

Communication Between Dentists And Laboratory Technicians At An Institutional Level: Educational And Training Implications

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Abstract

Statement of problem: The fabrication of a clinically acceptable dental prosthesis requires proper communication between the dentist and the dental technician.

Purpose

The study aimed to assess the quality of communication between dentists and dental technicians, increase the percentage of satisfactorily completed laboratory prescriptions and reduce the number of errors that can result from poor communication. A subsidiary aim was to educate students and staff in this respect.

Material and Methods

The study of completeness of laboratory prescriptions was conducted within School of Dental Sciences, Karad, Satara, and Western Maharashtra, India. Four hundred

and eighteen prescriptions for fixed dental prosthesis completed by postgraduates and faculty of department of prosthodontics were assessed over a three month period (first cycle). Educational reminders on laboratory prescriptions were then provided to the participants, further four hundred and two prescriptions were assessed (second cycle) over the next three months and compared with the first cycle.

Results

Satisfactorily completed prescriptions increased from 28% to 43% following basic educational intervention. However, this percentage still signifies a poor level of completion and the need for improvement. Some aspects of the prescription were completed better than others, but overall the standard remained poor.

Conclusion

Further undergraduate and staff training on laboratory prescription writing will be necessary through staff training events and developments in the undergraduate curriculum.

Introduction

Poor completion of laboratory prescriptions can result in increased clinical, technical, administrative and nursing time. This can also have a high impact in relation to cost, patient management and patient confidence. The importance of good communication between dental practitioners and dental technicians has been highlighted by numerous studies (1–5). Juszczuk et al. (6) suggested that newly qualified dentists do not have an appropriate understanding of laboratory techniques and dental schools are still preparing new graduates inadequately to communicate effectively with dental technicians.

Aims and objectives

The aims of this study were as follows

- To assess the quality of communication with the fixed prosthodontic laboratory in School of Dental Sciences, Karad and increase the percentage of satisfactorily completed laboratory request forms.
- To reduce the number of errors that can result from poor communication with the laboratory.
- To increase knowledge of prescription writing for indirect restorations amongst students and staff.

The objectives of this study were as follows:

- Provide technical staff with a prospective data gathering tool.
- Collect responses over a 3-month period.
- Collate and analyse responses.
- Convey outcomes to staff/students with suggestions for improvement.

Method

Laboratory prescription forms

The existing laboratory prescription forms were designed 8 years prior to this study. Essential generic information is requested on the cover, such as patient details, supervising consultant, prescriber, student year or staff grade and the patient's next appointment date.

Standard setting

The standard information required on a laboratory prescription form for fixed indirect prosthesis was set following collaboration with the technicians, who proposed that a satisfactorily completed prescription should contain the following information:

1. Patients information
2. Doctors name and signature
3. Material of the prosthesis
4. Pontic design

Data collection

Study data were accumulated prospectively. It was not possible to study prescription completion retrospectively because any details that were absent had been subsequently sought out and recorded by the technical staff. A prospective data collection sheet (Fig. 1) was constructed for completion by technical staff. It consisted of a series of 'Yes', 'No' or 'Not Applicable' answers corresponding to the fields of information deemed necessary for satisfactory completion by the standard.

Statistical analysis

Data were entered into Excel spreadsheets. Descriptive statistics were produced, and results expressed as percentages. Categorical data were compared to examine trends in laboratory prescription writing.

Cross-tabulation was conducted using chi-squared tests ($\alpha = 0.01$). The significance level was adjusted to 0.01 due to the number of comparisons made.

Results

During the first study cycle, a total of 418 prescription forms from postgraduate students and staff were submitted to the laboratory and analysed.

The second cycle had 322 analysed submissions. Only 28% of all laboratory prescriptions in the first round of data collection were completed correctly to that of the standard. This increased to 43% in the second round ($P < 0.001$) (Fig. 2). Figure 3 (a and b) shows the distribution of answers for each data field in the first and second study cycles. In the first cycle, the 'Patient's Name' was included on 100% of the forms. 98.02% of laboratory prescriptions contained the doctors name and signature. A total of 11% failed to indicate the date for which the restoration or appliance should be completed, respectively. The second study cycle showed a marked increase in number of forms containing the material of the prosthesis (65.02–88.1%; $P < 0.001$).

Discussion

The study intended to show that the standard of laboratory prescription writing is generally poor amongst dental students and staff, but can be improved by providing education on the matter. From the overall results, the study showed that there was an improvement in the standard of laboratory prescription form completion following educational intervention; however, the total percentage at the end of the second round was still short of a desirable completion rate, with less than half of all forms being completed correctly.

Conclusions

Overall, this study suggests that there was an improvement in the completion of request forms submitted to the laboratory after educating students and staff on the information that should be provided to technicians. However, more than half of submissions still failed to provide all the desired information,

signifying further education and training are required, or alternative methods for improvement are necessary. The result of this audit to date has led to the introduction of additional teaching sessions and assessment on laboratory prescription writing to the undergraduate curriculum at School of Dental Sciences, Karad.

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