The Survey Concerning the Promotion of Food and Nutrition Education among Dental Students: Part Two in Reference to Awareness and Interest for Dental Education

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Article History

Received 31 March 2020

Accepted 22 May 2020

Abstract

The fundamental dietary education act states that the council for the promotion of food and nutritional education (shokuiku, dietary education) at the Ministry of Agriculture, Forestry, and Fisheries will create a basic plan to promote dietary education. This basic policy targets five priority issues of the third basic plan for the promotion of food and nutritional education—emphasizing and promoting shokuiku in young generations. Relatively few young people practice healthy eating habits; the majority of them are uninformed about their food. Furthermore, a large proportion of young adults skip breakfast, and only a few practice healthy eating habits, thereby jeopardizing their own future health and nutrition. Accordingly, the plan advocates proper shokuiku among young people; there are studies on food and nutritional education among university students. Similarly, in international settings, studies have focused on the relationship between food, nutritional education, and general health. However, no such studies have been conducted on food and nutritional education among dental students. Therefore, this study reports the awareness and interest of food and nutritional education among dental students. This study revealed that a high percentage of first-year students of Nihon University School of Dentistry at Matsudo were interested in shokuiku, cared about nutritional balance, and were eager to improve their eating habits in the future. Furthermore, table etiquette and regional or traditional food culture education is important. Students were lectured on shokuiku in their second year and after and were provided with a rich curriculum based on national board dental examination development criteria. Future programs are expected to increase student awareness and interest to enable them to contribute as future educators. In conclusion, our results indicated that interest in food and nutrition education was high, suggesting a nutritionally balanced approach and improved eating habits in freshmen of this university school of dentistry.

Keywords:

food and nutrition education,
dental students, dental education,
model core curriculum,
awareness and interest

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doi : 10.5466/ijoms.19.213

Table 1. The rate of interest in shokuiku, ensuring a nutritional balance and improving your eating habits of first-year students of Nihon University School of Dentistry at Matsudo

	(%)
Q1 Are you interested in shokuiku as described below?	
a No	8.3
b Not really	12.8
c Either way	18.0
d Somewhat	30.1
e Yes	30.8
Q2 Do you usually try to ensure a nutritional balance of protein, vegetables, and carbohydrates in your meals?	
a No	12.1
b Not really	23.5
c Somewhat	45.5
d Yes	18.9
Q3 Do you want to improve your eating habits?	
a No	6.8
b Not really	21.2
c Either way	20.5
d Somewhat	28.0
e Yes	23.5

Introduction

The Fundamental Dietary Education Act states that the Council for the Promotion of food and nutritional education (shokuiku, dietary education) at the Ministry of Agriculture, Forestry and Fisheries will create a basic plan for the promotion of shokuiku (1, 2). On this basis, the Third Basic Plan for the Promotion of Dietary Education was finalized in March 2016, based on the results of and challenges encountered in the approaches to shokuiku over the past 5 years. This plan outlines basic policies and targets for shokuiku promotion for the subsequent 5 years, from 2016 through to 2020. This basic policy targets five priority issues, emphasizing the promotion of dietary education among the younger generations. Young people face greater challenges in acquiring knowledge and awareness of food and its practices than their elders, meaning that the promotion of shokuiku to deepen their knowledge and heighten their awareness is needed so as to enable them to practice healthy eating habits and improve their physical and mental health (2, 3).

However, few young people practice healthy eating habits, and many are largely uninformed about food. In addition, a large percentage of young adults skip breakfast, and few exhibit nutritionally balanced eating habits, suggesting many future practical challenges in health and nutrition. Accordingly, the Plan advocates for proper food

and nutritional education for young people, and there have been reports of studies of food and nutritional education levels among university students as a result. Internationally, there have also been studies based on the relationship between dietary education, nutrition, and general health (4–8). However, almost no survey research has been done on food and nutritional education for dental schools and dental students. This study reports on awareness and interest of food and nutrition education among dental students.

Materials and Methods

The survey was conducted in July 2016 with 133 first-year students (76 men and 57 women) from Nihon University School of Dentistry at Matsudo. The survey was conducted using a self-administered anonymous method. The content of the survey was the same as that used for surveys of residents of Matsudo city and for university students (9). The contents of the survey in this report are items regarding interest in shokuiku, ensuring a nutritional balance and improving your eating habits (Table 1, Table 2). Invalid answers to each item were excluded. In this study, awareness and interests were compared and examined with the results (9) from first-year students of Nihon University School of Dentistry at Matsudo and students in Matsudo City (freshmen from four universities in

Table 2. The rate of items regarding eating habits of first-year students of Nihon University School of Dentistry at Matsudo

	(%)
Q4 Do you take any deliberate steps toward safer eating habits? (circle all that apply)	
a Checking best-before dates and dates of manufacturing	73.7
b Checking allergy warnings	8.3
c Checking production areas	27.1
d Checking storage and use methods	39.8
e Checking by smell and vision	53.4
f Disinfecting knives and cutting boards used for raw meat or fish	28.6
g Avoiding room-temperature storage of foods and ingredients	36.1
h Cooking meat thoroughly	46.6
i Consuming health supplements	12.0
j other	1.5
Q5 Did your parents or other caregivers teach you about regional or traditional cooking, broth flavoring, or related topics as traditional to your region or family?	
a No	45.4
b Yes	40.0
c Don't remember	14.6
Q6 Were you taught how to use chopsticks or the etiquette appropriate to a balanced Japanese-style meal by your parents or other caregivers?	
a No	10.6
b Yes	79.5
c Don't remember	9.8
Q7 Do you cook for yourself?	
a Hardly ever	54.2
b Once a week	9.9
c Two or three times a week	16.0
d Four or five times a week	9.9
e Almost daily	9.9
Q8 Whom do you most often eat meals with (on weekdays)?	
a Alone	7.6
b College friends	83.2
c Friends outside college	5.3
d Family	0.8
e Other	3.0
Q9 If you answered a. to the previous question, why do you eat meals alone on weekdays?	
a Want to control my own time	33.3
b No concerns about other	26.7
c Too much trouble to talk to people	26.7
d Nobody asks me	6.7
e Eating at home (including student housing)	0.0
f Other	6.7
Q10 How often do you eat breakfast with your family or friends each week (including eating out)?	
a Hardly ever	55.0
b Once a week	4.6
c Two or three times	7.6
d Four or five times a week	2.3
e Almost daily	30.5
Q11 How often do you eat dinner with your family or friends each week (including eating out)?	
a Hardly ever	15.4
b Once a week	13.0
c Two or three times	24.4
d Four or five times a week	8.1
e Almost daily	39.0
Q12 If you answered a., b., c., or d. to the previous question, why don't you eat with family or friends?	
a Their schedules don't match mine	19.4
b My schedule doesn't match theirs	40.9
c Not in the habit	17.2
d Other	22.6

Fig. 1. Comparison of the rate concerning interest in shokuiku between first-year students of Nihon University School of Dentistry at Matsudo and freshmen students in four universities in Matsudo city

the city). In addition, cross-analysis with first-year students of Nihon University School of Dentistry at Matsudo was conducted.

Descriptive statistics and statistical analyses were performed using the IBM SPSS Statistics software v26.0 (IBM, Armonk, NY, USA). The Fisher exact test was used to compare groups, with $p < 0.05$ taken as the level of statistical significance.

Results

Table1 shows the rate of interest in shokuiku, ensuring a nutritional balance and improving your eating habits of first-year students of Nihon University School of Dentistry at Matsudo. In terms of interest in shokuiku, those who answered affirmatively (i.e., “yes” or “Somewhat”) accounted for over 60% of respondents (60.9%) (Q1). Less than 10% (8.3%) answered that they had no interest in shokuiku at all. The total percentage (60.9%) of first-year students of Nihon University School of Dentistry at Matsudo who answered “yes” or “Somewhat” was significantly higher than that of freshmen students in universities in Matsudo city (40.5%) (Fig.1, $p < 0.01$). Approximately two-thirds of first-year students of Nihon University School of Dentistry at Matsudo answered affirmatively (i.e., “yes” or “Somewhat”) that they ensured nutritional balance (64.4%) (Q2). Approximately 10% answered that they did not care at all about nutritional balance. The total percentage (64.4%) of first-year students of Nihon University School of Dentistry at Matsudo who answered “yes” or “Some-

what” was significantly higher than that of freshmen students in universities in Matsudo city (51.5%) (Fig. 2, $p < 0.05$). Over 50% of students (51.5%) answered affirmatively (i.e., “yes” or “Somewhat”) that they intended to improve their diet, whereas 6.8% answered that they had no such intentions at all (Q3). The total percentage of first-year students of Nihon University School of Dentistry at Matsudo who answered “yes” or “Somewhat” was significantly higher than that of freshmen students in universities in Matsudo city (39.1%) (Fig. 3, $p < 0.05$).

Table2 shows the rate of items regarding eating habits of Nihon University School of Dentistry at Matsudo. Checking best-before dates and dates of manufacturing” exceeded 70% and marked the highest among all (Q4). Over 40% of students were taught how to cook (Q5). Approximately 80% of students answered that they had been taught table manners (Q6). Over half of students answered that they hardly ever cooked for themselves, followed by those who answered that they cooked for themselves two or three times a week, and less than 10% answered that they cooked for themselves almost every day (Q7). Over 80% of students answered that they ate lunch with their university friends, and less than 10% answered that they ate lunch alone (Q8). The most common reason for eating lunch alone was prioritization of controlling my own time (Q9). Over half of the students answered that they almost never eat breakfast (Q10). The largest proportion of respondents (approximately 40%) answered that they ate dinner almost every day (Q11). The

*:P<0.05

Fig. 2. Comparison of the rate concerning of ensuring nutritional balance between first-year students of Nihon University School of Dentistry at Matsudo and freshmen students in four universities in Matsudo city

*:P<0.05

Fig. 3. Comparison of the rate concerning improvement of eating habits between first-year students of Nihon University School of Dentistry at Matsudo and freshmen students in four universities in Matsudo city

most common reason was that their own schedules didn't match others(Q12). There seemed to be a correlation between those who answered affirmatively (i.e., those who answered "Yes" and "Somewhat") to education about regional or traditional cooking and broth flavoring and ensuring nutritional balance (Fig. 4). There was a correlation between those who answered affirmatively (i.e., those who answered "Yes" and "Somewhat") to education on table etiquette, regional or traditional cooking and broth flavoring, and nutritional balance (Fig. 5).

Discussion

In its 2015 Survey on National Health and Nutrition, the Ministry of Health, Labour and Welfare showed that in both men and women, eating at least two meals almost daily with a balance of carbohydrates, proteins, and vegetables was least common among youth(1, 2). Further, the percentage of those regularly eating out or living on commercial boxed meals or deli items was highest for both men and women in their 20s, and those respondents tended to show lower frequencies of meals with a balance of

Fig. 4. Cross tabulation of trying to ensure a nutritional balance and teaching about regional or traditional cooking of first-year students of Nihon University School of Dentistry at Matsudo

Fig. 5. Cross tabulation of trying to ensure a nutritional balance and teaching how to use chopsticks or the etiquette appropriate of first-year students of Nihon University School of Dentistry at Matsudo

carbohydrates, proteins, and vegetables. This indicates the need to promote education and understanding of the importance of combinations of carbohydrates, proteins, and vegetables among young people and the need to create environments that enable the easy acquisition of nutritionally balanced meals as options when eating out or as snacks (2, 3). In this study, education on table etiquette and regional or traditional food cultures also appears important.

The present study revealed that a high percentage of freshmen in schools of dentistry were interested in shokuiku, cared about their nutritional balance, and desired to improve their eating habits in the future. Furthermore, the model core curriculum was revised in 2017 (10, 11), which incorporated the following new elements with the aims of contributing to health through dental

and medical schools and dental care: “Ability to explain nutrition and shokuiku” to understand the concepts of health and disease and dietary education that takes place in acquiring basic clinical skills in clinical training, which should be supplemented by simulations if own experiments are not feasible. Thus, learning objectives and programs related to shokuiku have been developed, and the education in effect at various universities today is based on these revisions. Until 2014, the national board dental examination development criteria had two broad components, public nutrition and food sanitation and health, to which the 2018 revision added a new category, i.e., diet and shokuiku education (10, 11). Lectures and clinical training corresponding to these components are conducted in their second year and after. Thus, students are taught through lectures that cover shokuiku in their sec-

ond year and after. in a rich model core curriculum and through lectures based on national board dental examination development criteria. The program for the corresponding years involving this education is expected to increase the awareness and interest in students to prepare them as future educators. In conclusion, our results indicated that interest in food and nutrition education was high, suggesting a nutritionally balanced approach and improved eating habits in freshmen of this university school of dentistry.

Acknowledgments

This study was supported in part by a Grant-in-Aid for Scientific Research(16K11896, 17K12057, 20K02684) from the Japan Society for the Promotion of Science.

Conflict of Interest

There are no conflicts of interest to declare.

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