Multi-observer Assessment of Trainee Dentists

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Abstract

Multi-observer assessment involves the assessment of a person's work behavior by more than one colleague at the same time for the purpose of human resource development and capacity building. In the medical field, multi-observer assessment is employed to provide formative feedback during regular one-on-one meetings in order to increase the professional competence of medical residents, but it is rarely used in dental medicine. This report describes multi-observer assessment of the performance of trainee dentists at cooperative-type facilities. A total of 70 trainee dentists were assessed in the present study. For method of an investigation, a supervising dentist, a dental hygienist, and a receptionist assessed the professionalism and communication skills of the trainee dentists. There were significant differences of the average scores of assessment about the professionalism of the trainee dentist by all reviewers ($p < 0.01$, $p < 0.05$). There was a positive correlation between the average scores assigned by the supervising dentist and the dental hygienist ($r = 0.62$, $p < 0.001$), as well as between the scores assigned by the dentist and receptionist ($r = 0.53$, $p < 0.001$) or the dental hygienist and receptionist ($r = 0.78$, $p < 0.001$). These results suggest that there is a strong correlation between assessment by dentists, dental hygienists, and receptionists. The assessment that includes the perspective of the healthcare service recipients (patients) is needed in the future.

Keywords :

multi-observer assessment,
trainee dentists, professionalism

Introduction

Multi-observer assessment (360-degree assessment) involves the assessment of a person's work behavior by more than one colleague at the same time for the purpose of human resource development and capacity building(1–5). It is widely used in Europe and America(1–4) and has recently been adopted in Japan(5, 6). In the medical field, multi-observer assessment is employed to provide formative feedback during regular one-on-one meetings in order to increase the professional competence (integration of capacity and ambition) of medical residents(1, 4, 5, 7, 8), but it is rarely used in dentistry. This report describes multi-observer assessment of the performance of trainee dentists

at training facilities.

Materials and Methods

70 trainee dentists (4-month training in combined- and cooperative-type facilities) from the 2011 training course in Nihon University Hospital at Matsudo were included in the present analysis. This study was conducted with the approval (EC 09-028) of the Ethics Committee of the School of Dentistry at Matsudo, Nihon University.

For method of an investigation, a supervising dentist, a hygienist, and a receptionist assessed the professionalism (5-item) and communication (5-item) skills of the trainee dentists. The questionnaire was a modification of that developed by the Hokkaido Primary Care Network(9), and each item was rated on a scale of 1 to 5 (1, 2, 3, 4, 5). Incomplete answers were excluded from analysis. For the

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Table 1 Assessment of the professionalism of the trainee dentist by all reviewers. Item of evaluation was rated on a scale of 1 to 5 (1, 2, 3, 4, 5).

Item of evaluation	Mean±SD
The trainee dentist dressed and behaved appropriately	4.48±0.69
The trainee dentist express empathy for the patient	4.44±0.73
The trainee dentist showed respect towards other staff	4.43±0.76
Rater was able to trust the dental care provided by trainee dentist	4.20±0.82
The trainee dentist followed ethical principles in his/her clinical practice and interpersonal interactions	4.41±0.69

*p<0.05 **p<0.01

Table 2 Assessment of the communication skills of the trainee dentist by all reviewers. Item of evaluation was rated on a scale of 1 to 5 (1, 2, 3, 4, 5).

Item of evaluation	Mean±SD
The trainee dentist was able to effectively communicate with patients	4.36±0.76
The trainee dentist was able to effectively communicate with staff	4.41±0.83
The trainee dentist managed differences of opinion with discretion	4.25±0.80
The trainee dentist listened attentively to patients, colleagues, and staff	4.43±0.75
The trainee dentist did not use medical terminology when talking to patients	4.32±0.77

statistical analysis, Tukey-Kramer multiple comparison test was used to compare the mean values among three groups. Pearson's correlation coefficient test was performed for correlation analysis.

Results

A supervising dentist, a dental hygienist, and a receptionist assessed 70 trainee dentists by scale of 1 to 5 (1, 2, 3, 4, 5). The average scores (mean ± SD) were 4.40 ± 0.72 , 4.37 ± 0.80 , and 4.37 ± 0.76 , respectively.

The average scores of assessment about the professionalism of the trainee dentist by all 3 reviewers is shown in Table 1. The score assigned for rater was able to trust the dental care provided by the trainee dentist" was significantly lower than the scores for the other items ($p < 0.01$, $p < 0.05$). The average scores of assessment about the communication skills of the trainee dentists by all 3 reviewers is summarized in Table 2. No significant differences were observed amongst the items. The results of this survey indicated that the dental care provided by first-year trainee dentists was not considered very trustworthy. There was a positive correlation between the average scores assigned by the supervising dentist and the hygienist ($r = 0.62$, $p < 0.001$, Fig. 1), as well as between the scores assigned by the dentist and receptionist ($r = 0.53$, $p <$

0.001 , Fig. 2) or the hygienist and receptionist ($r = 0.78$, $p < 0.001$, Fig. 3).

Discussion

The concepts of collaboration and team-based medical care are being reinforced as the healthcare field continues to grow and becomes more sophisticated and specialized, and the evaluation and cultivation of residents by people in different professions has attracted attention(10-12). It is worth mentioning that assessment can also involve rating by recipients of healthcare services. The objective of so-called 360-degree assessment is to perform a reality check in order to understand professionalism and attitudes to modern medicine(2-4, 6). Therefore, assessment is performed from various perspectives, including that of the resident, that of nurses or colleagues, that of other healthcare professionals, and that of the patient.

A previous report showed a high correlation between the total scores assigned to medical residents by a physician and a nurse, although the medical residents who received high scores from the physician were not necessarily the same as those who received high scores from the nurse(5). The present survey also revealed a high correlation between the total scores assigned by a dentist, a dental hygienist and a receptionist, but assessment of some items seemed to reflect

Fig.1 Correlation between the average scores assigned by the supervising dentist and the dental hygienist

Fig.3 Correlation between the average scores assigned by the dental hygienist and the receptionist

Fig.2 Correlation between the average scores assigned by the supervising dentist and the receptionist

the rater's own position and perspective, suggesting that instructions and advice about how to provide feedback based on such differences may be needed. During some previous studies(5-8), multi-observer assessment was performed, but it was not a 360-degree assessment, e.g., assessment was performed by two parties (nurses and physicians) alone. During the present study also, assessment was performed by the dentist, dental hygienist, and receptionist, but not by the patients. We plan to conduct a study incorporating assessment by patients in the future.

The present study was conducted as a preliminary investigation before this future study, in which we will perform more precise multi-observer assessment (360-degree assessment) incorporating assessment by patients. In conclusion, these results suggest that there is a strong correlation between assessment by dentists, dental hygienists, and receptionists. The assessment that includes the perspective of the healthcare service recipients (patients) is needed in the future.

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