Development and Evaluation of a Communication and Social Competence Training for Dental Students

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Abstract

Objective: Develop a curriculum for leading discussions with difficult patient groups and evaluate it using the self-assessment of the students at Ulm University before and after use of the project.

Method: Based on using an anonymous multiple-choice questionnaire-based longitudinal study on dental students in the sixth and seventh semesters at Ulm University.

Results: At the beginning of the study, 35% of the study participants assessed anxious patients as "very difficult". After the end of the training, the study participants assessed only 7% of the affected anxious patients as "very difficult". According to their self-assessment, the dental students noticed an improvement in their handling of anxious patients after completing the training.

Conclusion: The self-assessment of the dental students in dealing with anxious patients improved after completing the communication training. The students also more wished that the subject "Dentist-Patient Relationship" was included in their studies.

Keywords: Dental Students; Communication; Curriculum; Student-Patient-Relationship

Introduction

The advantages of a good functioning dentist-patient communication are obvious:

The patient gets the first impression of his or her dentist though the dentist’s communication-style. Kölner and associates (2010) showed that in this connection, the patient’s first impression substantially influenced the patient’s
satisfaction concerning his or her treatment. A study by Pathman reported that an increased patient-satisfaction could be achieved through a good doctor-patient communication (Pathman et al 2002). Additionally, it is empirically accepted in the human medicine, that a good communication has a measurable effect on the treatment. Zelda Di Blasi was able, in a British study on 3611 patients, to show that a warm-hearted, friendly and anxiety-reducing attention explicitly shortened the course of the bodily illness and reduced the rate of side-effects, regardless of the rest of the treatment. (Di Blasi Z, Harkness E, Ernst E, Georgiou A, Kleijnen J.(2001). Influence of Context Effects on Health Outcomes: A Systematic Review. The Lancet 357; 757-762).

From the dental patient's point of view, communication is the basis for a positive relationship to his or her Dentist. This is illustrated in that the patients want to be involved in the decision making and treatment plan (Terziglu, 2003). Winberg et al. (1973) studied the desired and undesired qualities of the dentist. In the list of desired qualities were for example: listening to the patient, taking time for the patient, and an understanding for the patient's situation. Additionally, further studies have shown that a desired factor was the explanation of the proposed treatment and therapy, as well as friendliness and the building of trust. (Jöhren 2002).

In addition to communication, the ability to empathise, and the associated social competence, is an essential element of the dentist-patient relationship. When one considers the ability to empathise over the course of the medical study, then have various studies shown that the ability to empathise decreases with the increasing student-semester (Neumann et al. 2011, Pedersen 2010). Also there is a similar decline in the patient orientation (Tsimtsiou et al. 2007, Woloschuk et al. 2004, Haidet et al. 2002).

The main features of successful communication are demonstrably learnable (Runyon, 1979, Eijkman, 1977, Levy, 1980). As a result, organisations, committees and workgroups recommend and include social and communication competences in their training standards. For example: the written requirements-profile for a dentist from the Association for Dental Education in Europe (ADEE), the Basler Consensus-Statement and the Health Professions Core Communication Curriculum (HPCCC) (Cowpe, 2009, Kiessling, 2008, Bachmann, 2013).

A study by Schwartz et al (2007) confirmed the value of communication training. 78% of the dentists questioned would have preferred more communication training during their studies. The advantage of its integration in a curriculum has also proved itself in that dentists who have completed their study considered that the establishment of a course in patient communication would be sensible (Jackson, 1978, Manogue et al 2001, Kulich et al 1998). Additionally, 87% of the dentists recommended the integration of such a course (Wölber et al., 2011).

It is of basic significance for the future doctor, that he or she is proficient in all round communications skills, in which various studies have shown that the signs of verbal and nonverbal attitudes can be identified through their learning and their components can be specified. The basis of successful communication can be demonstrably learnt (Runyon, 1979, Eijkman, 1977, Levy, 1980). The ability to learn this is the basis for working in the profession (Kent, 1987, Gorter, 2007, Jung, 1990). Further the patient's rights law requires that diagnostic and therapeutic measures are discussed and that the dignity and integrity of the patient is respected (Gesetz zur Verbesserung der Rechte von Patientinnen und Patienten, 2013).

At the moment there is no standard curriculum for social and communication skills training for dental students at German universities, although the effectiveness of such training has been demonstrated (Haak. 2008).

A specific communication training was developed during the work for this thesis for individual patient groups using case vignettes as a basis. It was then evaluated using a questionnaire. The aim was to measure the change in the self-assessment of the communication competence of the dental students in leading a dialogue with difficult patient groups.
The thesis followed so the aim, in the future, to set a foundation for communication competence for dental students. The thesis is further the basis for the design of a training program for dental students with the emphasis on the relevance of communication in the doctor-patient relationship for the patient satisfaction, improvement in problem solving and communications ability.

**Method**

Development of a curriculum to improve the communication competence using case vignettes and the evaluation of the training using a questionnaire-based study on dental students at Ulm University.

*Context:* Development of a case vignette based curriculum to improve the communication ability and social competence. Patient-specific case vignette were initially generated and for individual patient groups specifically developed. These were then used during communication training in the sixth and seventh semesters. So were anxious, annoyed and depressive patient groups considered. The group of patients with chronic pain were also considered. A case vignette was also developed to consider gender-specific aspects. Concrete case examples and checklists for the patient groups were produced.

*Evaluation of the Training Content.* Subsequently, the significance of the doctor-patient communication as well as the student’s estimate of his or her own communication competence was evaluated in a longitudinal designed and developed questionnaire (see questionnaire). Here should the changes in the significance and the estimate of communication competence during the training be measured.

*Questionnaire.* A questionnaire developed by F. Gebhard (2014) was adapted to record and study the attitudes of the dental students to controlling a discussion as well as their self-estimate of their individual communications ability, before and after the dental curriculum.

Answering the questions in the questionnaire was carried out by marking a five-stage Likert-scale or by multiple choice answers. A free-text answer was possible for some of the questions.

An anonymization code was added at the start, so that a longitudinal analysis could be carried out. The first part of the questionnaire consisted of social and demographic questions (age, sex): The following questions covered the significance of leading patient discussions (assessment of the relevance of special questioning techniques) and the self-assessment in dealing with difficult patient groups (assessment of one’s reaction with difficult patient groups).

A pre-test was used to test the ease of use of the nine sided questionnaire. The intelligibility of the questions and the time required to complete the questionnaire were tested.

As a result, the questionnaire was improved with the help of additional questions. The questions were as necessary modified or reformulated.

Questions were particularly developed to examine the form of the further education as well as the attitude of the student based on actual literature.
The questionnaire contained questions to examine the individual reaction of the students to difficult patient groups (for example: Q12 listed anxious patients, to which the students ranked them in difficulty from "Not", over "Somewhat" to "Very difficult").

During the training, the students played the rolls of patient and dentist using the developed case vignettes. The other group participants were then able to analyse the patient-dentist conversation using the developed checklist.

Study population and sampling. The survey was carried out before the start of the curriculum in the sixth semester and each time after the end of a training unit, making a total of five times.

The first survey point was before the start of the communication training. The following surveys took place at the end of each training unit including roll playing. The respective emphasis was at the start (T=2) for example on anxious patients. In the course of the training units were (T=3) angry patients added. In the final units was training to consider gender aspects added (T=4, before the training and T=5 after the training).

At the start in February (T=1), 26 students took part. On the following day (T=2), 25 took part. During May (T=3) 22 took part and (T=4), 25. At the end of June (T=5), 15 took part.

All questionnaires were returned correctly filled out at each point in time, giving a return rate of 100%.

Data collection and statistical analysis. Excel was used to display a graphical analysis of the data. All data was entered into the statistics program SPSS 21, which was used to carry out the statistical analysis of all the data for the study.

Each multiple choice question was allocated a numerical code, and the answers were checked for significant changes between the various test points.

The "Exact Test" from Fisher and Yates was used to measure significance. An error probability of p < 0.05 was set as the significance limit.

The Fisher and Yates test was applied as there were only a limited number of samples available. A 2X2 contingency table was used so that reliable results could be obtained.

Results

Demographics.

The average age of the students at the start of the training was 24 years. The percentage of female participants at this point was 65%.

Self-assessment in handling difficult patients.

The level of difficulty of the different patient groups was evaluated. Changes were seen in the group "anxious patients".
The students could estimate by the self-assessment which level of difficulty anxious patients were. As visible in Figure 1, at the start of the training (T=1), 35% of the study participants estimated such patients as very difficult. After completing the training (T=4) only 7% of the participants estimated anxious patients as very difficult. The significance of this result was p=0.091.

This showed that, after the training, the confidence of the students had improved and that "anxious patients” were found to less difficult.

The aim of the curriculum, to improve the handling of difficult patients, could be proved.

A change in terms of a more confident manner through training for professional communication could be determined.

Figure 1: Self-evaluation in dealing with anxious patients

Dentist-Patient Relationship

Further, the study analysed whether the students wished to have the subject integrated into their studies. Here was considered whether the subject "Dentist-Patient Relationship” should be taught during the studies, within the framework of leading a discussion. There were differences before and after training participation with a significance of p=0.016, as visible in Figure 2. An increased interest was recorded, so that 30% wanted the integration in the studies before the training (T=1). Afterwards (T=3), 65% of the participants wanted the integration.

Figure 2: Should the topic "Dentist-Patient-Relationship" be taught during study course?
Conclusion

This study built the basis for the future development of the communications competence and can aim to improve the further development of the curriculum and the design of training programmes. The prime aim of the study was the improvement of the communications ability between patients and dental students. A further part of the study was the development of the curriculum so that communication training at Ulm University could be improved and developed.

At the same time, specific case vignettes were generated and developed for individual patient groups. These were used during the training.

Positive developments were noted in the area of the self-assessment of the handling of anxious patients. At the start 35% of the participants assessed such patients as "very difficult". After completion of the training, only 7% of the participants assessed such patients as "very difficult". This showed that after the training, the assurance of the students had improved and "anxious patients" were found to be less difficult.

The aim of the training curriculum was reached; it was demonstrated that the handling of difficult patients could be trained.

This confrontation with difficult patient groups should be taught. The basis here is the longer treatment time and the fact that dentists name "anxious patients" as their main problem. This is a particular problem for young dentists with little practical experience (Ingersoll, 1979).

Also Woelber et al. (2011) determined that 44% of dentists had a difficult discussion with a patient and that 25% of dentists reported that a patient did not want to be treated.

Similarly, 8 from 10 of those questioned suffered anxiety with a dental visit. Dentist phobia caused 5% to 10% of the population to avoid dental treatment (Jöhren, 2002).

It was therefore demonstrated that, after a roll-playing training, the sureness of the students was improved and "anxious patients" were actually found to be less difficult.

The instruction in the handling of difficult patients using roll-playing was also investigated in Rowan's study (2008). This demonstrated that roll-playing was the best way to improve communications abilities.
Finally, it could be demonstrated that the generated data showed an improvement in the students’ ability to handle anxious patients after the completion of the training.

**Implications for practice.**

While it is necessary to learn communications techniques, it should be the aim to develop a curriculum for social and communications competence for integration in the university studies.

It must be said that the significance of leading a consultation discussion should be more strongly stressed in the studies.

A realisable approach would be the development of an extended curriculum as well as the further development of the concept of leading a consultation discussion.

**Limitations.**

An essential limitation was that the patient-discussions did not take place directly with patients, but took place with roll-playing through the planned study design. Thus a direct comparison with real difficult patients is not possible.

Particularly, the self-assessment is a subjective parameter and does not correlate with the quality of patient handling.

A further limitation is the limited number of cases recorded. Considering the relatively small sample size, an extension of the pilot study at Ulm and other universities is to be recommended, to be able to obtain a comparison with the result of this study.

Additionally, it must be noted that there was no control group with students who did not take part in the training. This was however in practice not realisable, as the training dates were partially compulsory.

It was not therefore possible to definitely associate the results with the communication training. Nevertheless one can accept that the training resulted in an improvement in the self-assessment of handling anxious patients.

**Take Home Messages**

- Improvements were achieved using roll playing and with the help of case vignettes within the framework of the curriculum.
- The student self-assessment in handling anxious patients had improved after the end of the communication training.
- The integration in the studies of the topic "Dentist-patient relations" within the framework of leading a discussion was desired.
- Overall, it can be said that the importance of leading a discussion should be more emphasised in the studies.
Notes On Contributors

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**Appendices**

None.

**Declarations**

*The author has declared that there are no conflicts of interest.*

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**Ethics Statement**

This study was reviewed by Ethics Commission of Ulm and it was deemed exempt from ethics approval due to the reason that it does not apply to paragraph 15 of ‘Professional Code of Conduct for Physicians’.

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