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Learning about Motivational Interviewing by Final Year Dental Graduates Students: A Questionnaire Based Study

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ABSTRACT

Background: The main aim and objective of the study was to investigate whether final year dental graduates' students through peer-learning can increase their ability to conduct motivational interviewing compared with students who follow the regular curriculum. The aim was also to get an insight into the process of learning of motivational interviewing.

Material and Method- forty final year dental graduates' students were randomly selected to either the intervention group (IG) or the control group (CG). Students in the IG performed two motivational interviewing sessions, which were discussed in a peer group and with a tutor.

Results-The students in the IG used significantly more, simple and complex reflections ($p < 0.05$) compared to the CG. The IG gave also significantly less information during the counselling, and thereby asked more open-ended questions than the CG ($p < 0.05$). Both groups planned their motivational interviewing sessions carefully by preparing questions before they met the patients.

Conclusion: Dental graduates' students in the present study increased their skills in motivational interviewing by peer learning from other students and from a tutor, compared to a control group.

Keywords: Motivational interviewing, dental graduates students, questionnaire.

INTRODUCTION

For modern health practitioners an important aspect of patient treatment is counselling sessions with the patients aiming to give advice and motivate him or her towards healthy behavior. Counselling sessions require development of special communication and counselling skills. In order to achieve this, different methods have been proposed, e.g., cognitive behavioural therapy (CB) [1], and motivational interviewing [2].

During recent years, motivational interviewing has been advocated as a useful way to reach behavioural changes, also regarding oral health issues [3]. motivational interviewing is an evidence-based interview method that aims to support patients to change a behavior by stimulating to positive changes and strengthen the person's own motivation [4]. This also means that teaching within this area is essential and that dental and dental graduates students need to be prepared to

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implement this knowledge in their daily work routines, which, furthermore, constitutes a new challenge in the education, where the goal is to give communication and counselling training in the clinical setting.

One of the key targets of the academic community is to help students to produce quality learning outcomes, which is dependent upon complex network of factors that influence the teaching-learning environment, including teacher's approaches to teaching, students' approaches to learning,[5]. It is an interplay between learning and teaching that produces learning outcomes, which means that activities should not be studied independently, but in a context, where also the students have an own responsibility to their learning processes, which has an effect on the learning outcome [6]. This can be related to a constructive approach [7], which means that the students construct their own knowledge, by elaborating and processing information and experiences, relating to prior knowledge, and construct their own understanding. When a new situation occurs, the individual must change their behavior or thinking, an adaptation process, which leads to the creation of further new knowledge [8]. Knowledge can be likened to a process which is self-regulated, and where, also, the interaction with other students is important, with emphasis on social interaction and by listening to other student's interpretations of the same topic. Reflection is a cognitive approach for intellectual and affective activities in which the students engage to explore their experience in order to gain new understanding and appreciation [9].

Motivational interviewing is a direct and patient centered counselling style that helps people resolve their ambivalence and move towards a healthy change [10]. motivational interviewing represents a way to interact with people and contains a genuine interest to be able to understand other people and their manner [11]. The therapist sees himself as an equal interlocutor to the patient. Furthermore, the purpose of motivational interviewing is to find the inner motivation within the patient and reveal it, rather than creating the motivation for the patient. Motivational interviewing includes four basic processes; engaging, focusing, developing, and planning, in order to create an atmosphere favourable to change and where compassion is one of the key elements [4]. By the use of open-ended questions and simple and complex reflections the patient's statements are confirmed. Simple reflections means the precise rendering of the patients statements in his own words, while complex reflections reveal other dimensions, such as thoughts and feelings [12].

motivational interviewing is therefore guiding and focused on changing behaviours that favours, e.g., good oral health. It is important that the therapist makes the discrepancy visible, between where the patient stands today and where he wants to be in the future. Resistance to behavioural change within the patient can occur from different reasons. In that situation the therapist should "roll against resistance", by reflecting over the statements, accepting the patients autonomy and not argue to develop a change that can give an opposite effect [4]. Instead the therapist should explore more about the patient's ambivalence regarding change. Another important element in motivation to develop a change in behavior is self-efficacy. The counsellor aims to enhance the patient's confidence and his or her capability to overcome the obstacles. motivational interviewing counselling has been used for the treatment of oral diseases, such as inflammation/periodontitis , caries and daily oral hygiene in children [13], and for tobacco cessation , all with a positive outcome.

The dental graduate's profession promotes oral health among individuals and includes prevention and lifestyle changes, as well as diagnosing and treating oral diseases [14]. The students are introduced on the theory of motivational interviewing, through lectures, role-plays, and films that show motivational interviewing in dental situations to support patients to change behavior and thereby to achieve better oral health. The students conduct motivational interviewing in role-playing, which is video recorded and then they reflect over what was good in the conversation and what could have been said in another way. During this session the students get feedback from the student group and the supervisor. In addition, the students also conduct motivational interviewing in the treatment of patients in the clinical practice. As the implementation of motivational interviewing in the treatment of patients with gingivitis and periodontitis has shown to be successful in terms of achieving better oral hygiene, it is important to

evaluate if higher education in conducting motivational interviewing is successful. The aim of the present study was to investigate whether dental graduates' students through peer-learning can increase their ability to conduct motivational interviewing compared with students who follow the regular curriculum. In addition, the aim was also to get an insight into the process of learning of motivational interviewing.

MATERIAL AND METHODS

Forty randomly selected students (women aged 22–30 years) in the final year of there B.D.S course at various dental colleges of Patna were invited to participate in the study. The students were given a description of the study, including their right to refuse participation and to withdraw from the study at any time for any reason. To ensure anonymity, there was an understanding between students and tutors that, the discussions during the reflection sessions only should be discussed at that time. The patients included in the project were all suffering from chronic periodontitis, with bleeding probing score more than 45% and at least two teeth with interproximal pockets depth more than 4.5 mm and who had not yet received treatment or oral hygiene instructions. No either inclusion criteria were involved. All patients received information about the tape recording being anonymous, and that after the investigation, all materials would be discarded. The motivational interviewing -intervention lasted for, in average, twenty minutes and was performed in the clinic at the Department oral medicine. The interview was initiated with an open question regarding how the patient perceived his /her current oral health status. Specific strategies regarding behavioural changes in relation to oral health and periodontal treatment were initiated and reinforced. The questions were designed to follow the principals of motivational interviewing (clinician empathy, discrepancy between patients' goals, and values and their current behavior). Patients who expressed low motivation and readiness for a change were encouraged to explore their ambivalence. Oral hygiene information and instruction were given to the patient during MI. Successful health related behavioural changes were emphasized in order to enhance self-efficacy.

The students were randomly selected to either intervention (IG) or control group (CG). The twenty students in the intervention group completed two training session of motivational interviewing with two patients each. These motivational interviewing sessions were audio recorded and then transcribed. On two occasions (each three-hours setting), about a month apart, the motivational interviewing was evaluated by the student group with "peer learning", which means that the students provided feedback and gave constructive suggestions on the interviews regarding which statements that was compatible with the motivational interviewing method. The tutor was also present and strengthened the students' feedbacks. Coding template MITI 3.1 [15] was used as a support to measure how well motivational interviewing skills were conducted. Then a third motivational interviewing (three-hours setting), in the IG was performed and coded by the author according to the MITI 3.1. The CG consisted of twenty students that had followed the regular curriculum in communication and counselling skills in the program. The students conducted one motivational interviewing counselling with a patient at the department of oral Medicine. The motivational interviewing interview was audio recorded and then transcribed and coded according to the MITI 3.1 by the author. The third motivational interviewing interview in the IG was compared to the motivational interviewing interview conducted by the CG. A questionnaire was used to study how the dental students reflected before and after their motivational interviewing intervention. The questions were of an open nature meaning that they were answered with free text, i.e., not with any given answer. These forms of questions are used in educational settings where self-reflection is emphasized. The questions addressed several aspects both, prior to the motivational interviewing with patients, e.g., how did you prepare your motivational interviewing, describe strengths and weaknesses of yourself or the patient and after the motivational interviewing, e.g., was it what you expected, did something happen during the talk that you were not prepared for, what was difficult, and, describe your feeling afterwards. The data processing of the motivational interviewing sessions, coding manual MITI 3.1 variables have been used in Microsoft Excel 2010. The data from the IG and the CG are reported in a number of estimates at an individual and at a group level. The median value is presented on a consolidated basis

from each group. In the statistical analysis, each variable from MITI 3.1 was merged, i.e., each group represents the students' overall estimates. The IBM statistical program SPSS 21 software (Chicago, IL, USA), and Mann -Whitney test was used to compare the total number of statements between the two groups (Table 3). A p-value of 0.05 was set as the level of significance.

Table 1: Overall data regarding the behavioural frequency from the intervention group and the control group, according to MITI 3.1, by using Mann-Whitney test.

Behavioural frequency	Intervention group	Control group	*p* value
Gives information	17	32	0.05
MI Adherent	12	20	ns
MI Non-adherent	04	16	ns
Closed questions	17	26	ns
Open questions	28	15	ns
Simple Reflections	13	05	0.05
Complex Reflections	10	02	0.05

RESULTS

Skills in motivational interviewing were coded according to the coding manual MITI 3.1, and is presented for each student both in the IG and in the CG. The five variables according to MITI 3.1, to show empathy and to be collaborative, to have MI spirit, (which include respect of patient's autonomy), and to keep focused on the communication and to have target behavior (control), and to be focused. The five variables were encoded on a scale from 1 to 5. The results showed that the students in the IG asked more open-ended questions and used more simple and complex reflections during their motivational interviewing sessions, compared to the CG, who informed patients in a more traditional way. Regarding the overall estimates of the five variables there were no significant differences between the groups. In Table 1, the total number of times each variable have been used in both the IG and CG is presented. Students in the IG had significantly higher tendency to use simple and complex reflections ($p < 0.05$) and gave the patients less traditional information ($p < 0.05$) in comparison with the CG (Table 1). Regarding the frequency of use of the motivational interviewing variables, empathy; motivational interviewing spirit, and to be focused, the IG showed higher median values than the CG, however no significant differences were found. It seemed that the students were strengthened by having prepared themselves by reading the literature and constructing questions to the patients (no data shown).

DISCUSSION

The results showed that the intervention group had acquired more skills in using simple and complex reflections in the motivational interviewing counselling techniques with the patient compared to the control group. It was also revealed that the CG showed a tendency to give more information rather than asking open-ended questions compared to the IG. Students prepared their motivational interviewing to the patient by reading the literature and preparing questions, to feel more confident in the conservation. The students found it difficult to have a flow in the conversation, and in the same time be able to manage the patient's statements. This is in line with Croffoot *et al.* [16], who found that students who got feedback/coaching improved their skills in MI. They also concluded that MI is a useful tool in the development of change in patients' behavior and to implement MI skills in the educational curriculum had also a positive impact upon patient education. Other studies [12] also confirm that when the MI methodology is included in the curriculum and the method is practiced during training, students enhance their skills and they become more able to discuss lifestyle changes with patients, which supports the value of implementing this method in the dental graduates and dental programs [17]. Another, finding was that the CG gave the patients more information and in the same way they asked for permission to provide information to the patient, which is consistent with motivational interviewing. One explanation for this could be that they were aware of the motivational interviewing methodology [18], which means that you ask the patients permission to give information. In another study patients expressed greater satisfaction with the dental visits compared to a control group who received conventional advice [19]. motivational interviewing has also been conducted in periodontitis patients [20], This indicated that the CG used more of the traditional pattern of dental care to advice patients about their

self-care, in contrast to the IG who gave less information and instead explored the patient's opinions by using open-ended questions and reflections of their own statements. A systematic review by Rubak *et al* concluded that the motivational interviewing -method as an intervention, often turned out to have a good effect in achieving behavioural change in patients with oral problems. but they found no reduction of gingival inflammation among the patients who had received MI compared to the patients who had received conventional advice. The authors commented this by the fact that this was a single pre-treatment MI-session and that the patients who were referred to a specialist clinic for periodontal treatment might already have passed the stage of ambivalence and consequently, already were motivated to adhere to treatment. The National guidelines in Sweden for adult dental care [21] recommend using structured interviews, e.g., the motivational interviewing method, to achieve better outcomes, i.e., a positive change of patients' behavior. In the present study we have not measured the possible effects of conducting motivational interviewing, in terms of achieving a behavioural change in patients. The present study showed that recurrent feedback from students and teachers seemed to increase the students' knowledge and skills to perform motivational interviewing. This is in line with White and Pollex [12] and Buring *et al.*, who confirm that when the motivational interviewing methodology was included in the curriculum and the method was practiced during training, it enhanced students' skills and deepened their ability to discuss lifestyle changes with patients. A peer-group, which had the intention to act as a facilitator for learning, increased the student's confidence in conducting motivational interviewing [22], which also is in line with our project, where learning takes place through interaction with others. Feedback and the experience of managing are critical for the students' ability to understand a wider context, which also was addressed in the present study. A key issue is the use of reflection [23]. In relation to a learning situation, the students are encouraged to make choices and decisions, appraise, judge, and plan, which can be related to the present study. Teachers with their teaching practices represent a key factor that influences students learning environments and are supposed to challenge students' critical awareness in their interaction with the people involved, the subject matter and the actual learning environment. Promoting active work and reflection related to the reality-based situation, as in the present study, enhances the learning process. Furthermore, pedagogical training has a positive effect on teachers' learning-centered approach to teaching [24]. In the present study, the students increased their self-esteem by reading the literature and creating their own structure to implement MI, which emphasizes the importance of the constructive learning [8]. This is also in line with Freeman and Ismail [25] who highlight the significance of self-reflection and self-evaluation, which increases the chance that an individual will take actions to attain performance skills. Since, the primary goal of the process of MI is to assist patients to make their own decisions and set their preferred goals, according to Freeman and Ismail [25] it is important to investigate whether training in MI results in better ability to perform MI. One of the limitations of the present study is the small number of students included, which might affect the results. On the other hand, this a pilot study and all participants/students represent a very homogenous group. One of the reasons for conducting the present research project was to justify the implementation of MI in the curriculum of the dental graduates education. The students in the present study were randomized to each group, which is an advantage for the study's credibility. To increase reliability, four of the student's transcribed conversations, which were coded according to Coding Manual MITI 3.1 [15], were sent to the Mic Lab for calibration, and the reliability was good. Based on the results of the encoding (MITI 3.1) of the MI skills, the students' counselling sessions/MI were not fully justified MI`s compared to reference values from clinical studies. This showed the importance of practical training in conducting motivational interviewing. Students' approaches to learning MI skills have been little explored in academic context and more research in this academic environment is needed, together with further investigation in this area to distinguish between pedagogical methods for communication with the patient. These studies should include a greater number of students and at the same time one should examine how students learn these specific skills that are required in MI and to improve their confidence in behavior change related

communications with patients. In addition, more research is needed to evaluate the patient's behavior change by the use of MI methodology.

CONCLUSION

Dental graduates' students in the present study increased their skills in motivational interviewing by peer-learning from other students and from a tutor; compared to a control group.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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