

Original Research

# Knowledge, Attitudes, and Practices of Residents in Patient Training at Tabriz University of Medical Sciences, Northwestern Iran

Amirala Aghbali<sup>1</sup>, Sepideh Vosough Hosseini<sup>1</sup>, Maryam Janani<sup>2</sup>, Ali Fakhari<sup>3</sup>, Khadijeh Abdal<sup>4\*</sup>, Hadi Noori<sup>5</sup>, Mahdi Vahidpakdel<sup>6</sup>

<sup>1</sup>Department of Oral and Maxillofacial Pathology, School of Dentistry, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>2</sup>Department of Endo, School of Dentistry, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>3</sup>Clinical Psychiatric Research Center, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>4</sup>Resident of Oral and Maxillofacial Pathology, School of Dentistry, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>5</sup>General Dentist, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>6</sup>Resident, Department of Prosthodontics, School of Dentistry, Tabriz University of Medical Sciences, Tabriz, Iran

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## Abstract

**Introduction:** The aim of this study was to assess the knowledge and skill of clinical residents in Tabriz University of Medical Sciences, northwestern Iran, (as the future specialists), as well as their attitudes on the necessity of patient education, and the practice and responsibility of the residents in this field.

**Methods:** Knowledge, attitudes, and practices of a random selection of 380 clinical residents at Tabriz University of Medical Sciences were assessed in 2011 through a comprehensive questionnaire about education. The data were analyzed using SPSS software.

**Results:** There was no significant relationship between the two variables of sex and study period and the knowledge variable during the residency. However, there was a significant positive correlation between knowledge and age variables ( $P < 0.05$ ). The level of knowledge rose with aging because the amount of the model significance was less than 0.05. Besides, the coefficient of sex was positive by regression analysis. There was no significant relationship between the previous variables and attitude variable. No significant relationship was seen between the previous variables and practice variable.

**Conclusion:** The influence of age, sex, and year of study was apparent in the knowledge of the residents, but no considerable influence was shown in their practices and attitudes. Some educational strategies are needed to improve the practices and attitudes of the training group.

## Introduction

Effective communication with patients and training them are among the basic principles of treatment and changes in patients' health-related behavior. In reviewing the literature, the main reason mentioned for failure of the health care system was the lack of patient responsibility for their personal health behaviors. One of its main causes is the lack of necessary knowledge, skills and attitudes to obtain proper health-related behaviors.<sup>1,2</sup> The training that a patient gets from a doctor or medical team can be considered a proper reference for patient behavior, because in addition to providing accurate information to the patient about their diagnosis, it defines a framework for patients which either directs patient behavior by creating positive changes, or organizes the costs.<sup>3,4</sup>

Today, patient training is included in a patients' Bill of Rights in many countries, and the need for such training is increasingly felt by the hospital care system. Patient

education is an effective intervention approach in the fields of prevention, treatment and rehabilitation, which also reduces the costs. Patients are eager to get information about their conditions. Consequently, their training will be more effective and will be followed by better results of post-treatment. Achieving higher levels of patient satisfaction and reducing complaints are other positive outcomes of patient health education. The most fundamental concept in medicine is the patient health education.<sup>5-8</sup>

Creating effective communication is the foundation of each educational activity. One of the critical components in designing and preparing guidelines for patient education is providing it in such a way as to create balance between the knowledge load and level of complexity so that any person, regardless of age or education, can understand it.<sup>2,9</sup> Given the safe, low-cost medical recommendations to patients, the United States Preventative Services Task

\*Corresponding authors: Khadije Abdal, Email:fariba4479@yahoo.com

Force (USPSTF) has suggested that doctors teach patients positive health behaviors routinely, even if their long-term effectiveness has not been proven. Due to the growing volume of research showing the effect of health education on promoting health behaviors, it has become an important part of preventive services.<sup>10</sup>

Developing patient health educational programs is very difficult, requiring accuracy and energy, despite the fact that it apparently seems simple to achieve the goals.<sup>11</sup>

Traditional methods are used for patient education. They are often lecture and teacher based; and the training only enhances short-term memory without understanding the problem or application of proper behaviors in the actual health-related situation. This kind education is not effective and lasting.<sup>12</sup>

Health education methods are as follows: 1) Face-to-face, which is a good option for teaching sensitive and private subjects. 2) Group training methods, where each individual receives group support, which creates confidence in the trained addressee. 3) Playing passive film, which includes playing videos in waiting room (this method of training is suitable for low-income patients). 4) Computer-delivered, which is a useful and helpful way for the active involvement of the patient and increasing potential for self-care?

Assessing the educational needs of each patient and developing the goals regarding his/her specific condition are the most important necessities in order to obtain the best advantages of a training program.<sup>13,14</sup> Because oral care education is important for public health and causes health safe behaviors among the community and since the dental assistants are considered main responsible for education oral health; so in educational planning and developing learning objectives, knowledge, attitude and practice should be considered.<sup>15</sup>

Considering the importance of this issue, we decided in this study to assess the knowledge and skill of clinical residents in Tabriz University of Medical Sciences (as the future specialists), as well as their attitudes on the necessity of patient education, and finally, the practice and responsibility of the residents in this field. It is hoped that this study can identify potential weaknesses and help increase the knowledge and skills of clinical residents in patient health education, which can lead to better social health.

### Materials and Methods

In this descriptive analytical study, a total of 680 clinical residents of Tabriz University of Medical Sciences, northwestern Iran, were studied in 2011. Overall, 380 participants were selected randomly from among residents studying at the University considering the knowledge of 50% and difference of 0.06%. After selecting the samples and obtaining their consent, we explained the objectives of the study. Then, through a two-part questionnaire using resources related to this field, necessary information was given to the participants. The first part covered the personal-social information of the residents including

age, sex, field and year of study as well as the place of their undergraduate studies. The second part contained 30 questions in three categories related to the knowledge, attitudes and practices of the residents. The validity of the questionnaire was confirmed by faculty members in the field of doctor-patient relationship and medical education. Its reliability was assessed using test-retest, so that a questionnaire was given to 20 residents randomly, and 10 days later, the procedure was repeated.

The results showed that the responses in these two stages were similar. The questionnaires were collected after completing at the same session. In addition, the questions in the knowledge section, based on their answers, were scored on the scale of zero (never) to four (very much). The questions in the practice section were answered as the self-report by the residents.

### Results

Two age groups of 20-30 and 30-40 years were studied. Of 380 enrolled participants, 140 were female (36.9%) and 240 male (63.1%). The mean age of the participants was  $30.4 \pm 3$  and their minimum and maximum age was 41 and 25 yr respectively. Besides, 103 (27%) were first-year; 168 (44%) second-year; 99 (26%) third-year; and 10 (3%) fourth-year residents. The knowledge section consisted of 9 questions and the total score was 36. The total score of the assessed in the knowledge section was  $18.7 \pm 7.3$ , and the lowest and highest scores were 12 and 29, respectively. The mean knowledge score of the assessed females was  $17.73 \pm 3$  and  $19.2 \pm 4$  for the males (Table 1).

**Table 1.** The total score of the assessed in the knowledge, attitudes and practices sections in terms of their gender

Variable	Gender	
	Female	Male
Knowledge	$17.7 \pm 3$	$19.2 \pm 4$
Attitude	$19.2 \pm 1.9$	$19.5 \pm 2.3$
Practice	$5.6 \pm 1.2$	

Generally, the knowledge of the samples increased as they grew older. The mean scores of the knowledge are shown in Table 2. The fourth-year residents had the highest knowledge rate, whereas the first-year residents had the lowest. The attitude section contained 13 questions. The mean score of the assessed in this section was  $19.4 \pm 2.2$ , and minimum and maximum scores were 15 and 24, respectively. In general, the mean scores of the male and female and both age groups were almost equal. The score of the fourth-year residents was the highest and the rest were almost equal. The practice section consisted of eight items. The mean score of the assessed in this part was  $5.6 \pm 1.3$  and the minimum and maximum scores were 1 and 8, in that order. The mean scores of the assessed females and males were  $5.6 \pm 1.2$  and  $5.6 \pm 1.4$ , respectively which were almost equal. The mean score was almost equal in both age groups as well. The mean scores of the practice were  $5.6 \pm 1.5$ ,  $5.6 \pm 1.3$ ,  $5.8 \pm 1.1$  and  $5 \pm 1$  in the first, second,

third and fourth year residents, respectively.

The score of the third-year residents was the highest and the fourth year was the lowest. To assess the relationship between previous variables and the knowledge of the assessed, the researchers used the multivariate stepwise linear regression test. The results showed that there was no significant correlation between the two variables gender and duration of the study. However, there was a significant positive correlation between age and knowledge variables,

i.e., the knowledge increased with aging because the model significance level was less than 0.05 and also coefficient of gender variable in the regression model was positive.

$R^2 \times 100 = 4.9$  indicated that only 4.9% of effective factors on knowledge variable were identified by this model. The results of the multivariate stepwise linear regression test showed that there was no significant correlation between previous variables and the knowledge, attitudes, and practices variables.

Table 2. Knowledge section in terms of length of study in residency

Variable	Length of study in residency			
	First Year	Second Year	Third Year	Fourth Year
Knowledge	17.5±3	19.3±4	18.7±4	19.7±5.7
Attitude	19.5±2.3	19.4±2.2	19.2±2.2	20.7±0.6
Practice	5.6±1.5	5.6±1.3	5.8±1.1	5±1

### Discussion

Overall, 380 residents of Tabriz University of Medical Sciences participated in this study and is their knowledge, attitudes, and practices on patient training were studied. In terms of knowledge, the mean scores of the assessed males were higher than the females in the studied samples and the knowledge increased with aging. In the studied samples, the fourth-year residents had the highest knowledge rate whereas the first-year residents had the lowest. In the attitude section, the mean scores of the male and female and both age groups were almost equal. In the studied samples in this section, the scores of the fourth-year residents were the highest and the rest were almost equal. In terms of the practice, the mean scores of the assessed females and males were almost equal. The mean scores were almost equal in both age groups as well. In the studied samples in this section, the score of the third-year residents was the highest and the fourth year was the lowest.

In Ozbay and Kurser study, the effect of patient training on improving quality of life in patients with coronary artery disease were studied and the results showed that patient training improved health indicators (e.g. diastolic blood pressure, diet, exercise, etc.).<sup>13</sup> Basler studied the effect of education on patient behavior change and found that the continuing and consistent education of patients can lead the destructive behaviors of patients toward healthy ones and stabilize them.<sup>14</sup> Developing training programs for diabetic patients to control their blood sugar and improving their preventive behaviors for eye care using BASNEF (beliefs, attitudes, subjective norms and enabling factors) were very effective; moreover, the educational control, monitoring and follow-up were recommended in the implementation of the programs.<sup>8,16</sup> A health believe model (HBM)-based educational program was very effective in creating the habit of breast self-examination and that a positive attitude was needed for self-examination.<sup>4</sup> Noghabi et al. study on the assessment of education's effect on the quality of life in patients under P-D Feron treatment showed

the influence of the use of simple training programs on the patient's control of disease and its side effects. To a large extent, this ultimately led to the improvement of life quality and life satisfaction in patients and made it easier to tolerate the regimen.<sup>17</sup> In Baseir's study on the effect of repeated oral health education on students' health indicators, the importance of health education, notification and follow-ups through repetition were evident, and repeating health education through school health teachers to increase students' attention to it could be helpful.<sup>5</sup> While similar studies have stressed the effect of training in the patients, the present study has pointed to a group of trainers and different aspects of education (knowledge, attitudes, practices). It also examined the variables of gender, age, academic year of residents, and their impacts on knowledge, attitudes and practices in patient education which were not done in the previous studies.

There was no significant correlation between gender and the duration of study in the residency period in this study, but there was a positive significant correlation between the variables of age and knowledge, that is, knowledge increases with aging. None of the previous variables had a significant correlation with attitude and practice variables.

### Conclusion

The influence of age, gender and year of study was evident in resident knowledge but not significant in their attitudes and practices. It is necessary that some strategies be implemented for improving the attitudes and practices of the training group.

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### Ethical Issues

Participants' information was kept confidential.

**Competing Interest**

The authors declare that there is no conflict of interests.

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