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RESEARCH ARTICLE

Medical faculty students' beliefs toward mental illness and the impact of visiting a community mental health center on these beliefs

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ABSTRACT

Objective: Doctors' beliefs about mental illness and approaches to them are important in the prevention as well as for an accurate diagnosis of mental disorders and the provision of treatment. For this reason, identifying the thoughts and behavioral inclinations of medical students needs to be taken seriously. The purpose of the current study is to determine beliefs of Medical Faculty students about mental illness. The study also aims to identify the relationship between the effects of visiting Community Mental Health Centers and the stigmatization of mental illnesses by medical faculty students.

Method: The study was conducted with 153 students from Kocaeli University Medical Faculty during the academic year 2017-2018, including groups from grade 1 (n=25), grade 2 (n=16), grade 3 (n=21), grade 4 (n=14), and the first three intern groups from grade 5 (n=77). A Sociodemographic Form was administered and the Beliefs Toward Mental Illness (BMI) scale was completed by the participants.

Results: In the study, the participants were divided into three groups: Group 1 (grades 1 and 2), Group 2 (grades 3 and 4), and Group 3 (grade 5). There was no statistically significant difference between the three participant groups for any of the subscales of the BMI. After the visit to the Community Mental Health Center, a statistically significant decrease in the scores for the "dangerousness" subscale of the BMI was found in Group 3. In addition, there was a negative correlation between income status and "dangerousness" subscale.

Conclusion: The study demonstrated that it can be beneficial for prospective medical graduates to come into contact with patients who after attending rehabilitation centers are showing partial improvement in their health. Moreover, this activity can assist in changing the negative perception and behaviors of medical students toward persons with a mental illness. Our research suggests that this activity could be included in the Medical School curriculum.

Keywords: Medical students, mental illness, stigmatization

INTRODUCTION

Stigmatization leads to denigrating people by separating them from the others, considering them inferior to others, and generally disparaging them (1). At the base of stigmatization, there are negative beliefs that give rise to prejudices. Stigmatization leads to interpersonal discrimination and the rejection of certain individuals.

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Discrimination is the restriction of a person or a group's rights and benefits in society due to marginalization and prejudice. Thus stigmatization can be as dangerous as the disease itself (2).

Negative approaches can cause "secondary illness." Social stigmatization exposes the patient to significant stress. Over time, negative evaluation by society and humiliating discrimination reduce the patient's self-esteem and may negatively affect the treatment process. Due to the effects of social psychology, patients may delay seeking help or reject treatment (3,4).

As in the past, to this day the patient group most affected by negative social attitudes is patients with schizophrenia. A significant fraction of studies defines patients with schizophrenia as "dangerous" and "unpredictable." It is seen that sufferers of schizophrenia are stigmatized and marginalized by society, and the general populations avoids establishing close relationships with these patients (5). Studies with physicians show that a large section of doctors believes the patients to be aggressive, thus sharing the popular stigmatization of patients with schizophrenia (6).

As healthcare professionals behave with particular rejection towards patients with a diagnosis of schizophrenia, especially the thought that "patients may be aggressive" effects social distance, and the belief in patients being dangerous may cause stigmatization (7). Healthcare professionals' marginalizing and stigmatizing approaches to persons with mental illness may cause the latter to avoid psychiatric treatment for fear of stigmatization (8).

A large number of studies dealing with the attitudes and beliefs of medical students regarding mental illnesses have examined in how far medical education and psychiatric internships change students' attitude and knowledge and what can be done in this area (9-12). While some studies suggest that instruction in psychiatry as part of the curriculum has a positive effect on students' attitudes (12-14), other studies found no significant difference (15-18), while still others found a negative effect (19). Those studies that found students' attitudes improved after training did not investigate the permanence of these attitudes. One study about 4th-year medical students' attitudes towards persons with mental illness showed that their positive attitudes were temporary. This phenomenon has been explained with the dominance of a biological approach in medical education, where students after psychiatry training return to an environment dominated by this biological approach, and in addition, with the continuation of general attitudes and thoughts that are prevalent in society as a whole, in contrast with the positive effects of their internship (20).

Whereas one study showed that social acceptance of persons with mental illnesses increased after a psychiatry internship (21), a different study suggested that the psychiatry internship did not change social acceptance, while personal experience with mental illness did (22). Another study showed that social acceptance increased after psychiatry internship at a level that was not statistically significant, while interest in psychiatry and having a friend with a mental illness were factors affecting social acceptance (23). A meta-analysis demonstrates that face-to-face contact with people with mental illness may be an effective way to reduce stigmatization, especially regarding social distance (24).

When physicians treat people with mental illness, it is necessary to show a positive attitude, observe the principle of avoiding discrimination, and if required know to refer them to appropriate units. In this respect, considering that medical students are future doctors, their beliefs and attitudes regarding mental illnesses are very important (11).

It is known that theoretical education about mental illnesses and encountering people with mental illness in conventional mental health services may not have a positive effect on students' attitudes towards these patients (25). It has been emphasized that students can realize positive developments at the end of treatment by spending a sufficient period of time in direct contact with psychiatric in- or outpatients during their clinical training (11). When reviewing the literature, we could not find any studies with medical students visiting a Community Mental Health Center (CMHC). Our study aims to learn about medical students' beliefs about mental illnesses and to evaluate the effect that visiting a CMHC has on these beliefs.

METHOD

The study sample consisted of volunteers studying at the Medical Faculty of Kocaeli University in the academic year 2017-2018 in their 1st (n=25), 2nd (n=16), 3rd (n=21), and 4th (n=14) year selected by systematic sampling and volunteers from the first 3 groups of year-5 students doing their psychiatry internship (n=77). Before beginning the study, approval from the chair of the ethics committee of Kocaeli University Medical Faculty was obtained. The students participating in the study were informed and gave their informed consent.

Measures

The data for this study were collected using a Sociodemographic Form and the Beliefs Toward Mental Illness Scale.

Sociodemographic Form: The form contained a total of 10 introductory questions about the participant's sociodemographic characteristics and views about mental illness. These questions asked their age, sex, year of study, monthly family income, if they believed having a mental illness themselves, if there was a family history of mental illness and hospitalization, and in case of mental illness in the family, were they living in the same house with the affected person, to what degree were they of interested in mental illnesses, and had they read a book about psychiatry.

Beliefs Toward Mental Illness Scale: The Beliefs Toward Mental Illness (BMI) scale was developed by Hirai and Clum (26). For Turkey, Bilge and Cam (27) conducted a validity and reliability study for this instrument consisting of 21 items. The items are scored on a six-point Likert-type scale with the responses "completely disagree": 0, "mostly disagree": 1, "partly disagree": 2, "partly agree": 3, "mostly agree": 4, "completely agree": 5.

The instrument consists of 3 subscales. The dangerousness subscale suggests that persons with a mental illness are dangerous and more likely to cause harm or commit crimes. The helplessness and poor interpersonal skills subscale considers the effect of mental illness on interpersonal relations and in this context refers to issues of helplessness and problems in the treatment of mental illness. It describes how an individual, particularly due to the emotional impact, inhibits him- or herself during an interpersonal relation with a person suffering from mental illness experiencing helplessness. The shame subscale expresses the experience of feeling shame regarding persons with a mental illness, being uncomfortable if a relative suffers from mental illness.

Data Collection

Data were collected between September 2017 and January 2018. Participants were selected by systematic sampling among the students of Kocaeli University Medical Faculty from years 1, 2, 3, and 4. Those who agreed to participate were administered the sociodemographic form and the scale. Among the 5th-year students, the first 3 groups beginning the psychiatry internship were chosen for the sample; after at least 1 week on the psychiatry service, having seen patients in the acute stage, they were taken to the Community Mental Health Center in Derince. Of each of the 3 sample groups, the first half of the students on the attendance sheet went to the CMHC in the 2nd week of their psychiatry internship, the second half on the list in the 3rd week between 9 and 12 o'clock. The CMHC was explained to them, they were shown around, and information about the general functioning of the institution and activities undertaken with the patients was provided. After a question-and-answer period, students made contact with schizophrenic patients and created a one-to-one relationship. They participated in the welcome session with the patients and in a music event where the patients also contributed actively. Sociodemographic Form and BMI were administered on the first day of the psychiatry internship and after the visit to the CMHC.

Statistical Analysis

Data were statistically analyzed using SPSS 20. Variables were tested for normal distribution using Kolmogorov-Smirnov and Shapiro-Wilks tests. Numerical data not conforming to normal distribution were analyzed using Mann-Whitney U test, Kruskal-Wallis test, and Wilcoxon t-test; for the statistical evaluation of normally distributed numerical data, t test, ANOVA, and Paired Sample t-test were used. Multiple linear regression analysis was used to assess the impact of the participants' sociodemographic characteristics on the score for the BMI subscale dangerousness.

RESULTS

A total of 153 students from Kocaeli University Medical Faculty in years 1, 2, 3, 4, and 5 participated in the study. Of these students, 26.8% (n=41) were in group 1 (years 1 and 2), 22.9% (n=35) in group 2 (years 3 and 4), and 50.3% (n=77) in group 3 (year 5). Participants' mean age was 21.4 years, with an age range of 18-26 years. Of the participants, 55.6% (n=85) were female, 44.4% (n=66) male. The monthly income was self-reported as being low by 27.5% (n=42) and high by 72.5% (n=111) of the participating students. Twenty-one point six percent of the participants thought they had mental problems, 41.2% (n=63) reported that they had a relative with a mental illness, and 11.1% (n=17) stated that they lived with the relative with a mental illness in the same house. The proportion of participants with relatives in inpatient treatment for mental illness was 12.4% (n=19). Of the participating students, 40.5% (n=62) expressed no interest in psychiatric topics, while 59.5% (n=91) said they were interested, and 58.2%

(n=89) had at least once read a book related to psychiatry. The sociodemographic characteristics are presented in Table 1.

No significant difference was found between group 1, group 2, and group 3 regarding beliefs about mental illness (Table 2).

Our study found no significant correlations between participants' sex, income level, perception of having a mental illness, living in the same house with a relative with a mental illness, having a relative receiving psychiatric inpatient treatment, having read a book on psychiatry, level of interest in mental illness, and beliefs about mental illness. Though the correlation with the presence of a relative with a mental illness did not reach the level of statistical significance, a relevant positive correlation was found (p=0.07) (Table 3). A comparison of BMI scores according to participants' sociodemographic characteristics is presented in Table 3.

A statistically significant reduction in the score for the BMI subscale dangerousness after the CMHC visit was found in group 3 (Table 4). Multiple linear regression analysis showed a negative correlation between the scores for the BMI subscale dangerousness and the participants' self-reported income levels. For other sociodemographic characteristics, no statistically significant correlation with the BMI dangerousness subscale score was found. A comparison of the BMI scores for group 3 before and after the CMHC visit is shown in Table 4.

DISCUSSION

Doctors' beliefs about mental illnesses are relevant to prevention, diagnosis, and treatment of these diseases. This study aimed to determine medical students' thoughts and attitudes regarding this issue. Between group 1 (years 1 and 2), group 2 (years 3 and 4), and

Table 1: Participants' sociodemographic characteristics (n=153)

	Mean	SD
Age (18-26 years)	21.35	1.88
	n	**%**
Sex (female)	85	55.6
Group		
Group 1	41	26.8
Group 2	35	22.9
Group 3	77	50.3
Monthly income*		
High	42	27.5
Low	111	72.5
Declare having a mental problem	33	21.6
Declare having relative with mental illness	63	41.2
Declare sharing house with relative having mental illness	17	11.1
Declare having relative in psychiatric inpatient treatment	19	12.4
Declare being interested in mental problems	91	59.5
Declare having read a book on psychiatry	89	58.2

*Self-report, SD: Standard deviation

Table 2: Comparison of BMI scores between group 1, group 2, and group 3 (n=153)

	Group 1		Group 2		Group 3				
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**F**	**df**	**p**
Total score	44.07	14.49	39.74	14.24	43.64	13.45	1.158	2	0.317
Dangerousness	20.87	4.84	19.11	6.17	19.40	5.75	1.191	2	0.307
Incurability and poor interpersonal skills	22.19	9.46	20.25	8.71	23.37	8.52	1.512	2	0.224
Shame	1.00	2.04	0.37	0.80	0.87	1.50	1.743	2	0.178

BMI: Beliefs Toward Mental Illness Scale, SD: Standard deviation

Table 3: Comparison of BMI scores according to participants' sociodemographic characteristics (n=153)

	BMI Dangerousness		BMI Incurability and poor interpersonal skills		BMI Shame		BMI Total score	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Sex								
Female	19.23	5.61	22.55	8.43	0.68	1.32	41.47	13.73
Male	20.35	5.64	23.33	9.32	0.92	1.81	44.61	14.07
p	0.224		0.225		0.339		0.166	
Income level								
Good	19.19	5.86	21.71	8.26	0.90	1.87	41.80	14.33
Poor	19.93	5.56	22.58	9.09	0.74	1.43	43.27	13.82
p	0.467		0.589		0.581		0.564	
Mental illness								
Yes	19.39	6.48	22.66	10.87	0.84	1.32	42.90	16.57
No	19.82	5.41	22.25	8.26	0.77	1.62	42.85	13.19
p	0.699		0.815		0.812		0.985	
Relative with mental illness								
Yes	18.74	5.71	22.15	9.41	0.77	1.52	41.68	14.31
No	20.42	5.51	22.47	8.49	0.80	1.59	43.70	13.67
p	0.070		0.827		0.931		0.380	
Relative with mental illness living in same house								
Yes	17.82	7.46	21.88	11.10	0.52	1.06	40.23	17.91
No	19.97	5.35	22.40	8.58	0.82	1.61	43.19	13.39
p	0.410		0.139		0.820		0.466	
Relative in psychiatric inpatient treatment								
Yes	19.21	6.19	23.78	9.25	0.31	0.94	43.31	13.61
No	19.80	5.57	22.14	8.81	0.85	1.62	42.80	14.02
p	0.668		0.450		0.158		0.882	
Having read a book on psychiatry								
Yes	19.42	5.88	21.67	8.96	0.87	1.74	41.97	14.50
No	20.15	5.29	23.28	8.67	0.67	1.27	44.10	13.10
p	0.432		0.270		0.426		0.352	
Level of interest in psychiatric disorders								
Interested	19.15	5.64	21.68	8.08	0.71	1.54	41.54	13.15
Not interested	20.58	5.56	23.32	9.85	0.90	1.59	44.80	14.90
p	0.243		0.420		0.344		0.235	

BMI: Beliefs Toward Mental Illness Scale, SD: Standard deviation

group 3 (year 5), our study found no statistically significant differences for the participants' beliefs about mental illness. If there are no detectable differences between the 3 groups in their beliefs about mental illness, this may suggest that the medical curriculum does not affect students' beliefs about mental illness.

There are studies similar to ours in the literature. A study carried out in years 1 and 6 of a medical faculty found that the medical education process may not result in a significant positive change in attitudes towards persons with mental problems (11). Another study demonstrated that during their psychiatry

Table 4: Comparison of BMI scores for group 3 before and after visit to CMHC (n=77)

	Before CMHC Group 3		After CMHC Group 3		F	p
BMI Total score	43.64	13.45	39.63	16.33	2.920	0.920
BMI Dangerousness	19.40	5.75	15.84	5.75	1.191	<0.001
BMI Incurability and poor interpersonal skills	23.37	8.52	22.19	9.82	0.653	0.422
BMI Shame	0.87	1.50	1.59	5.09	1.626	0.206

BMI: Beliefs Toward Mental Illness Scale, CMHC: Community mental health center

internship, students' knowledge increased, but their attitude and behaviors did not change much (10). The results of these studies are consistent with our findings. The failure of psychiatry training to create a relevant change might be explained with the theoretical and conventional nature of education (28).

There are also studies showing a significant positive change in belief and attitudes regarding mental illness after medical education. One study compared the attitudes of year-1 and year-5 medical students towards schizophrenia, finding that year-5 students taking a psychiatry internship had more positive attitudes to persons with a diagnosis of schizophrenia than first-year students (12). Another study performed with first-year students and year-5 students who had completed a psychiatry internship found that the psychiatry internship had a positive effect on the attitudes towards schizophrenia; students' answers to questions about the comprehension and correct definition of schizophrenia, its causes, living inside society, treatment and help-seeking behaviors showed a significant change (9). It has been stated that medical students' attitudes towards mental health and mental illness resemble that of the society they are living in, whose negative attitudes they may share, while the effect of the relevant medical education may change according to the society where the students live, according to their sociodemographic characteristics, and according to the medical education received (11). In addition, causes such as the study methods, the instruments used, or sample sizes can be considered factors affecting the results (18,29,30). Thus, the fact that our results are not consistent with the findings of these studies might be explained with differences in methods and instruments used or with possible differences in the characteristics of the societies where the students lived.

Our study found no significant difference in the BMI scores according to sex. In the literature, there are studies with different results regarding sociodemographic characteristics. While some studies show that female students have more positive attitudes (10,11), there is also a study demonstrating that female students are finding patients more dangerous than their male classmates do (31). These differences between studies may be explained with methodological differences and with a different cultural background of the societies where the students live.

Some previous studies demonstrate that the presence of relative with a mental illness is a factor reducing stigmatization. A study researching stigmatization of schizophrenia in a young group found that the presence of a relative with schizophrenia led to the development of a positive sensitivity for the issue of schizophrenia (32). A study with medical students in years 2 and 5 found that the kinship-relationship link was a factor affecting the persons with mental illness (10). These studies support our findings of a positive correlation between beliefs about mental illness and the presence of having a relative with mental illness. The fact that persons had a relative with a mental illness are less rejecting towards the patients and regard them as less dangerous than persons with hadn't a relative with a mental illness do might be related to the ability to change the label of dangerousness in their mind when it comes to familiar persons (33).

There is no unanimity about the methods how to measure attitudes towards persons with mental illness. Further difficulties in reaching a definitive conclusion of these debates are the impact of social, cultural, demographic and individual factors on attitudes as well as the influence of the instruments' characteristics and the data collection processes on the study results (8).

In the second section of our study, we found a statistically significant decrease in the BMI dangerousness subscale score in year-5 medical students, even though they had not received training at the CMHC regarding stigmatization, after getting into contact and establishing a one-to-one relationship with schizophrenic patients. A study with first-year medical students researching the effect of

education, contact, and watching movies on the stigmatization of mental illness found that, while in the control group the attitudes and social distance towards schizophrenia remained unchanged, the study group had a more positive attitude and lower social distance towards schizophrenia (34). A reduction of negative thoughts and attitudes due to patient contact was also observed in a younger group (14-18 years) (35). These results, showing a reduction of students' negative attitudes after patient contact, are in line with our study results.

Other studies have emphasized that one of the most important factors for the increase in social distance and rejection of the patient is the perception and labeling of the persons with mental illness as potentially dangerous (33). Previous studies including a wide range of population and culture found that contact reduced the belief in patients' dangerousness and also lowered social distance (36). In healthcare professionals, however, contact might not reduce social distance because they are more likely to see patients during acute episodes than during remission (37). Therefore, in order to change students' negative imagination of patients, it may be useful during skills training to arrange for contact not only with inpatients on the psychiatry service but also with patients continuing their treatment in policlinics.

We found that students' self-reported income level was a predictive variable for scores on the dangerousness subscale. Some studies in the literature show that belonging to a lower socioeconomic or cultural class correlates with more negative attitudes towards mental illnesses and patients, whereby individuals in a poor economic state perceive patients as more dangerous (38-40). This finding might also be explained with students sharing their families' beliefs regarding mental illness that are representative for society.

It has been found that for a positive development of students' beliefs about mental illnesses, the provision of knowledge aimed at helping to reduce stigmatization during the health education process should be spread out across the entire duration of medical education, while during the clinical phase, it is important for students to have direct contact with patients for a sufficient amount of time. The importance of improving conditions under which students and mental healthcare professionals are contacting inpatients has been stressed. It is also thought that establishing a relationship with persons with mental illness and individuals who have benefited from treatment, students observing positive developments at the end of treatment, small-group discussions of the myths and dynamics leading to stigmatization, working with patients' families, and the use of activities aimed at increasing an interest in psychiatry can have a relevant effect on the development of positive attitudes (20,28,41,42).

As some possible limitations of our study, we may mention that we did not make a comparison with a control group, we did not repeat the administration of the instruments in groups 1 and 2, and we did not assess separately beliefs about different mental illness. As we only enrolled students from a single medical faculty, the results cannot be generalized. Therefore, it can be said that there is a need for studies with a control group involving different medical schools.

Conventional medical education may not be sufficient to reduce negative beliefs about mental illness. Giving students the opportunity to contact with patients with partly restored functionality may help reducing negative thought and attitudes. We believe that including rehabilitation projects in the medical curriculum may resolve negative views by allowing students to observe the patients' process of recovery more closely.

Contribution Categories		Author Initials
Category 1	Concept/Design	G.Y., M.Y., B.C.
	Data acquisition	G.Y., M.Y., B.C.
	Data analysis/Interpretation	G.Y., M.Y., B.C.
Category 2	Drafting manuscript	G.Y., M.Y., B.C.
	Critical revision of manuscript	G.Y., M.Y., B.C.
Category 3	Final approval and accountability	G.Y., M.Y., B.C.
Other	Technical or material support	G.Y., M.Y., B.C.
	Supervision	N/A

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