

MEDICAL EDUCATION CHANGES STUDENTS' ATTITUDES ON PSYCHIATRY: SURVEY AMONG MEDICAL STUDENTS IN CROATIA

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SUMMARY

In Croatia, psychiatric disorders are the leading group of disorders by days of hospitalization and they are in second place according to the number of hospitalizations in the period of working age. Nevertheless, psychiatry in Croatia, as well as in the world, is one of the least attractive specialties for medical students. In this paper we determined the impact of compulsory education in psychiatry on the attitudes of medical students of the fourth year of the Zagreb school of medicine and Osijek school of medicine. We tested attitudes toward psychiatry, psychiatric treatment and attitudes toward seeking professional psychological help using questionnaires that were filled out twice, at the beginning of psychiatry placement and at the end of psychiatry placement. Questionnaires were completed by 239 students from the Zagreb school of medicine and Faculty of medicine Osijek (response rate 78.4%). After the placement, students had significantly more positive attitudes about psychiatry and psychiatric treatment, as well as the attitudes toward seeking professional psychological help. Attitudes towards psychiatry, seeking psychological help and attitude towards psychiatric medication and psychotherapy correlated with the evaluation of the quality of psychiatric education. Additional forms of education in psychiatry should be offered, in order to maintain and increase the impact of education on students' attitudes.

Key words: medical education - students - attitudes - psychiatry - psychiatric treatment

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INTRODUCTION

Psychiatric disorders are one of the most prevalent disorders in general population that affect more than 25% of population worldwide during lifetime (WHO, 2013). In Croatia, these disorders are the leading group according to the number of hospital days and at the second place according to the number of hospitalizations in working population (age 20-59) (Croatian Public Health Institute 2011). However, with timely and adequate treatment intervention, psychiatric disorders can be successfully treated (Lauber et al. 2005). On the other hand, stigma among psychiatry seriously influences different aspects of psychiatric care and life of affected persons and their families (Hinshaw & Cicchetti 2001). Sadly, stigma is very high among medicals students: in example, psychiatry is one of the least wanted specializations as a future career in Croatia and worldwide (Goldacre et al. 2005; Kuzman et al. 2013, Farooq et al. 2014); medical students have less confidence in psychiatric medication and in its medical bases (Schulze 2007, Stone &

Merlo 2011); medical students choose not to seek for psychological help out of fear that they may be stigmatized in the future (Roberts 2001).

Today's medical students are future medical doctors, and thus their skills and attitudes affect the medical care they will provide for their patients. Medical education plays an important role in the formation of students' attitudes. A number of reports showed the decrease of stigma after psychiatric clerkship (Bulbena et al. 2005, Lyons et al. 2014).

According to the official curriculum at the Zagreb and Osijek schools of medicine, medical students receive their compulsory education in psychiatry through two main placements: 1) a 2-week placement ("Psychological medicine") at the 1st and 3rd year, at the Zagreb and Osijek schools of medicine, respectively; 2) a 4-week main placement ("Psychiatry") at the 4th year.

The aim of our study was to analyze the impact of compulsory psychiatric education during medical school and students' attitudes towards psychiatry and psychiatric treatment.

METHODS

Participants

The sample consisted of students of the Zagreb School of Medicine and the Osijek School of Medicine attending their 4th year during the academic year 2012/2013. According to the faculty administration offices, 238 and 67 students were attending their 4th year at the Zagreb School of Medicine and the Osijek School of Medicine, respectively, in the academic year 2012/2013. All students were invited to participate in the study by the study investigators.

Study protocol

We conducted a prospective study. For the purpose of the study, two sets of questionnaires were developed, and administered in two time points: at the beginning of the psychiatry placement (1st day of the placement) and after the placement of adult psychiatry (4th week of placement).

The first questionnaire comprises five parts: 1) socio-demographic data; 2), questionnaire on attitudes towards psychiatric medication (Mojtabai 2009), modification of the same questionnaire with questions on attitudes towards

Table 1. Attitudes on psychiatry (ATP-30) before the psychiatric placement. Results are given as percentages

	Strongly disagree	Disagree	Neutral	Strongly agree
Psychiatry is so amorphous that it cannot really be taught effectively	23.1	35.7	39.5	1.7
Psychiatric patients are often more interesting to work with than other patients	5.0	16.4	51.7	26.9
The practice of psychiatry allows the development of really rewarding relationships with people	1.3	4.6	52.5	41.6
If we listen to them, psychiatric patients are just as human as other people	1.7	7.1	31.5	59.7
Most of the so-called facts in psychiatry are really just vague speculations	13.0	37.4	45.0	4.6
In recent years psychiatric treatment has become quite effective	1.7	4.2	49.2	45.0
Psychiatry is so unscientific that even psychiatrists can't agree as to what its basic applied sciences are	23.1	34.0	39.9	2.9
These days psychiatry is the most important part of the curriculum in medical schools	16.0	26.1	49.6	8.4
If I were asked what I considered to be the three most exciting medical specialties, psychiatry would be excluded	26.5	29.8	31.9	11.8
If I were asked what I considered to be the three most exciting medical specialties, psychiatry would be excluded	14.7	23.5	28.6	33.2
Psychiatric hospitals have a specific contribution to make to the treatment of the mentally ill	1.3	5.0	40.3	53.4
There is little that psychiatrists can do for their patients	23.9	45	24.8	6.3
It is interesting to try to unravel the cause of a psychiatric illness	0.4	2.9	17.2	79.4
Psychiatrists get less satisfaction from their work than other specialists	16.8	30.3	45.8	6.7
Psychiatric treatment causes patients to worry too much about their patients	3.8	18.5	65.1	12.6
Psychiatrists tend to be at least as stable as the average doctor	1.7	3.8	46.2	48.3
With the forms of the therapy now at hand most psychiatric patients improve	0.8	5.5	51.7	42.0
Psychiatry has very little scientific information to go on	13.4	28.6	49.6	8.4
Psychiatric illness deserves at least as much attention as physical illness	0.4	2.5	10.5	86.6
Psychiatry is a respected branch of medicine	1.3	13.9	41.2	43.7
The majority of students report that their psychiatric undergraduate training has been valuable	1.7	10.5	63.0	24.8
Psychiatric teaching increases our understanding of medical and surgical patients	3.4	7.6	35.7	52.9
The practice of psychotherapy basically fraudulent	47.1	39.9	10.1	2.9
Psychiatrists seem to talk about nothing but seks	45.8	42	10.1	2.1
On the whole, people taking up psychiatric training are running away from participation in real medicine	31.1	47.1	18.1	3.8
It is quite easy for me to accept the efficacy of psychotherapy	2.5	10.5	38.7	48.3
I would like to be a psychiatrist	21.8	27.3	39.9	10.9
Psychiatric hospitals are little more than prisons	26.1	45.8	24.8	3.4
Psychiatrists talk a lot but do very little	17.2	50.8	25.2	6.7
Psychiatry is unappealing because it makes so little use of medical training	19.7	38.7	31.5	9.2

Table 2. Students' attitudes towards seeking of psychological help (ATSPPH) before the psychiatric placement. Results are shown as percentages

	Strongly disagree	Disagree	Neutral	Agree
It is difficult to talk about personal affairs with highly educated people such as doctors, teachers, and clergymen	34.5	30.7	30.3	4.2
If I thought I needed psychiatric help, I would get it no matter who knew about it	13.9	25.6	38.2	22.3
Had I received treatment in a mental hospital, I would not feel that it had to be "covered up"	13.0	39.9	29.4	17.6
A person should work out his own problems; getting psychological counseling would be a last resort	19.7	42.0	28.6	9.7
At some future time I might want to have psychological counseling	13.9	41.2	34.0	10.9
There is something admirable in the attitude of a person willing to cope with his conflicts and fears without resorting to professional help	8.4	24.4	46.6	20.6
If I were experiencing a serious emotional crisis at any point in my life, I would be confident that I could find relief in psychotherapy	4.2	14.3	47.5	34.0
It is probably best not to know everything about oneself	37.8	21	30.7	10.5
There are experiences in my life I would not discuss with anyone	24.4	26.5	33.2	16.0
Having been mentally ill carries with it a burden of shame	20.6	25.6	40.8	13.0
The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts	42.9	34.5	18.9	3.8
I would want to get psychiatric attention if I was worried or upset for a long period of time	8.0	19.7	52.9	19.3
I resent a person- professionally trained or not- who wants to know about my personal difficulties	39.9	29.4	21.4	9.2
A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help	10.5	30.7	46.6	12.2
I would rather be advised by a close friend than by a psychologist, even for an emotional problem	13.9	30.7	40.3	15.1
Having been a psychiatric patient is a blot on a person's life	35.7	29.0	28.2	7.1
Keeping one's mind on a job is a good solution for avoiding personal worries and concerns	15.1	16.4	45.0	23.5
If I believed I was having a mental breakdown, my first inclination would be to get professional attention	4.6	14.7	43.3	37.4
A person with a serious emotional disturbance would probably feel most secure in a good mental hospital	10.9	27.7	43.3	18.1
There are certain problems that should not be discussed outside one's immediate family	34.5	26.5	29.0	9.7
Emotional difficulties, like many things, tend to work out by themselves	32.8	30.7	31.9	4.6
I would rather live with certain mental conflicts than go through the ordeal of getting psychiatric treatment	55.0	27.7	11.8	5.5
I would willingly confide intimate matters to an appropriate person if I thought it might help me or a member of my family	2.5	8.0	42.0	47.5
Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me	27.3	33.2	26.9	12.6
There are a few times when I have felt completely lost and would have welcomed professional advice for a personal or emotional problem	32.8	21.8	31.1	14.3
A person with strong character can get over mental conflicts by himself, and would have little need of a psychiatrist	13.0	35.3	37.8	13.9
I would feel uneasy going to a psychiatrist because of what some people might think	20.2	14.7	47.5	7.6
If a good friend asked my advice about a mental health problem, I might recommend that he see a psychiatrist	1.7	6.3	39.5	52.5
Although there are clinics for people with mental troubles, I would not have much faith in them	39.9	34.9	23.1	2.1
It is difficult to talk about personal affairs with highly educated people such as doctors, teachers, and clergymen	34.5	30.7	30.3	4.2

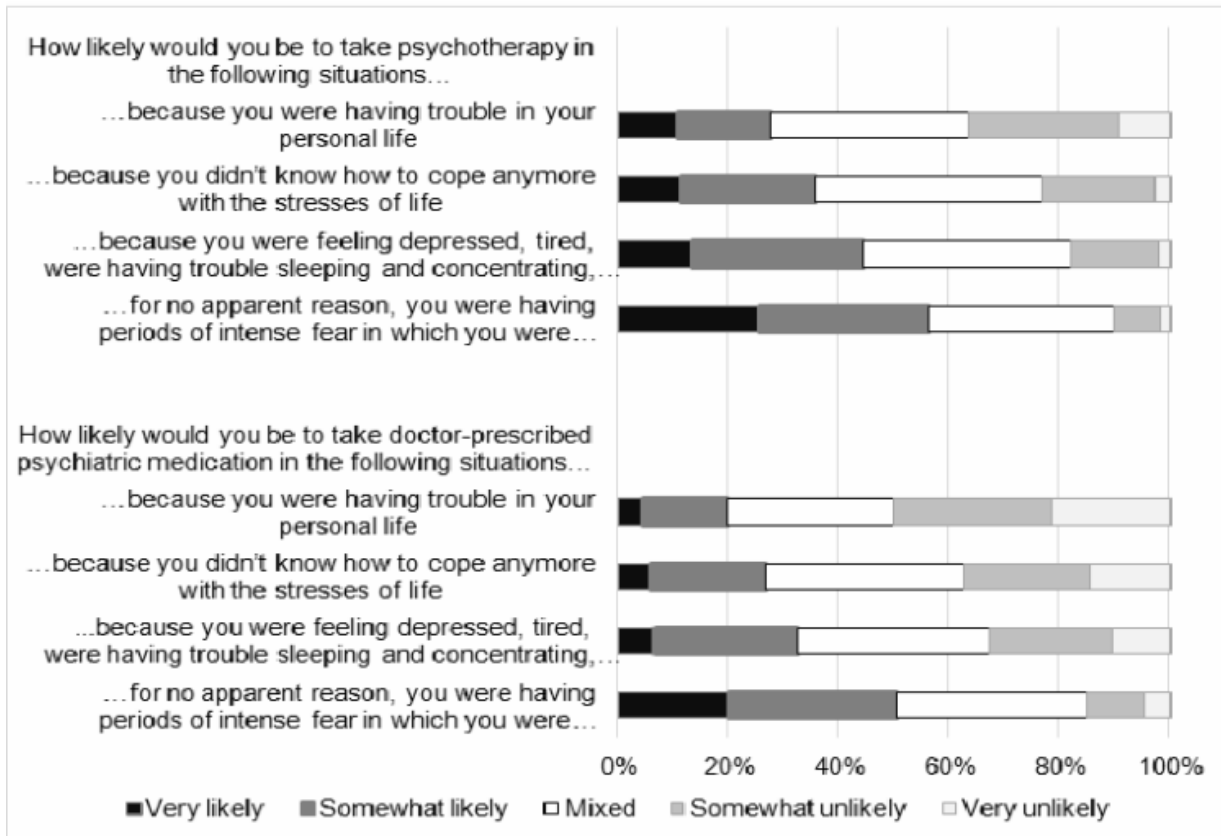


Figure 1. Students' attitudes towards psychiatric medication before the placement. Results are shown as percentages

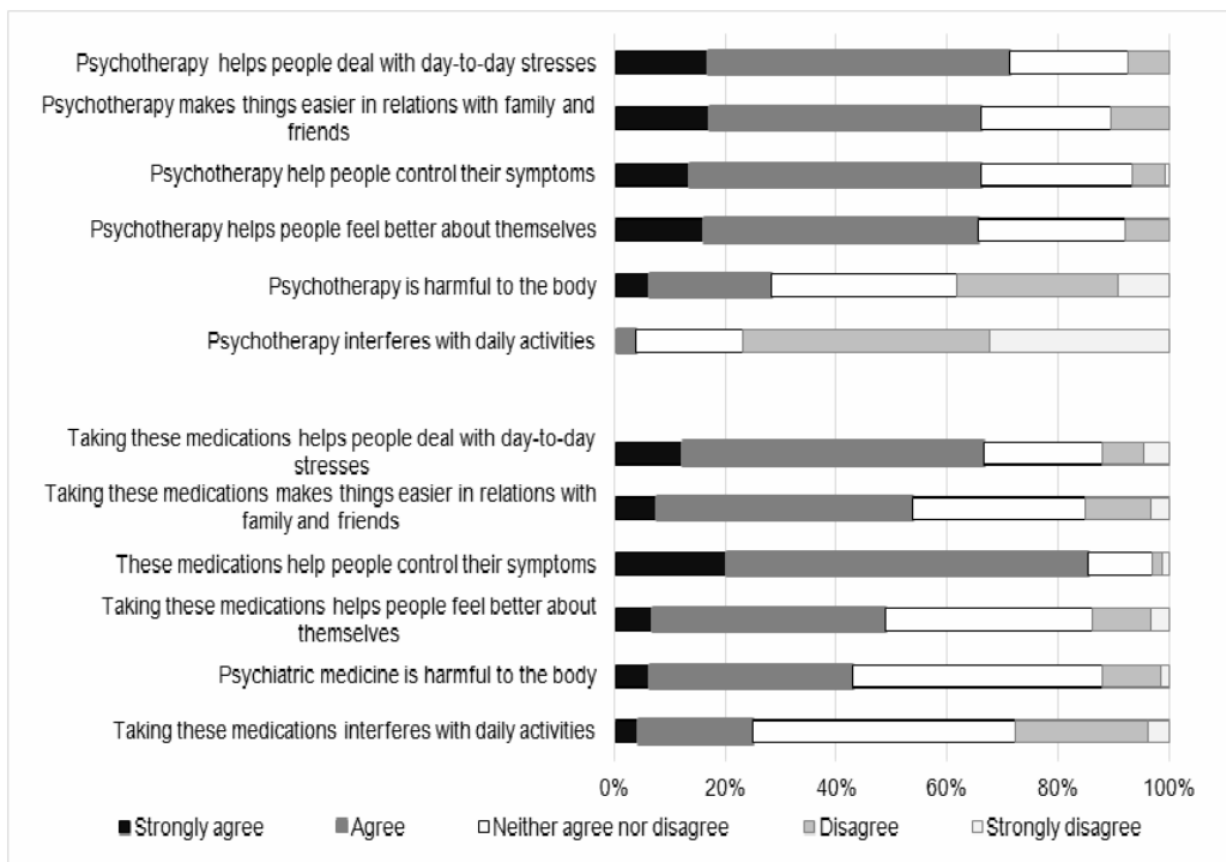


Figure 2. Students' attitudes towards psychotherapy before the placement. Results are shown as percentages

psychotherapy, questionnaire on attitudes towards psychiatry (Burra et al. 1982) and questionnaire on attitudes towards seeking of psychological help (Fischer & Turner 1970). The second questionnaire contained the same questionnaires, in addition to an evaluation of compulsory psychiatric education.

Questionnaire on attitudes towards psychiatric medication and psychotherapy (Mojtabai 2009) comprised three sections (benefits of treatment, risks of treatment and willingness towards taking the treatment) offering Lykert type scale responses (ranging from 1- strongly disagree, 2- disagree, 3- neutral, 4- agree, 5- strongly agree). Attitudes towards psychiatry (Burra et al. 1982) comprise 30 statements, and questionnaire on attitudes towards seeking of psychological help (Fischer & Turner 1970) contains 29 statements, with Lykert type scale responses (ranging from 1- strongly disagree, 2- disagree, 3- neutral, 4- strongly agree). A higher result reflects a more positive attitude.

All questionnaires were delivered to participants in person, by the investigators.

The study was approved by the respective ethical committees of both Zagreb school of medicine and Faculty of medicine Osijek. All participants have given a written informed consent to participate in the study.

Statistical analysis

Descriptive statistics were used for the analysis of sociodemographic data. Normality of distribution was tested using Kolmogorov-Smirnov test. Where significant deviations from normality were noted, median and interquartile range were used as measures of central tendencies for all continuous variables. Comparisons between groups for continuous variables were made using Mann-Whitney U test and Kruskal-Wallis test. Attitudes of participants before and after the placement were tested using the Wilcoxon test of equivalent pairs for dependent samples. Correlations between continuous variables were tested using the Spearman correlation test. Analysis of groups for categorical variables was performed using the χ^2 test. P value was set to $p < 0.05$, all tests were two tailed. All analyses were performed using the software analysis program package SPSS 17.0 (SPSS Inc., Chicago, IL, USA).

RESULTS

Sample description

In total, 239 out of 305 students completed the study, making a response rate of 78.4%. The investigators were not able to contact 53 students in person and they were not included in the study, and 15 students refused to participate in the study.

The majority of the sample (N=158, 66.7%) were females, with median age (interquartile range) of the students of 22 (22-23) years.

Students' attitudes before and after the placement in psychiatry

Students' attitudes on psychiatry and students' attitudes towards seeking of psychological help before the psychiatric placement are shown in Table 1 and Table 2. Attitudes towards psychiatry and attitudes towards seeking of psychological help were statistically significantly more positive after the compulsory placement in psychiatry compared to the same attitudes before the placement (with median (IQR) of 90 (82-99) vs. 94 (87-100), $p < 0.001$ and 51 (44-59) vs. 54 (47-61), $p < 0.001$, respectively). Moreover, the attitudes towards psychiatry (Spearman $r_s = 0.4$, $p < 0.001$) and seeking psychological help (Spearman $r_s = 0.19$, $p = 0.004$) correlated significantly with the assumed possibility to choose psychiatry as a future choice, whereas it did not correlate with other career choices (family doctor, public health, basic science, surgery (data not shown).

Attitudes towards psychiatry significantly correlated with the evaluation scores on the received psychiatric education during the psychiatric clerkship (Quality of lectures $r_s = 0.18$, $p = 0.007$; Quality of seminars $r_s = 0.16$, $p = 0.012$; Quality of practical exercises – work with patients $r_s = 0.27$, $p < 0.001$).

Students' attitudes towards psychiatric medication and psychotherapy before the placement are shown in Figure 1 and Figure 2. Similarly, students' attitudes towards psychiatric medication and psychotherapy were statistically significantly more positive after the clerkship, in terms of Benefits (median (IQR) of 15 (13-16) vs. 16 (14-16), $p < 0.001$), Risks (6 (6-7) vs. 6 (5-7), $p = 0.02$) and Willingness to pharmacotherapy (12 (10-14) vs. 13 (12-15) $p < 0.001$) and Benefits 16 (13-16 vs. 16 (16-17) $p < 0.001$), Risks (4 (3-5) vs. 3 (2-5), $p = 0.02$) and Willingness to psychotherapy (12 (11-16) vs. 14 (12-16), $p < 0.001$).

Evaluation scores on the received psychiatric education also significantly correlated with the perceived benefits of psychotherapy (Quality of lectures $r_s = 0.18$, $p = 0.007$; Quality of seminars $r_s = 0.16$, $p = 0.012$; Quality of practical exercises $r_s = 0.22$, $p < 0.001$) and psychiatric medication (Quality of practical exercises - with patients $r_s = 0.17$, $p = 0.007$). On the other hand, attitudes towards psychiatry and seeking psychological help were not associated with the self-evaluation scores of psychiatric knowledge (data not shown).

DISCUSSION

According to our results, we conclude as follows: 1. Students reported less negative attitudes towards psychiatry, psychiatric medication, psychotherapy and towards seeking psychological help after the compulsory placement in psychiatry then compared to their attitudes before the placement; 2. Attitudes towards psychiatry, psychiatric medication, psychotherapy and seeking

psychological help correlated with the perceived quality of the education received during the compulsory psychiatric placement.

Before the placement in psychiatry, the majority of the students reported a generally positive or neutral attitude towards psychiatry. Similar findings were reported in previous studies in Croatia (Kuzman et al. 2014), and elsewhere (Gazdag et al. 2009). However, students reported rather a negative attitude towards seeking psychological help: only 37% of students would seek for professional help first if they would face a psychological break down, and only 23% of students would seek psychological help if they were anxious or worried for a longer period of time. In line with other surveys, however, older participants and females would be more prone to seek psychological help (Seyfi et al. 2013).

After the psychiatric placement, medical students reported significantly more positive attitudes towards psychiatry and psychiatric treatment (medication and psychotherapy). These results are in line with the majority of studies (Bulbena et al. 2005, Kuhnigk et al. 2007, Lyons et al. 2014), but not all of them (Gazdag et al. 2009). Moreover, students reported more willingness to take psychiatric medication, and to engage in psychotherapy. One probable explanation lies in the correlation of attitudes towards psychiatry, and psychiatric treatment with the perceived quality of education as well as with the self evaluation of knowledge acquired during the psychiatry placement. This is in line with findings of other studies in the field of psychiatry (Bulbena et al. 2005) and medicine (McParland et al. 2004). The observed correlation seems to grow stronger when the teaching involves working with patients (practical exercises) and active students' participation (McParland et al. 2004, Vujaklija et al. 2010, Kuzman et al. 2013).

A positive attitude towards psychiatry correlated with the choice of psychiatry as a career, in line with some previous findings (Kuzman et al. 2013, Maidment et al. 2004), but not consistent with others (McParland et al. 2003, Halder et al. 2013, Farooq et al. 2014). Indeed, a future career choice is probably influenced by many premedical factors. However many factors associated with medical education also influence the future career choice. This is also reflected in the finding that those who were more willing to take psychiatric medication are also the ones who are more prone to choose psychiatry and their career choice. However, the real influence of the change of attitudes on the motivations for profession choice is probably not captured in a cross sectional "snapshot" and changes throughout and after medical school. Even more, the motivation for choosing psychiatry at the sixth year of the medical school does not necessarily predict that these motivated students will ultimately become psychiatrists (Brockington & Mumford 2002). Encouragingly, however, a study among psychiatric residents in Croatia, found stability

of career choice starting from the period of medical school (Kuzman et al. 2009).

There are a number of limitations of this study. The first limitation is a relatively small sample, which could have resulted in less statistical power attributed to a number of variables. However, since we included 78.4% students of the fourth year medical students of the largest medical school in Croatia (the Zagreb school of medicine) and of the Faculty of medicine Osijek, this sample is representative for at least two Croatian regions. Secondly, it is possible that the influence of education on the attitudes towards psychiatry is transitory, and that the effect of education on the students' attitudes will be lost by the time they graduate from medical school. However, studies show a certain stability of the influence of education on attitudes toward medical courses over time (Hren et al. 2004). This applies especially to those education courses associated with higher student satisfaction. These courses include active forms of learning, such as problem-based solving, clinical work with patients and teachers regarded as good role models (McParland et al., 2004; Vujaklija et al. 2010).

Longitudinal studies are needed to assess the long term effects of education to students' attitudes.

CONCLUSION

Overall, we found that medical teaching during a compulsory placement in psychiatry positively influences students' attitudes towards psychiatry, psychiatric treatment and also towards seeking professional. The positive shift is correlated with the evaluation grades of the compulsory placement in psychiatry, and even with the higher ratings of self assessment of acquired knowledge. Additional forms of education in psychiatry should be offered, in order to maintain and increase the impact of education on students' attitudes.

Contribution of individual authors:

Ana Medic Flajsman performed the study, analyzed the data and contributed to the first draft of the study;

Dunja Degmecic designed and performed the study, gave critical comments and revised the drafts of the study;

Tamara PranjkoVIC performed the study, contributed to the first draft of the study and gave critical comments to the drafts of the study;

Stanislav Rogulja performed the study, contributed to the first draft of the study and gave critical comments to the drafts of the study;

Dina Bošnjak performed the study, contributed to the first draft of the study and gave critical comments to the drafts of the study;

Martina Rojnic Kuzman designed and performed the study, analyzed the data and wrote the first draft of the study. All authors approved the final version of the manuscript.

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