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Regular Article

Effects of an antistigma program on medical students' attitudes towards people with schizophrenia

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Abstract People with schizophrenia are amongst the most stigmatized of those with mental illnesses. The purpose of this study was to examine whether an antistigma program which consists of education, contact, and viewing a film that depicts an individual with schizophrenia, can change attitudes towards people with schizophrenia. The antistigma program was carried out with first-year medical students ($n = 25$). Students' attitudes towards people with schizophrenia were assessed before and after the program. In parallel, a control group of first-year medical students were questioned ($n = 35$). Assessment was repeated after 1 month. Favorable attitudinal changes were observed in terms of 'belief about the etiology of schizophrenia', 'social distance to people with schizophrenia', and 'care and management of people with schizophrenia'. In contrast, no significant change was observed in the control group. Attitude changes tended to decrease at the 1-month follow up. These results suggest that attitudes towards schizophrenia could be changed favorably with this program. To sustain changed attitudes towards people with schizophrenia, antistigma programs should be offered on a regular basis.

Key words attitudes, education, program, schizophrenia, stigma.

INTRODUCTION

People with schizophrenia are amongst the most stigmatized of those with mental illnesses. Prejudice and discrimination related to schizophrenia lead to poor treatment compliance, increased social isolation, difficulties in finding housing, education and employment, and increased probability of alcohol and drug abuse. These consequences contribute to the disability produced by the disorder and establish a vicious circle of disadvantage increasing the burden on patients and their families.[1] Aside from loss of social status and credibility, social distance is the most stigmatizing factor for those affected.[2] Social distance is commonly considered as a paradigm of public attitudes toward persons with mental illness and defined as the relative willingness of one person to participate in relationships of varying degrees of intimacy with a person who has a stigmatized identity.[3] People with schizophrenia have the social handicaps often brought to relationships and encounters, including those that involve health-care professionals and medical students (e.g. unpredictability, poor communication, occasional violence).

There have been a number of studies on attitudes towards schizophrenia in Turkey. Taskin *et al*.[4] suggested that the Turkish population in rural areas has a tendency to stigmatize schizophrenic patients. It has been revealed that stigmatizing attitudes of society are also shared by medical professionals.[5,6]

Several studies have examined the impact of education on public attitudes about several mental illnesses based on the finding that persons who seem to be more knowledgeable about mental illness are less likely to endorse stigma and discrimination.[7,8] For example, graduate students who participated in brief courses on mental illness showed improved attitudes about persons with psychiatric disabilities.[9]

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A second way to change public attitudes about mental illness is to facilitate interactions between citizens and persons with psychiatric disabilities. Studies have shown an inverse relationship between having contact with a person with mental illness and endorsing psychiatric stigma.[10–12]

Cinema portrayals of mental illness and psychiatry may have positive contributions on community knowledge and attitudes towards people with mental illness. Rosen *et al*.[13] suggested that the potential positive effects of 'psychiatric' films are: raising public awareness of issues in mental illness and psychiatry, complexities and abuses of treatments and institutions, causing audiences to reflect on stereotypes of mental illness and to overcome prejudices, encouraging people to access appropriate services and to make discerning choices between therapies. There is, however, little empiric research on the psychological impact of 'psychiatric' films on people's prejudice about mental illness.[14]

The World Psychiatric Association (WPA) started the WPA Global Program against Stigma and Discrimination because of Schizophrenia.[15] Turkey has been a part of this program since 2001. The target audiences are medical students, high school teachers and students, psychiatrists and journalists.

The purpose of this study was to examine whether an antistigma program which consists of a 2-h education about schizophrenia, introducing a young person with schizophrenia, and viewing a film that depicts an individual with schizophrenia, can change attitudes towards people with schizophrenia. To the authors' knowledge, this is the first study assessing the effects of an antistigma program which bring together education, personal contact and visual materials. The authors hypothesized that even 1 day of antistigma training would result in greater knowledge about schizophrenia, lower negative attitudes towards people with schizophrenia, and greater intent to interact with persons with schizophrenia.

MATERIALS AND METHODS

In coordination with the WPA Global Program against Stigma and Discrimination because of Schizophrenia, an association called 'the friends of schizophrenia' organizes antistigma activities in Turkey. The authors decided to organize a pilot antistigma program in collaboration with 'the friends of schizophrenia' to change attitudes towards people with schizophrenia in Harran University (Sanliurfa, Turkey) medical students, and to examine the immediate and mid-term effects of this program in a controlled pretest training – post-test design.

Subjects and procedure

The study group consisted of the first-year students of Harran University Faculty of Medicine in Sanliurfa, the third largest city of South-eastern Turkey. Of 32 first-year university students, 25 agreed to participate and completed all measures (response rate 78%). In total, 18 were male and seven were female. The mean ± SD age for students was 19.5 ± 1.0 (minimum, 18; maximum, 23). As a part of the antistigma program, a 2-h lecture was conducted for the subjects in April 2004 and they had received no prior education on mental health and psychiatry in the school. In the lecture, explainations were given for the causes of stigma associated with schizophrenia, common myths about schizophrenia, and the relationship between schizophrenia and violence, aggressiveness, and independence. Subsequently, a young person with schizophrenia introduced himself and discussed his experiences with the students. Discussion involved information on the illness, available treatments and experiences of stigma resulting from schizophrenia. This person was a member of the project team, and informed consent was obtained from him before participating. Lastly, a film titled 'A Beautiful Mind' (2001, Universal Studios and DreamWorks) was shown to the students. This film tells the autobiographical story of John Forbes Nash Jr, a genius mathematician suffering from schizophrenia, who eventually won a Nobel Prize. The program lasted 1 day.

The control group consisted of the first-year students of Dicle University Faculty of Medicine in Diyarbakir, the second largest city of South-eastern Turkey. Of 45 first-year university students, 35 agreed to participate and completed all measures (response rate 77%). They had received no prior education on mental health and psychiatry in the school. Among them, 27 were male and eight were female. The mean ± SD age for students was 19.7 ± 1.0 (minimum, 18; maximum, 23). A 2-h lecture about water metabolism was conducted for the controls in May 2004. Subsequently, a film titled 'Winged Migration' (2001, Bacfilms), a documentary on the migratory patterns of birds, was shown to the controls. The program for controls lasted 1 day.

The faculties at Dicle and Harran have similar characteristics. They are both located in urban centers in South-eastern Turkey. Their intake of students is based on the same entrance examination. Students mostly come from low-middle class urban families and have similar cultural backgrounds.

Research instrument

In this study, a 32-item questionnaire designed for rating the attitudes towards schizophrenia by the Psychi-

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atric Research and Education Center was used. Recently, this public survey form was used in several studies in Turkey.[4,16,17] This form consists of 10 items screening demographic and health status and 32 items rating attitudes towards schizophrenia. The questionnaire consists of two major parts. First, the subjects are asked to reply to six questions related to a case vignette describing paranoid-type schizophrenia according to the 4th edition of the Diagnostic and Statistical Manual. The schizophrenia vignette was as follows: 'Mr Ahmet is 27, married, a civil servant. For 8 months, he has become suspicious about others and thought that the mafia is pursuing him due to his innovations. He reported he would even hear voices giving him orders. Sometimes, he speaks to the voices and gives reactions. He became suspicious about his coworkers more and more, and he could not go to work. Increasingly, he retreated from his friends and never goes out.' Then, they were asked to reply to the 24 questions in the second part, after it had been explained that the case vignette was a sample of schizophrenia. These 24 questions mainly focused on the subject's knowledge of schizophrenia in terms of definition, etiology and treatment, and on their attitudes in terms of social distance. The four questions in the first part and the 24 questions in the second part were Likert-type rated as 'I completely agree', 'I partially agree', 'I don't agree much', 'I don't agree at all', and 'I have no idea'. Interviews with the subjects were conducted by six psychiatrist and two senior medical students.

Using this questionnaire, the students' attitudes towards people with schizophrenia were assessed before and after the program. In order to measure the mid-term effect of the program, follow-up assessment was carried out 1 month after the program. The control group was questioned parallel to the students participating in the program. The control group, too, were questioned again after 1 month.

Statistical analysis

The descriptive analysis showed that the frequencies of the answers 'I partially agree', and 'I don't agree much' were low and, therefore, it was decided to put these two answers together with 'I completely agree' and 'I don't agree at all', respectively. Finally, two answers, 'I agree' and 'I don't agree', were analyzed. To examine the statistical significance, two-tailed McNemar tests were adopted. Differences were considered significant at $P < 0.05$.

RESULTS

Table 1 shows the results of the comparison of belief about the etiology of schizophrenia. Significantly more students in the intervention group replied favorably after the antistigma program than before to the item of 'everyone may experience schizophrenia at some time' ($P = 0.01$). As can be seen in Table 1, attitude improvement still could be observed in the same item at the 1-month follow up ($P = 0.004$). No significant change was found between before and after the program, and between before and 1 month after the program in the control group.

The comparison of the replies about social distance of medical students to people with schizophrenia before and after the antistigma program is shown in Table 2. Regarding the items such as 'to accept as coworkers', 'to accept as neighbors', and 'patients are aggressive', significantly more students in the preven-

Table 1. Changes in belief about the etiology of schizophrenia

Item	Response	Intervention ($n = 25$) t_0 (%)	t_1 (%)	t_2 (%)	*P*-value* t_0–t_1	t_0–t_2
Schizophrenia is a condition of extreme worry	Disagree	68	92	88	NS	NS
Schizophrenia is a condition of mental weakness	Disagree	8	24	20	NS	NS
Schizophrenia is due to social problems (unemployment, poverty, familial problems etc.)	Disagree	24	36	48	NS	NS
Patients with schizophrenia are mentally ill	Agree	68	76	76	NS	NS
Schizophrenia is a disease	Agree	96	100	100	NS	NS
Schizophrenia is a congenital disease	Disagree	80	84	68	NS	NS
Schizophrenia is an infectious disease	Disagree	100	100	100	NS	NS
Schizophrenia is not a disease but a condition which everyone may experience at some time	Disagree	60	88	96	0.01	0.004

*McNemar test (two-tailed).
NS, not significant; t_0, before the program; t_1, after the program; t_2, 1 month after the program.

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Table 2. Changes in social distance to people with schizophrenia

Item	Response	Intervention ($n = 25$) t_0 (%)	t_1 (%)	t_2 (%)	*P*-value* t_0–t_1	t_0–t_2
Patients with schizophrenia should not be free in the community	Disagree	72	88	76	NS	NS
I can work with a person with schizophrenia	Agree	48	96	68	<0.001	NS
I would get married to a person with schizophrenia	Agree	12	20	8	NS	NS
Having a neighbor with schizophrenia does not irritate me	Agree	48	88	64	0.006	NS
I would not rent my house to a person with schizophrenia	Disagree	56	60	68	NS	NS
Persons with schizophrenia are aggressive	Disagree	32	64	64	0.03	0.03
Persons with schizophrenia cannot make correct decisions about their own lives	Disagree	16	36	32	NS	NS

*McNemar test (two-tailed).
NS, not significant; t_0, before the program; t_1, after the program; t_2, 1 month after the program.

Table 3. Changes in attitude towards care and management of people with schizophrenia

Item	Response	Intervention ($n = 25$) t_0 (%)	t_1 (%)	t_2 (%)	*P*-value* t_0–t_1	t_0–t_2
Changing environment (e.g. taking holiday) may contribute to the recovery of schizophrenia	Disagree	24	20	52	NS	NS
Persons with schizophrenia cannot recover completely	Disagree	56	20	28	0.02	NS
Spiritual healers may contribute to the recovery of schizophrenia	Disagree	88	96	92	NS	NS
Schizophrenia cannot recover without solving social problems (unemployment, poverty etc.)	Disagree	40	40	60	NS	NS
Schizophrenia is a curable disease	Agree	96	92	88	NS	NS
Schizophrenia can be cured with drugs	Agree	48	96	88	0.003	0.006
Schizophrenia can be cured with psychotherapy	Agree	88	96	76	NS	NS
Drugs used in the treatment of schizophrenia may cause dependency	Disagree	24	80	64	0.001	0.003
Drugs used in the treatment of schizophrenia may cause serious side-effects	Disagree	24	56	68	0.02	NS

*McNemar test (two-tailed).
NS, not significant; t_0, before the program; t_1, after the program; t_2, 1 month after the program.

tion group replied favorably after the program than before ($P < 0.001$, $P = 0.006$, $P = 0.03$, respectively). No significant change was found between before and after the program in the control group. As can be seen in Table 2, attitude improvements for social distance still could be observed in the item of 'patients are aggressive' ($P = 0.03$) in the intervention group at the 1-month follow up, while the improvements in the items of 'to accept as coworkers' and 'to accept as neighbors' were decreased to insignificant levels. No significant change was found between before and after the program, and between before and 1 month after the program in the control group.

Table 3 shows the comparison of the replies before and after the antistigma program concerning care and management of people with schizophrenia. In the items of 'to recover completely', 'to be cured with drugs', 'to be dependent on drugs used in the treatment', and 'drugs used in the treatment may cause serious side-effects' significantly more students in the intervention group respected the care and management of people with schizophrenia after the program than before ($P = 0.02$, $P = 0.003$, $P = 0.001$, $P = 0.02$, respectively). No significant change was observed in the controls. As can be seen in Table 3, attitude improvements for care and management of people

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with schizophrenia still could be observed in the items of 'to be cured with drugs', and 'to be dependent on drugs used in the treatment' ($P = 0.006$, $P = 0.003$, respectively) in the intervention group at the 1-month follow up, while the improvements in the items of 'to recover completely' and 'drugs used in the treatment may cause serious side-effects' were decreased to insignificant levels. No significant change was found between before and after the program, and between before and 1 month after the program in the control group.

DISCUSSION

The effects of an antistigma program, including education, contact and visual aid, on attitudes towards people with schizophrenia were examined in this study. Results suggested that categories in which favorable changes occurred were 'attitude towards care and management of people with schizophrenia' and 'social distance to people with schizophrenia', while few changes occurred in the category 'belief about the etiology of schizophrenia'. This difference is probably due to the content of the program conducted. In fact, in the 2-h lecture, the lecturers mainly focused on the causes and results of stigma associated with schizophrenia. The patient with schizophrenia emphasized that people with schizophrenia could live in a community with adequate medical and social support. The film deals with a triumphant story of struggle over adversities in schizophrenia.

Social distance to people with schizophrenia is directly related to community life of people with schizophrenia. Therefore, social distance items are actually more important than the items of belief about the etiology of schizophrenia and attitude towards care and management of people with schizophrenia in terms of the effect of this program. The authors observed a favorable change in the items that indicate intermediate distance (e.g. 'to accept as coworkers', 'to accept as neighbors'), while the items that indicate socially close distance (e.g. 'to get married to a person with schizophrenia', 'to rent a house') did not change favorably. Similarly, Yanik *et al*.[16] reported that psychiatry training in medical school did not change favorably the medical students' acceptance of patients with schizophrenia in terms of close relationships. This might suggest that there is no difference between the 1-day antistigma program and the long-term psychiatric training in regard to the acceptance of people with schizophrenia by social distance.

The results of procedures intended to change attitudes towards the mentally ill vary favorably. Mino *et al*.[18] suggested that attitudes changed in terms of 'patient's independence in social life', 'psychiatric services', 'human rights of the mentally ill', and 'cause and characteristics of mental illness' after a 1-h educational program in medical students. Schulze *et al*.[19] found a significant reduction of negative stereotypes about people with schizophrenia after a 1-week school project. Corrigan *et al*.[7] found that education and contact with a mentally ill person produced positive changes in attributions about psychiatric disabilities. Arkar and Eker[20] reported no significant changes in the attitudes towards mental illness in medical students after a 3-week medical training program. Penn *et al*.[14] showed that a documentary film about schizophrenia resulted in more benign attributions about schizophrenia (e.g. less likely to blame individuals with schizophrenia for the disorder) but did not change general attitudes about schizophrenia (e.g. perceived dangerousness).

In the present study, the authors found that attitudes changed favorably because of the 1-day antistigma program. This suggested that this program can be conducted for the general population. Brief programs are appealing because they may affect stigmatizing attitudes with less effort and may be accessible to far more people.[12]

The 1-month follow up showed that effects of the antistigma program are likely to lessen with time. The most prominent decrease was observed in the category of social distance. Public attitudes towards people with schizophrenia are firmly established, and positive attitude changes in the intervention group may be decreased after interaction with the society during the 1-month period. Similarly, previous studies have demonstrated that effects are likely to lessen with time,[21–23] and that the duration and regularity of an intervention is positively related to its long-term effects.[24] Antistigma programs should be offered to schools on a regular basis to reach young people who hold negative stereotypes and would not choose to participate in an antistigma program.[19] Future studies need to examine the long-term effects of this antistigma program.

Some limitations of this study should be highlighted. First, the relatively small sample sizes in both intervention and control groups could limit the ability to generalize the results to a general population. Second, the intervention itself contained disparate elements, and it is difficult to know which ones were the active ingredients.

The present study demonstrated favorable attitude changes towards people with schizophrenia through an antistigma program. But, the effects of the program are likely to lessen with time. To sustain changed attitudes towards people with schizophrenia, antistigma programs should be offered on a regular basis. Future

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research needs to determine the results of antistigma programs in a general population. Future research also needs to examine whether improved attitude corresponds with change in behavior.

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