate each lecture and/or training program but also to examine the effects of the entire dental school

curriculum associated with end-of-life care. Furthermore, we will continuously improve our education curriculum by evaluating the rates of engagement of graduate dentists in end-of-life care and their feedback.

In conclusion, a one-off lecture has limited influence on attitudes and awareness regarding end-of-life care among first-year dental students. The necessity of developing a systematic curriculum over the 6 years of dental school is suggested.

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Conflict of interest statement

The authors have no conflicts of interest to report.

References

1. Wright AA, Zhang B, Ray A, Mack JW, Trice E, et al. Associations between end-of-life discussions, patient mental health, medical care near death, and caregiver bereavement adjustment. *JAMA*. 2008;300:1665-1673.
2. Co Cat Eo L, IO M. Approaching Death:Improving Care at the End of Life. Washington, DC: The National Academies Press. 1997.
3. Wilberg P, Hjermstad MJ, Ottesen S, Herlofson BB. Oral health is an important issue in end-of-life cancer care. *Support Care Cancer*. 2012;20:3115-3122.
4. Trotti A, Bellm LA, Epstein JB, Frame D, Fuchs HJ, et al. Mucositis incidence, severity and associated outcomes in patients with head and neck cancer receiving radiotherapy with or without chemotherapy: a systematic literature review. *Radiother Oncol.* 2003;66:253-262.
5. Davies AN, Brailsford SR, Beighton D, Shorthose K, Stevens VC. Oral candidosis in community-based patients with advanced cancer. *J Pain Symptom Manage.* 2008;35:508-514.
6. 2015 Alzheimer's disease facts and figures. *Alzheimer's & Dementia.*2015;11:332-384.
7. Ikejima C, Hisanaga A, Meguro K, Yamada T, Ouma S, et al. Multicentre population-based dementia prevalence survey in Japan: a preliminary report. *Psychogeriatrics.* 2012; 12:120-123.
8. Lopes MA, Ferrioli E, Nakano EY, Litvoc J, Bottino CM. High prevalence of dementia in a community-based survey of older people from Brazil: association with intellectual activity rather than education. *J Alzheimer's Dis.* 2012;32:307-316.
9. Moore KL, Boscardin WJ, Steinman MA, Schwartz JB. Age and sex variation in prevalence of chronic medical conditions in older residents of U.S. nursing homes. *Am J GeriatrSoc.* 2012;60:756-764.
10. Fjelltun AM, Henriksen N, Norberg A, Gilje F, Normann HK. Functional levels and nurse workload of elderly awaiting nursing home placement and nursing home residents: a comparative study. *Scand J Caring Sci.* 2009;23:736-747.
11. Frenkel H, Harvey I, Newcombe RG. Oral health care among nursing home residents in Avon. *Gerodontology.* 2000;17:33-38.
12. De Visschere LM, Grooten L, Theuniers G, Vanobbergen JN. Oral hygiene of elderly people in long-term care institutions--a cross-sectional study. *Gerodontology.* 2006; 23:195-204.
13. Ferro R, Besostri A, Strohmenger L, Mazzucchelli L, Paoletti G, et al. Oral health problems and needs in nursing home residents in Northern Italy. *Community Dent Health.* 2008;25:231-236.
14. Samson H, Strand GV, Haugejorden O. Change in oral health status among the institutionalized Norwegian elderly over a period of 16 years. *Acta Odontol Scand.* 2008; 66:368-373.
15. Sweeney MP, Williams C, Kennedy C, Macpherson LM, Turner S, et al. Oral health care and status of elderly care home residents in Glasgow. *Community Dent Health.* 2007;24:37-42.
16. Gluhak C, Arnetzl GV, Kirmeier R, Jakse N, Arnetzl G. Oral status among seniors in nine nursing homes in Styria, Austria. *Gerodontology.* 2010;27:47-52.
17. Wilwert MM, Watkins CA, Ettinger RL, Cowen HJ, Qian F. The involvement of Iowa dentists in hospice care. *Spec Care Dentist.* 2011;31:204-209.
18. Tolle SW, Chiodo GT. The need for death education in the dental curriculum. *J Dent Educ.* 1989;53:196-198.
19. Henry RG, Johnson HA, Holley MM, Kaplan AL. Response to patients' death and bereavement in dental practice. *Spec Care Dentist.*1995;15:20-25.
20. Sirmons KL, Dickinson GE, Burkett TL. Teaching end-of-life issues: survey of U.S. dental schools and dentists. *J Dent Educ*. 2010;74:43-49.
21. Nakai Y, Miyashita M, Sasahara T, Koyama Y, Shimizu Y, et al. Factor structure and reliability of the Japanese version of the Frommelt attitudes toward care of the dying scale (FATCOD-B-J) [Japanese]. *Jpn J Cancer Nurs.* 2006;11:723-729.
22. Frommelt KH. Attitudes toward care of the terminally ill: an educational intervention. *Am J Hosp Palliat Care.* 2003;20:13-22.
23. Lippe MP, Becker H. Improving Attitudes and Perceived Competence in Caring for Dying Patients: An End-of-Life Simulation. *Nurs Educ Perspect.* 2015;36:372-378.
24. Frey RA, Gott M, Neil H. Instruments used to measure the effectiveness of palliative care education initiatives at the undergraduate level: a critical literature review. *BMJ Support Palliat Care*. 2013;3:114-119.
25. Mallory JL. The impact of a palliative care educational component on attitudes toward care of the dying in undergraduate nursing students. *J Prof Nurs.* 2003;19(5):305-312.
26. Wechter E, O'Gorman DC, Singh MK, Spanos P, Daly BJ. The effects of an early observational experience on medical students' attitudes toward end-of-life care. *Am J Hosp Palliat Care*. 2015;32:52-60.
27. Iranmanesh S, Savenstedt S, Abbaszadeh A. Student nurses' attitudes towards death and dying in south-east Iran. *Int J Palliat Nurs.* 2008;14:214-219.
28. Lange M, Thom B, Kline NE. Assessing nurses' attitudes toward death and caring for dying patients in a comprehensive cancer center. *Oncol Nurs Forum*. 2008;35:955-959.
29. Chow SK, Wong LT, Chan YK, Chung TY. The impact and importance of clinical learning experience in supporting nursing students in end-of-life care: cluster analysis. *Nurse Educ Pract.* 2014;14:532-537.
30. Anderson WG, Williams JE, Bost JE, Barnard D. Exposure to death is associated with positive attitudes and higher knowledge about end-of-life care in graduating medical students. *J Palliat Med.* 2008;11:1227-1233.

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