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Development and Validation of a Questionnaire for Evaluation of Students' Attitudes towards Family Medicine

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A B S T R A C T

The development of the EURACT (European Academy of Teachers in General Practice) Educational Agenda helped many family medicine departments in development of clerkship and the aims and objectives of family medicine teaching. Our aims were to develop and validate a tool for assessment of students' attitudes towards family medicine and to evaluate the impact of the clerkship on students' attitudes regarding the competences of family doctor. In the pilot study, experienced family doctors were asked to describe their attitudes towards family medicine by using the Educational Agenda as a template for brainstorming. The statements were paraphrased and developed into a 164-items questionnaire, which was administered to 176 final-year students in academic year 2007/08. The third phase consisted of development of a final tool using statistical analysis, which resulted in the 60-items questionnaire in six domains which was used for the evaluation of students' attitudes. At the beginning of the clerkship, person-centred care and holistic approach scored lower than the other competences. Students' attitudes regarding the competences at the end of 7 weeks clerkship in family medicine were more positive, with exception of the competence regarding primary care management. The students who named family medicine as his or her future career choice, found holistic approach as more important than the students who did not name it as their future career. With the decision tree, which included students' attitudes to the competences of family medicine, we can successfully predict the future career choice in family medicine in 93.5% of the students. This study reports on the first attempt to develop a valid and reliable tool for measuring attitudes towards family medicine based on EURACT Educational Agenda. The questionnaire could be used for evaluating changes of students' attitudes in undergraduate curricula and for prediction of students' preferences regarding their future professional career in family medicine.

Key words: undergraduate students, attitudes, competences of family doctor, EURACT Educational Agenda

Introduction

The academic development of family medicine started in 1970 and resulted in the development of undergraduate teaching clerkships of family medicine throughout Europe. Although family medicine is now taught in most European countries, the content of clerkships still varies among them. Specific competences of family medicine are often not adequately presented in teaching curricula. This was one of the reasons why EURACT has developed an Educational Agenda, the key document on family medicine teaching in Europe[1], which is based on the European definition of family medicine[2]. The agenda is written as an explanation of the core competences of family medicine. It also includes a template with a list of broader objectives, teaching methods and assessment tools for each of the competences. This document makes it possible to develop more specific lists, according to the specificities of the clerkship in a medical school. Because of its flexibility and usefulness, the document has been used as a basis for family medicine clerkship throughout Europe.

Evaluation is a key element of every clerkship. Although methods for assessing students have been extensively studied, evaluation of the clerkship is also important activity in quality of teaching[3], because it can steer the teaching process. While evaluating quality of a clerkship, besides knowledge and skills assessment one needs to consider also changes of learner's attitudes towards the content matter of a clerkship. This is often difficult, be-

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cause there is a lack of adequate measuring tools[3]. Quite often, the clerkship of family medicine includes the aim of improving students' attitudes towards family medicine or primary care. Within this area, the attitudes towards profession are especially interesting when considering future orientation of young graduates.

Family medicine at the Ljubljana medical school has been taught for more than 15 years. During this time, we have performed regular evaluation of our teaching methods using a questionnaire we have developed. The results of this process have already been published[4]. The development of a theory of family medicine reflected in the European definition of family medicine and the EURACT Educational Agenda forced us to revisit the evaluation methodology of our course. We were not fully satisfied with the way we evaluated changes of students' attitudes towards the profession of family medicine.

Therefore, the aim of this study was to develop a validated instrument based on the existing theory of family medicine teaching, which could be used for the evaluation of an impact of our clerkship on students' attitudes towards family medicine and for the prediction of students' preferences regarding their future professional career in family medicine.

Methods

The instrument was developed in five stages.

Stage 1: Development of the draft questionnaire

In the first stage, the European definition of family medicine was distributed to a group of 30 experienced family physicians (teachers of family medicine, involved in the teaching process at the undergraduate level). They were asked to use their imagination in developing statements that would reflect attitudes about each of the core competences listed in Educational Agenda.

The statements were collected and paraphrased by one of the researchers (MPS) and organized into a list of statements that could be used in a questionnaire. This draft questionnaire was then sent to the same group of teachers for comments. After the comments were received, two researchers (IS, MPS) independently assessed them. The formulation of the draft questionnaire was a result of a consensus meeting between the two researchers, who have discussed the comments and made corrections of the first list of statements separately. There was no need for a third expert who would sort out potential conflicts. The result of this process was a list of 164 statements, split into six categories.

A seven-point Likert scale measures agreement. A score of 1 meant total disagreement and score of 7 meant total agreement.

Stage 2: Quantitative analysis of the draft questionnaire

In the second step, the questionnaires were distributed by teachers to all final-year (6th year of the medical school program) students at the beginning of their family medicine clerkship in the study year 2007/08 during the classes.

The draft questionnaire consisted of 164 statements, divided into six categories in accordance with Educational Agenda and distributed to 176 students; 58 (33%) of them were male and 118 (67%) were female. In order to ensure maximum confidentiality and anonymity, no social or demographical data except gender was collected. None of the students refused to participate in the study.

The data from the questionnaire were then statistically analyzed using correlation to identify inter-item correlations and inter-total correlation. Reliability analysis was used to calculate reliability of the total questionnaire. Questionnaires from 41 students were excluded from the analyses due to the incomplete data.

We separately analyzed the statements, which belong to each core competence. We reduced the number of questions by deleting the items which reduced reliability within each core competence. The result was a final 60-items questionnaire.

Stage 3: Testing of the final questionnaire

In the final step the final version of questionnaire (see Appendix) was distributed to all of the students at the beginning of their family medicine clerkship in the school year 2008/09 to assess the internal consistence of the questionnaire on the second group of students. We collected questionnaires from all of the 171 students in the study year 2008/09. Due to the incomplete data, 17 questionnaires were excluded from the analysis.

Temporal stability was also tested by test/retest reliability on group of 39 students who completed the questionnaire on a two separate occasions. The second administration of the questionnaire was performed seven days after the first administration.

Stage 4: Using the questionnaire for the assessment of students' attitudes regarding the competencies of family doctor

We analyzed the students' attitudes using the questionnaire at the beginning of family medicine clerkship in the school year 2009/10.

Analysis of the students' attitudes at the beginning of family medicine teaching was performed on the sample of all the 171 students in the study year, and analysis of students' attitudes at the end of family medicine clerkship was performed on the sample of 159 students. Due to administrative reasons, the sample was distributed to 159 students, which represent 93% of the population in the

study years. The response rate was 100%.There were 50 (31.4%) male and 109 (68.6%) female students in the sample.

Stage 5: Using the questionnaire to evaluate the impact of attitudes on decision for the professional career in family medicine

Career choice was assessed on a sample of 159 students at the end of the clerkship in the school year 2009/10 by stating a preference to choose family medicine as a career option. A five-point Likert scale was used: A score of 1 meant very unlikely and a score of 5 very likely.

According to students' preferences regarding their future professional career in family medicine, we divided students into three categories: 1) unlikely to become a family doctor (1 or 2 in Likert scale), 2) neutral (3 in Likert scale) and 3) likely to become a family doctor (4 or 5 in Likert scale). Using the t-test for two independent samples (sample of students unlikely to become a family doctor comparing to the sample of students likely to become a family doctor) we measured the impact of students' attitudes regarding family medicine to the professional career as a family doctor.

Statistical analysis

The correlation matrix based on Pearson's product-moment correlation was used to analyze inter-item correlations and inter-total correlation. Reliability analysis was used to calculate reliability for each of the six competences and also for the total questionnaire.

We performed discriminate validation of the statements, examined inter-inter correlations and the correlations between the score on an item and total subscale score (inter-total correlation) in order to delete superfluous statements (statements with inter-total or inter-inter correlations close to zero and statements with very high correlation with another item). Reliability analysis with Cronbach's α calculation was performed separately for each of the six core competences. To assure construct validity of the instrument, the most consistent statements within each of the core competences were gathered and reliability based on correlations between scale scores used Cronbach's α for the total questionnaire was calculated.

The correlation of scores obtained across two administration of the scale to the same individuals was calculated using the intra-class correlation coefficient (ICC). The changes of attitudes at the beginning and at the end of the clerkship were assessed using a paired t-test. The impact of students' attitudes regarding professional career in family medicine were assessed using the classification tree.

The level of significance was set at $p<0.05$. Statistical analysis was performed using SPPS, version 18.

Results

Statistical analysis of the draft questionnaire

Cronbach's α of the total questionnaire containing 164 questions was 0.853. The number of statements and reliability of each core competence are presented in Table 1.

TABLE 1
NUMBER OF STATEMENTS ACCORDING TO THE CORE COMPETENCES AND RELIABILITY OF EACH CORE C OMPETENCE

Competence	No. of statements	Cronbach's α
Primary care management	40	0.672
Person-centered care	28	0.558
Specific problem solving skills	25	0.479
Comprehensive approach	23	0.363
Community orientation	36	0.427
Holistic approach	12	0.530

Table 2 shows the numbers of statements in each core competences after reliability analysis. The result was the final 60-items questionnaire (see Appendix).

TABLE 2
NUMBER OF STATEMENTS ACCORDING TO THE CORE COMPETENCES AFTER THE RELIABILITY ANALYSIS OF THE FINAL 60-ITEMS QUESTIONNAIRE

Competence title	No. of statements	Cronbach's α
Primary care management	26	0.714
Person-centered care	1	0.537
Specific problem solving skills	11	0.708
Comprehensive approach	7	0.572
Community orientation	11	0.712
Holistic approach	4	0.507

Cronbach's α for the final 60-items questionnaire was 0.878.

The reliability of the 60-items questionnaire fulfilled by the second group of students in the study year 2008/09 was assessed for reliability with Cronbach's α, which was 0.816.

When calculating temporal stability using ICC coefficient one week after the first administration of the questionnaire, we found out that our questionnaire had the acceptable level of temporal stability (ICC=0.448).

Statistical analysis of the students' attitudes

Students' attitudes regarding family medicine competences and the changes of students' attitudes (before and after seven weeks clerkship) are presented in Table 3.We

TABLE 3
STUDENTS' ATTITUDES REGARDING THE IMPORTANCE OF FAMILY MEDICINE COMPETENCES AND THE CHANGES OF STUDENTS' ATTITUDES (BEFORE AND AFTER SEVEN WEEKS CLERKSHIP)

Competence title	$\overline{X}$ before value (SD)	Min-max	$\overline{X}$ after value (SD)	Min-max	p value
Primary care management	5.41 (0.44)	4–7	5.53 (0.49)	4–7	0.067 (NS)
Person-centered care	4.57 (1.44)	1–7	4.14 (1.76)	1–7	0.001
Specific problem solving skills	5.61 (0.59)	4–7	5.96 (0.49)	4–7	<0.001
Comprehensive approach	5.76 (0.66)	4–7	6.02 (0.60)	4–7	0.001
Community orientation	5.91 (0.60)	3–7	6.07 (0.52)	4–7	0.012
Holistic approach	4.75 (1.07)	1–7	5.16 (0.94)	2–7	0.005

*NS-non-significant

found out that female students had more positive attitude to the competence of primary care management (t=2.140, p=0.034) and to the competence of specific-problem-solving skills (t=2.115, p=0.036) than male students. There were no gender differences in other competences.

The numbers (percentages) of students according to their preferences regarding their future professional career in family medicine are presented in Table 4. There were no gender differences between students regarding their preferences about their future professional career in family medicine (t=1.313, p=0.191).

TABLE 4
NUMBER (PERCENTAGE) OF STUDENTS ACCORDING TO THEIR PREFERENCES REGARDING THEIR FUTURE PROFESSIONAL CAREER IN FAMILY MEDICINE

Points on Likert scale (meaning of points)	Number (N=159)	Percentage (%)
1 (very unlikely)	12	7.5
2 (unlikely)	28	17.6
3 (neutral)	57	35.8
4 (likely)	48	30.3
5 (very likely)	14	8.8

We found statistically important differences in some of the attitudes. Students, who would like to become family doctors, differ from the students who would not like to become family doctors in 12 out of 60 attitudes. Students, who would like to become family doctors, had more positive attitudes towards the competences, which are essential in the family doctor's work (Table 5).

The differences between the students' evaluations regarding the importance of competences depend on their future career choice in family medicine. The students who named family medicine as his or her future career choice found holistic approach more important (Table 6).

With the combination of four attitudes presented in classification three, we could predict the answer yes (family medicine as a career choice is likely or very likely) in 93.5%.

TABLE 5
THE DIFFERENCES IN STUDENTS' ATTITUDES REGARDING THEIR WISH TO BECOME A FAMILY DOCTOR. THE T-TEST WAS USED TO COMPARE MEANS SCORE FOR SPECIFIC ITEMS FOR STUDENTS WITH HIGH AND LOW PREFERENCES FOR FAMILY MEDICINE AS A CAREER CHOICE

Attitude	Competence	t value	p value
Primary care can be of a high quality	1	3.501	0.003
Physicians don't have enough time for dealing with all the health problems the patients have	1	–2.252	0.027
High quality is not possible without good organisation	1	2.944	0.004
Medical record is a good indicator of a quality of work	1	2.178	0.032
Long appointment time is unacceptable	1	2.205	0.030
High quality of primary care can save a lot of money	1	2.195	0.030
Physicians should all the time balance between evidence and experience	3	2.227	0.030
Psychic dimension of the disease is usually as important as physical part of the disease	4	3.013	0.003
Physicians should cooperate with the local community	4	2.654	0.010
Physicians should coordinate their activities with the other services in community	4	2.133	0.035
It is important that the doctor knows the legal limitations of his work	4	2.413	0.018
Physician should be aware of patient's ethnicity and religion in order to successfully manage the disease.	6	2.631	0.010

TABLE 6
STUDENTS' ATTITUDES REGARDING THE IMPORTANCE OF COMPETENCES DEPEND ON THEIR FUTURE CAREER CHOICE IN FAMILY MEDICINE. THE T-TEST WAS USED TO COMPARE MEANS SCORE FOR SPECIFIC CATEGORIES FOR STUDENTS WITH HIGH AND LOW PREFERENCES FOR FAMILY MEDICINE AS A CAREER CHOICE

Competence title	t value	p value
Primary care management	0.991	0.324 NS
Person-centered care	–0.503	0.616 NS
Specific problem solving skills	–0.127	0.899 NS
Comprehensive approach	0.635	0.515 NS
Community orientation	1.565	0.121 NS
Holistic approach	2.348	0.021

*NS-non-significant

The attitude that affected the decision to become a family doctor at most was the awareness of patients' ethnicity and religion in order to successfully manage the patients' disease (Node 2). If the score of this statement on a 7-point Likert scale was more than 5 points, this improved the chances for students' decision to become a family doctor (Figure 1).

Discussion

Our study is the first attempt to develop and validated a questionnaire for the assessment of students' attitudes regarding family medicine based on EURACT Educational Agenda in an undergraduate clerkship of family medicine.

Strengths and limitations of the study

The development of the questionnaire tried to address its validity, feasibility, internal consistency, temporal stability and reliability.

Validity

Since there was no previously validated attitudinal questionnaire based on Educational Agenda, we used the experts in family medicine teaching and experienced family physicians who were familiar with the EURACT Educational Agenda as the reference group in the consensus process. In this way we have maximized the validity of statements that were generated.

We also took great care to follow the qualitative methodology for reaching consensus.

Feasibility

The fulfillment of the questionnaire was voluntary and anonymous. With this approach, there was no drop out. It took up to 20 minutes to fill in the questionnaire in its final form, which students considered as appropriate.

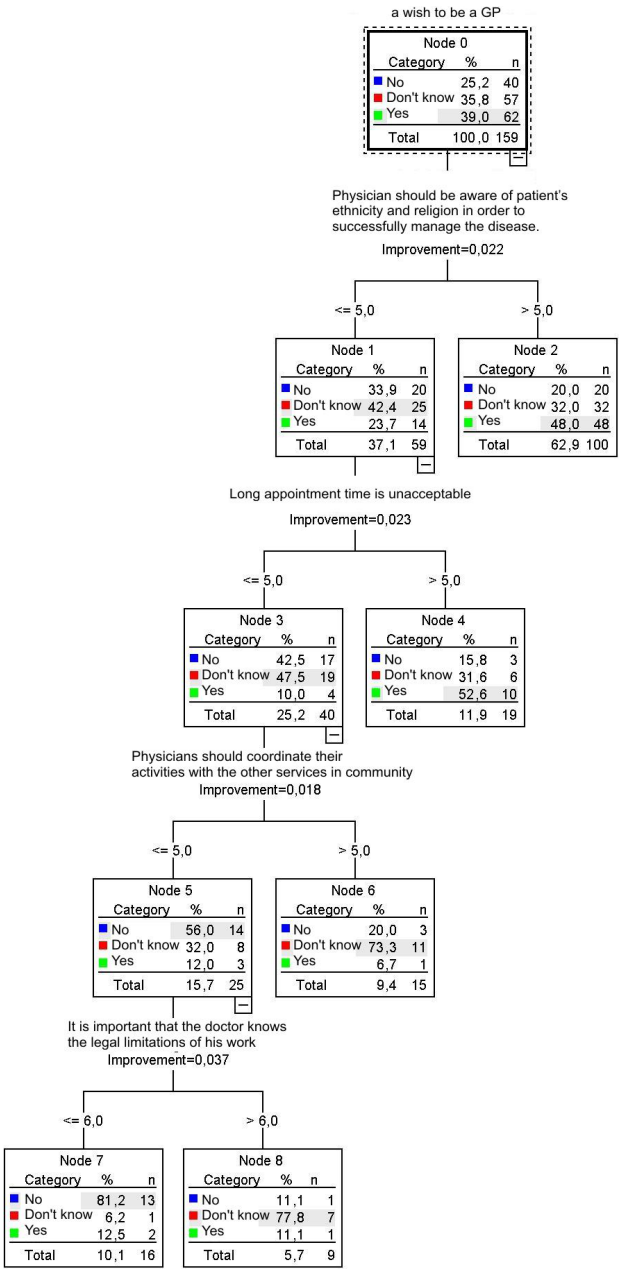

Fig. 1. Decision tree for a greater chance for choosing family medicine as students' career choice. Node represents the number and percentage of students that, according to the wish to become a family doctor, belong to each of the three categories (no, don't know, yes). The score above the individual node represents a cut point on a 7-point Likert scale which divides the students according to greater or smaller chance to become a family doctor (left and right branches of the tree). N is the number of students in an individual category. Improvement is the percentage of the improvement of the chance for choosing family doctor as a career choice.

Internal consistency

The internal consistency of the draft questionnaire was high, and we could afford to reduce the number of

items in the questionnaire, which has resulted in a still very high internal consistency of the entire questionnaire.

Most of the subgroups still have good internal consistency, the only exception being »person centeredness« and »holistic approach«. These two competences seemed to be more difficult to understand for the medical students whose training so far was mainly based on achieving clinical experiences[5].

Temporal stability

We tested the temporal stability by re-testing a subsample of students after a week of clerkship. Starting clerkship is an anxiety provoking event for medical students, and anxiety of the students on the first day of the clerkship was higher than a week later. This may be one of the reasons for only acceptable level of temporal stability.

Reliability

Because of a small sample size, we calculated Cronbach's α also on a second group of students for the questionnaire, which was completed by the second group of students, which had the same basic characteristics (final-year medical student). There was only a small decrease of Cronbach's α between the first and the second administration of the questionnaire.

Our study has also several limitations. The number of included students is relatively small in a relation to the number of statements, even though we included all students in study year and we believe that the students in the study year represent the whole population of students. Because of a relatively small sample size, the correlation among items could be influenced by chance to a fairly substantial degree and the α obtained on occasion other than the initial development study may be lower than expected. The patterns of co-variation among the items may not be stable. An item that appears to increase internal consistency may turn out to be ineffective when it is used on a separate sample.

All students speak Slovenian as their mother language and understand the key words of the questions, but some terms may have been interpreted subjectively by the students. The study was done only among students of one country with its specific health care system and culture and should be repeated in another culture in order to test its applicability in other countries, cultures and health care systems.

We measured temporal stability with a time difference of one week. This week was the first week of family medicine clerkship. Personal experiences with general practice influence the attitudes and probably influence the result on temporal stability.

The main problem with the creation of this questionnaire was the fact that some of the descriptions of the competences overlapped and were sometimes understood differently by the teachers. This was especially a problem in subscales, which were often overlapping and sometimes misunderstood. Although this may be a cause of concern if one would look at different subscales of the questionnaire, it does not limit the validity of the entire questionnaire. Nevertheless, our problems in this analysis may also be a signal that the structure of the teaching agenda could probably be changed in order to be more understandable. Further research on different samples (e.g. experienced doctors, trainees) may be needed to clarify this dilemma.

The highest number of statements were from the competence »primary care management«, which is clearly described in the definition and well-defined in a numerous of textbooks[1]. Opportunities for clinical practice are predominant as the contributing factor for the overall perceived quality of most clerkships[6].

The lowest number of statements was registered in the competence of person-centered care and the holistic approach. It seems that understanding of holism is also a problem for experts in family medicine[7].

We assessed the students' choice to become a family doctor at the end of the clerkship. The effect of the clerkship on career choice was transient and at graduation many students change their interest in favor of other specialties, which may explain why fewer students choose general practice. Only the score in the competence – person-centered care – was lower at the end of the clerkship, but due to the nature of the attitude represents the competence (patients often have unreliable requests), the lower score meant change the attitudes to more positive. Knowledge of psychosocial aspects of doctor-patient relationship helps students to comprehend their experiences and overcome the fear of not being able to maintain their emphatic capacity because of work-related issues[7]. Appropriate patient-centered interviewing helps to achieve a better understanding of the patient and helps to explain the findings and management to the patients.

The general practice clerkship can enable the students to gain an understanding of the importance of primary care approach and of the significance of the general practitioner's role in healthcare system. We believe that our clerkship improves the students' understanding of family medicine and family doctors and create a positive perception of students about primary care practice and may also change their perception about the professional demands of primary care physicians.

Students' attitudes towards the competencies of family doctor and the impact of clerkship on students' attitudes

Although comprehensive approach and community oriented care scored high on the scale, other competences that are crucial for family doctors (i.e. person-centered care, holistic approach) scored lower. This is probably due

to the fact that at the beginning of the clerkship of family medicine students do not have a very accurate picture of the family doctors' work. At the end of the program, the students understandably expressed significantly higher scores in all competences except primary care management, which describes clinical competences. This dimension scored very high at the beginning.

The attitude representing the competence »person-centered care« was assessed by lower score at the end of the clerkship, but the lower score meant change the attitudes to more positive.

We believe that our clerkship improves the students' understanding of family medicine and family doctors and create a positive perception of students about primary care practice and may also change their perception about the professional demands of primary care physicians. This can be seen from the changes of students' attitudes about the importance of primary care approach and general practitioner's role in healthcare system.

Female students have seen primary care management as more important than male students, which reflects their more positive attitude towards clinical potential of family medicine[9].

Women also have more positive attitudes to specific problem-solving skills of family medicine. Nevertheless, the more positive attitudes of female students to some aspects of family medicine in our study did not affect their career choice in family medicine.

The study has also demonstrated some weaknesses of our clerkship. It obviously fails to successfully convey the broader concepts of the discipline including patient-centeredness and bio-psycho-social model of care, as a background for holistic approach. This will have to be improved either by introducing more structured approaches in teaching or by additional training of tutors.

The impact of attitudes towards the competences of family doctor to career choice

Students who would like to become family doctors differ in one fifth of the attitudes in comparison to the students who would not like to become family doctors. Previous study found out that besides some socio-demographical characteristics students' attitudes at the beginning of medical education influence career choice in general practice. Students that named family medicine as their career choice, are more societal oriented and have lower preference for medical versus social problems[8]. In our study, we found out that students that named family medicine as a career choice believe that primary care could be of high quality. They thought that good organization of care and balance between evidence and experience, taking into account the patients as a bio-psycho-social unit and cooperating with the local community are the most important features for the discipline of family medicine. Independence in organization of care and personal responsibility were found as important factors for job satisfaction of family doctors[9].

Students, who named family medicine as their future career choice, assessed the holistic approach as more important when compared to other students. It seems that they understood holism better than the students who did not choose family medicine, who were more clinically oriented.

The results from the decision tree point in the same direction: the most important attitude predicting the career choice was the attitude »Knowing patients' personality helps in choosing the appropriate diagnostic and therapeutic approach«, from the competence »Holistic approach«. It therefore looks like that understanding and acceptance of a holistic approach seems to be the most important for the future professional career in family medicine.

The second and the third attitude, which are important in predicting career choice, were from the first competence: »Long appointment time is unacceptable« and »It is sometimes role of the physician to be an advocate of for his patients«. It seems that students who would like to become family doctors are more patient-centered and they already knew that good doctor-patient relationship is crucial for patients' satisfaction.

The fourth attitude, which was important for the prediction of a career choice, was attitude that patient should know the legal framework of the health care system from the domain community orientation. Comparing two groups of students (likely and unlikely to become family doctor) we found that for potential family doctors was more important that the doctor knew the legal limitations of his work. Students, who believe that the knowledge about legal issues is important, probably feel the obligation to inform the patients about their rights and obligations rising from the legal framework of the health care system.

The decision tree confirmed the results of bivariate analysis on the impact of attitudes towards the carrier choice of family doctor. It seems that the awareness of patients' ethnicity and religion in order to successfully manage the patients' disease is the most important attitude which warrants a higher chance for becoming a family doctor. Namely, according to the classification tree (Figure 1), other important attitudes are listed below the left branch of the tree, indicating that they are inferior to it and can affect the decision in those students that regard the awareness of patients' ethnicity and religion as less important.

Implication for practice

We found out that students understood clinical competence of family doctors, but they were not aware of other competences that should also be covered by family doctors. This means that there is a need to modify the clerkship in a way which would enable the students to find out the broad spectrum of competencies which are typical for family medicine.

Due to the shortage of family doctors in Slovenia the prediction of career choice is of outmost importance for the

recruiting trainees in general practice. It seems that this is linked to their acceptance of holism as a core competence. It may be possible to make changes in the undergraduate clerkship in a way that would give more importance to this competence in the earlier years of the medical education and to reinforce this initial preference.

Implication for research

Even the experienced family doctors struggled with the structure of the teaching agenda, and had difficulties to put the statements in one of the six competences. Holistic approach remains poorly understood and presents a challenge in teaching. Authors of the EGPRN research agenda make the same point for research. Probably a clearer definition and more practical explanation of holistic approach would help resolving this problem[10].

It would probably be better to analyze the statements in a questionnaire as a whole and then define factors using statistical methods. It would be interesting to see whether the six core competences listed in the definition would be reflected in statistical analyses.

A prospective study that would follow up students and see what their actual career choices were, would answer the question whether students with more positive attitudes to family medicine become family doctors.

Conclusion

We developed a questionnaire with good psychometric characteristics for assessment of students' attitudes towards family medicine based on EURACT Educational Agenda. To our knowledge, this is the first attempt to validate a tool for measuring attitudes toward family medicine based on the European definition of family medicine and the EURACT Educational Agenda.

Teaching affects some of the attitudes of medical students towards family medicine and family doctors to more positive ones. Some of the attitudes, which could help us in predicting the career choice in family medicine, have been identified.

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RAZVOJ I VALIDACIJA UPITNIKA ZA PROCJENU UČENIČKIH STAVOVA PREMA OBITELJSKOJ MEDICINI

SAŽETAK

Razvoj EURACT (Europske akademije za učitelje opće prakse) obrazovnog programa pomogao je mnogim odjelima obiteljske medicine u razvoju pripravništva i nastavnih ciljeva obiteljske medicine. Naši su ciljevi razviti i validirati alat za procjenu stavova studenata prema obiteljskoj medicini te procijeniti utjecaj pripravništva na stavove studenata o kompetencijama obiteljskog liječnika. U pilot istraživanju, iskusni obiteljski liječnici su upitani da opišu svoje stavove

prema obiteljskoj medicini pomoću obrazovnog programa kao predloška za razmišljanje. Izjave su parafrazirane i razvijene u upitniku sa 164 stavke, koji je primijenjen na 176 studenata posljednje godine studija u akademskoj godini 2007/08. Treća faza sastojala od razvoja konačnog alata pomoću statističke analize, što je rezultiralo upitnikom od 60 stavki u šest područja koja su korištena za procjenu stavova studenata. Na početku pripravništva su osobna njega i holistički pristup imali niže rezultate od ostalih kompetencija. Stavovi studenata su na kraju 7-tjednog pripravništva u obiteljskoj medicini bili pozitivniji, s izuzetkom u pogledu upravljanja primarnom njegom. Studenti koji su naveli obiteljsku medicinu kao svoj budući izbor karijere, holistički pristup smatraju važnijim od studenata koji ju nisu naveli obiteljsku medicinu kao svoju buduću karijeru. Pomoću stabla ciljeva, koje uključuje stavove studenata prema kompetencijama obiteljske medicine, možemo uspješno predvidjeti izbor buduće karijere u obiteljskoj medicini kod 93,5% studenata. Ovom studijom se prvi put pokušava razviti valjan i pouzdan alat za mjerenje stavova prema obiteljskoj medicini na temelju EURACT obrazovnog programa. Upitnik se može koristiti za procjenu promjena stavova studenata prema dodiplomskim nastavnim planovima i programima, te za ocjenjivanje učeničkih preferencija glede njihove buduće profesionalne karijere u obiteljskoj medicini.

APPENDIX: STATEMENTS IN THE QUESTIONNAIRE

PRIMARY CARE MANAGEMENT

Broad knowledge is necessary for a doctor working in family medicine

Serious conditions are frequently treated at patient's home

It is better for patients if a doctor is a clinical specialist

Primary care can be of high quality

Appointment system in practice improves quality of care

In case of serious disease, an immediate referral is the best option

Good organisation of care can save lives

The main reason for referral is the interest of one's patient

Other health care workers can perform some medical tasks better than physicians

It is sometimes a role of the physician to be an advocate for his patient

Physicians don't have enough time for dealing with all the health problems the patients have

Physicians offer more to more demanding patients

Physicians must be available for their patients all the time

It is not the responsibility of the physician to explain the health care system to their patients

Physicians need appropriate equipment in order to work well

Lack of time could be a reason for lesser quality of work

High quality is not possible without good organisation

Medical record is a good indicator of quality of work

Patients usually want more time than it is necessary for the management of their problems

Frequent diseases should be managed in primary care

Long appointment time is unacceptable

Rare diseases should be managed by specialists

Physicians should not transfer their professional responsibilities to others

There is no high quality of care without a computer support

It is the nurse's responsibility to manage the waiting room

High quality of primary care can save a lot of money

PERSON CENTERED CARE
Patients often have unreliable requests

SPECIFIC PROBLEM SOLVING SKILLS
Detailed clarification of patients health care problems is important
It is not necessary to perform all diagnostic procedures at once
Physicians use referrals to achieve fair access to the secondary level of care
Priorities of physicians could be different from priorities of patients
Physicians should all the time balance between evidence and experience
Every health care problem should be defined as soon as possible
Community influences the physician's work
Non-specific health problems can be signs of serious diseases
It is not possible to objectively explain all the health problems a patient may have
Health care priorities may change over time in a patient
Patient's personality should be taken into account in treatment
COMPREHENSIVE APPROACH
Unfortunately, physicians must deal with problems which are not physical
Management of many health problems at once leads to missing the most important problems
Psychic dimension of the disease is usually as important as physical part of the disease
Prevention is more important than treatment
The best option for patient is to die at home
Prevention is a key to good health
When treatment options are considered, the cost for the patient should be taken into account
It is important that the doctor knows the legal limitations of his work
All the patients should have the same level of care independently of their social status
Physicians should cooperate with the local community
Physicians should coordinate their activities with the other services in community
Informatisation helps achieving high quality of work

COMMUNITY ORIENTATION
Sick leave is often exploited
Sick leave is a reflexion of the society and not a reflection of physician's work
Patients should know the legal framework of the health care system
If necessary the family should be included in treatment

HOLISTIC APPROACH
It is the duty of the physician to adapt recommendations to the patients' wishes and possibilities
Knowing patients' personality helps in choosing the appropriate diagnostic and therapeutic approach
Physicians should treat against the recommendations in guidelines if it is better for patient
Physician should be aware of patient's ethnicity and religion in order to successfully manage the disease.

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