

Oral Examination of Students of
Matsumoto Dental College, School of Hygiene
(Department of Dental Hygienists,
Department of Dental Technicians)

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Summary

The oral condition was examined in students of Matsumoto Dental College, School of Hygiene, and the following results were obtained.

1) A questionnaire about the dietary and brushing habits suggested a better oral hygienic condition in the sophomores than freshmen of the Hygienist Department, and the 1-year education on dental hygiene appeared to be effective. Also, the students of the Hygienist Department were considered to have higher degree of knowledge on dental hygiene than those of the Technician Department.

2) The results of caries activity tests (Cariostat and RD TEST) were consistent with the findings of the questionnaire.

Introduction

Tests of caries activity, which estimate or examine the extent or progression of caries at a given time, have been devised and evaluated by a number of investigators¹⁻⁴⁾. We have also studied the caries activity in grade school pupils and physically handicapped individuals with poor oral condition since 1982, and found an association between the caries activity and the environment of the teeth^{5,6,7)}. In this study, this association was examined in students of Matsumoto Dental College, School of Hygiene, whose oral condition is considered to be good, by a questionnaire (dietary and brushing status) and tests of caries activity (Cariostat and RD TEST).

Methods

A questionnaire (concerning dietary and brushing status) and caries activity tests (Cariostat and RD TEST) were performed in 112 students consisting of freshmen and sophomores of Matsumoto Dental College, School of Hygiene (Department of Dental Hygienists, Department of Dental Technicians). The questionnaire concerned 1) the time of meals, 2) number of meals per day, and 3) degree of chewing with regard to the dietary habit, and 4) the regularity of brushing and 5) time of brushing with regard to the brushing habit. The caries activity tests were 1) Cariostat and 2) RD TEST.

Results

Concerning the time of meals (Question 1), the percentage of students who replied that their meals were "regular" was 9.9% greater in sophomores than in freshmen in the Department of Dental Hygienists, and none of the sophomores replied that their meals are "often irregular" (Fig. 1). In the Department of Dental Technicians, the time of meals was "regular" in 22.2% more sophomores than freshmen, and "often irregular" in 1.1% more sophomores (Fig. 2). Between the two departments, meals were regular in 6.5% more students, and "often irregular" in 12.0% less students, of the Hygienist Department than of the Technician Department.

As for the number of meals per day (Question 2), 9.7% less sophomores had two meals, and 9.7% more sophomores had three meals, as compared with freshmen in the Hygienist Department (Fig. 3). In the Technician Department, 17.5% more sophomores had two meals and 17.4% less sophomores had three meals as compared with freshmen (Fig. 4). In the Hygienist Department, 25.0% less students had two meals and 25.0% more students had three meals than in the Technician Department.

With regard to chewing (Question 3), 14.1% more sophomores chewed well than freshmen, and none of the sophomores replied that they do not chew very well in the Hygienist Department (Fig. 5). In the Technician Department, 6.6% more sophomores chewed well and 22.3% less sophomores did not chew well than freshmen (Fig. 6). Moreover, 6.3% more students chewed well, and 12.0% less students did not chew well in the Hygienist Department than in the Technician Department.

About the brushing regularity (Question 4), 3.1% more sophomores of the Hygienist Department brushed regularly than freshmen, and no sophomores often failed to brush (Fig. 7). In the Technician Department, 3.3% more sophomores brushed regularly, and 3.4% less sophomores often failed to brush, than freshmen (Fig. 8). Between the two departments, 3.7% more students brushed regularly and 3.7% less students often failed to brush in the Hygienist Department than in the Technician Department.

As for the time of brushing (Question 5), none of the sophomores of the Hygienist Department brushed for less than 1 minute, and 2.8% more sophomores brushed for more than 10 minutes than freshmen (Fig. 9). In the Technician Department 3.4% more sophomores brushed for less than 1 minute than freshmen, and none brushed for more than 10 minutes (Fig. 10). In the Hygienist Department 10.6% less students brushed for less than 1 minute, and 1.2% more students brushed for more than 10 minutes, than in the Technician Department.

Cariostat findings were "-" in 29.4% more sophomores than freshmen, and were "++" in none of the sophomores of the Hygienist Department (Fig. 11). In the Technician Department, 3.3% more sophomores showed "-" and 3.3% more sophomores showed "++" than freshmen (Fig. 12). Cariostat

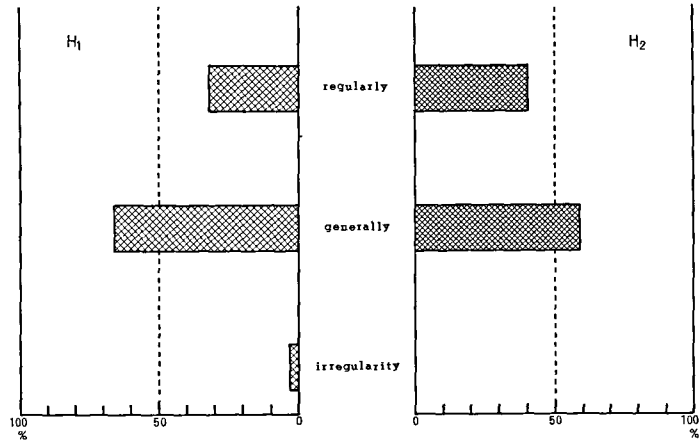


Fig. 1: The time of meal intake for the students, school of dental hygiene

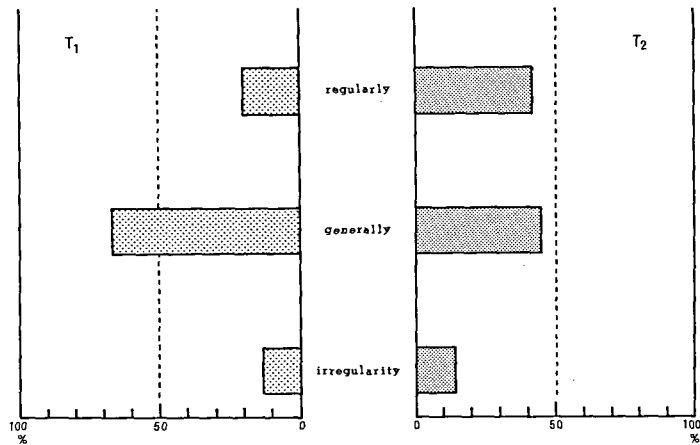


Fig. 2: The time of meal intake for the students, school of dental technology

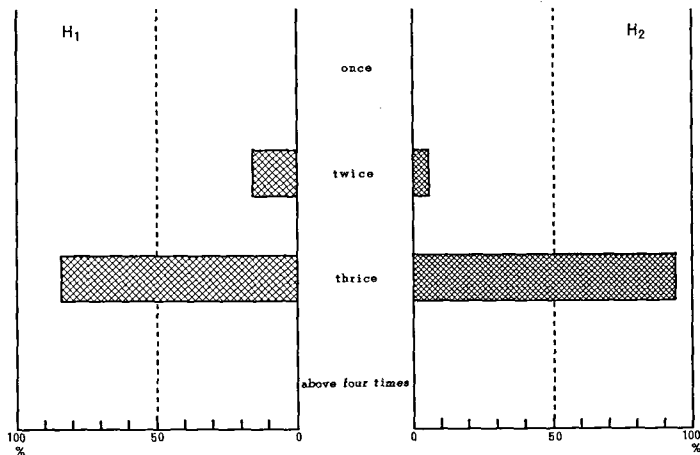


Fig. 3: The number of times at meals for the students, school of dental hygiene

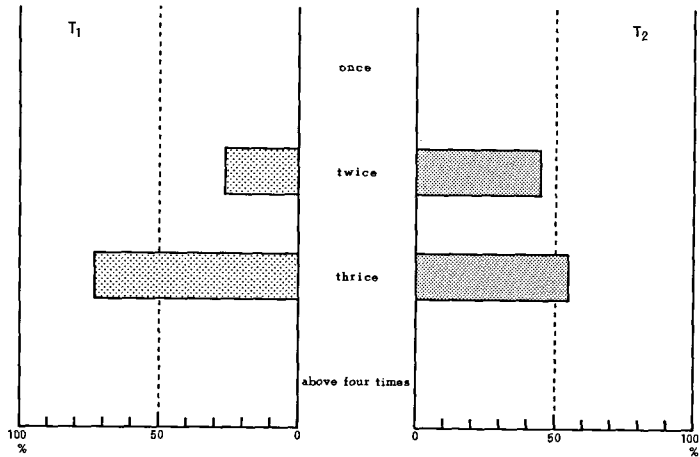


Fig. 4: The number of times at meals for the students, school of dental technology

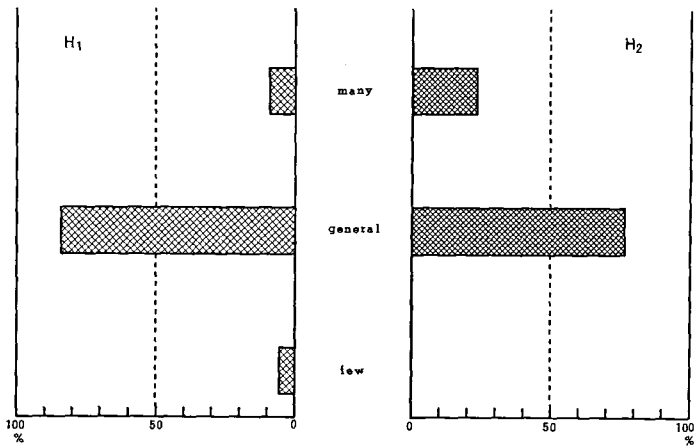


Fig. 5: The way of biting for the students, school of dental hygiene

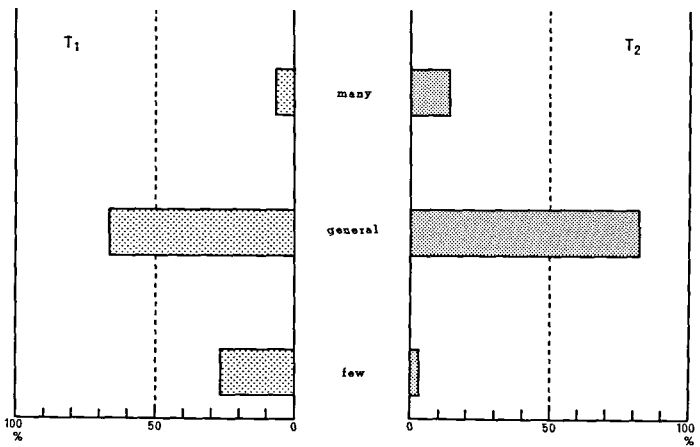


Fig. 6: The way of biting for the students, school of dental technology

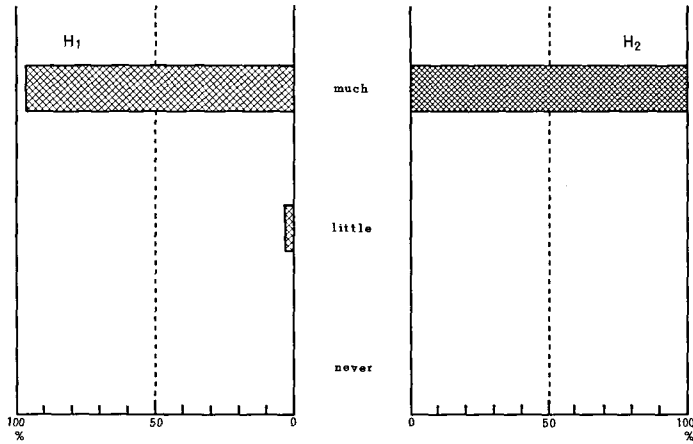


Fig. 7: The circumstance of tooth brushing for the students, school of dental hygiene

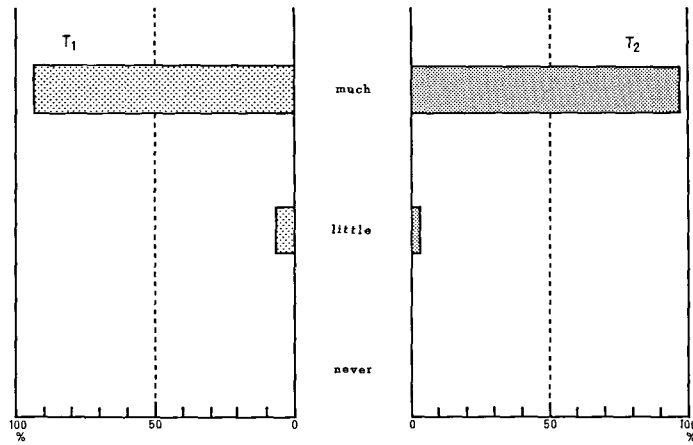


Fig. 8: The circumstance of tooth brushing for the students, school of dental technology

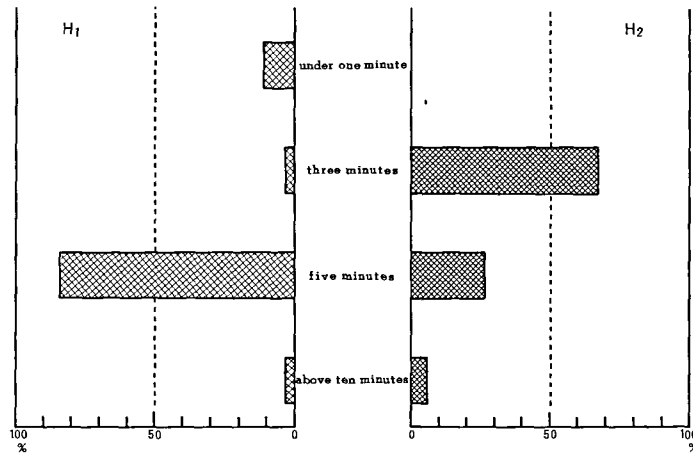


Fig. 9: The minute of tooth brushing for the students, school of dental hygiene

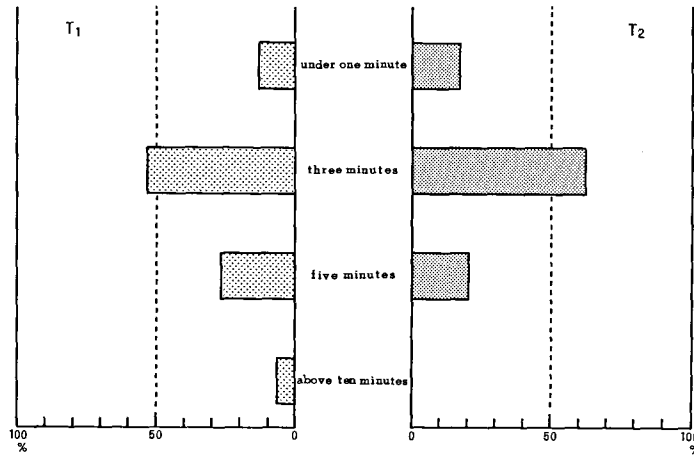


Fig. 10: The minute of tooth brushing for the students, school of dental technology

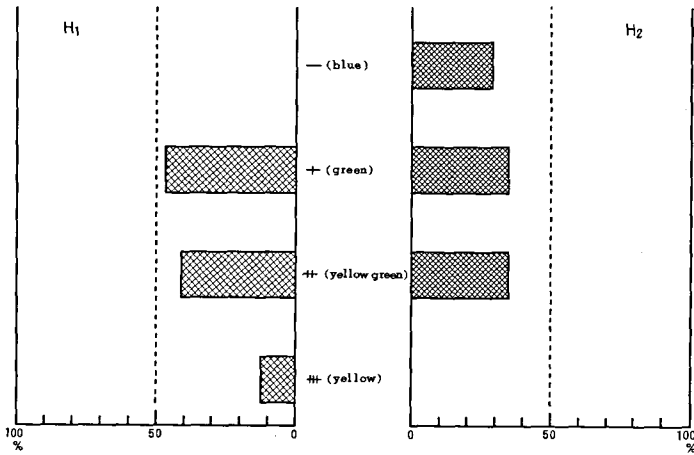


Fig. 11: Cariostat for the students, school of dental hygiene

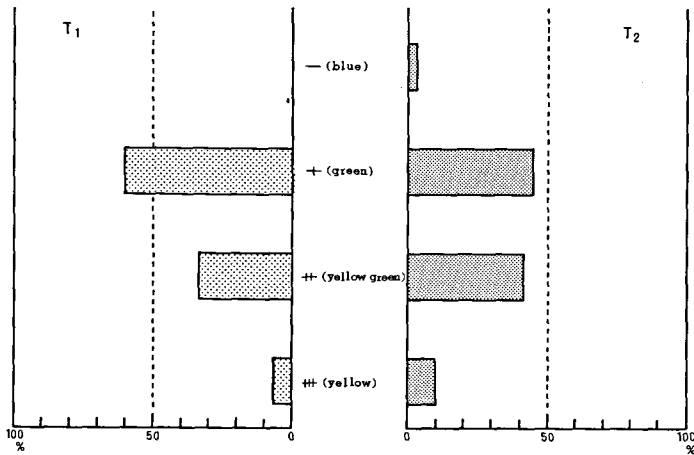


Fig. 12: Cariostat for the students, school of dental technology

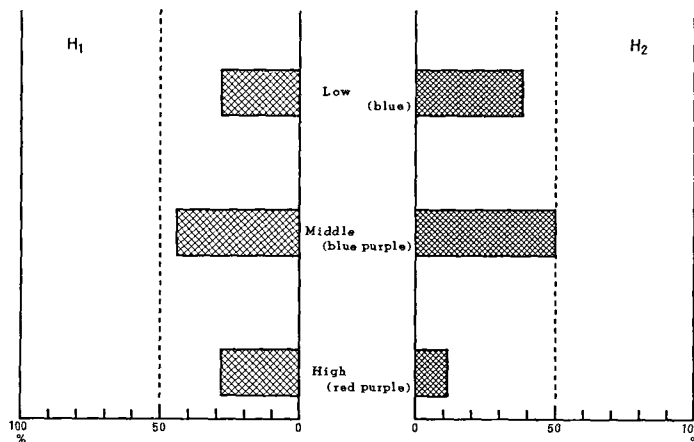


Fig. 13: RD TEST for the students, school of dental hygiene

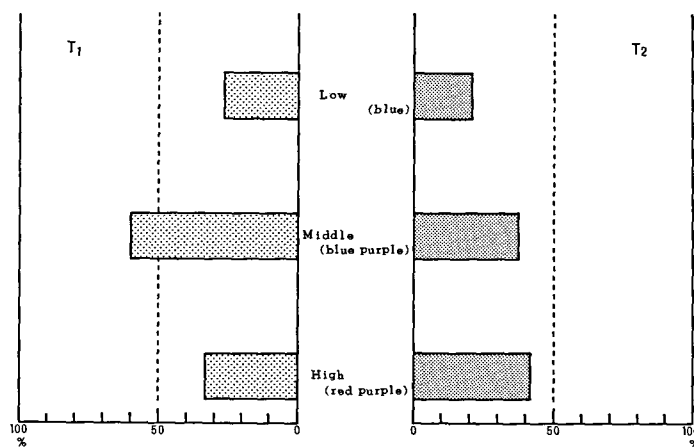


Fig. 14: RD TEST for the students, school of dental technology

finding was “—” in 13.0% more students, and “+++” in 2.3% less students, of the Hygienist Department than of the Technician Department.

The results of RD TEST were “low” in 10.1% more sophomores, and “high” in 16.3% less sophomores, than freshmen of the Hygienist Department (Fig. 13). In the Technician Department, the results were “low” in 5.6% less sophomores and “high” in 8.9% more sophomores than freshmen (Fig. 14). In the Hygienist Department, the results were “low” in 9.5% more students, and “high” in 2.1% less students, than in the Technician Department.

Discussion

A Questionnaire about the dietary and brushing habits and caries activity tests (Cariostat and RD TEST) were performed in the students of Matsumoto Dental College, School of Hygiene. The time of meals was more regular and the results of Cariostat were better in sophomores than freshmen in the Department of Hygienists, but the differences between sophomores and freshmen are less distinct in the Department of Technicians. Between the two departments, the results were

better in the Hygienist Department, probably because of the 1-year education on dental hygiene.

In a similar questionnaire carried out by Sobue *et al.*⁸⁾, the time of meals was "regular" in 14%, "mostly regular" in 55%, and "often irregular" in 31%; the percentage of those having regular meals was smaller and that of those often having irregular meals was greater than in our study. According to the report of Sobue *et al.*⁸⁾, the results of Cariostat were "–" or "+" in the majority of the subjects, being similar to our results in the sophomores of the Hygienist Department.

The number of meals per day, brushing time, and the results of RD TEST were better in sophomores in the Hygienist Department but in freshmen in the Technician Department. Between the two departments, the results were better in the Hygienist Department, probably because the students of the Technician Department had less knowledge of oral hygiene due to the lack of education on dental hygiene, and, therefore, did not have habits of adequate hygienic practices.

Sato *et al.*⁹⁾, examined the brushing time according to a scale of "about 30 seconds", "about 3 minutes", and "over 4 minutes", but their study is different from ours in that it gave no actual numbers.

In the report of Maki *et al.*¹⁰⁾, the results of RD TEST were "low" in 4%, "middle" in 65%, and "high" in 31%, with only few subjects showing low caries activity. In comparison with these results, our subjects appeared to have better oral hygienic condition.

Chewing and brushing habits were better in sophomores than freshmen in both departments, and in the Hygienist Department than in the Technician Department.

The present results suggest an association between the caries activity and the environment of teeth also in students of School of Hygiene as in our previous studies.

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