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ORIGINAL PAPER

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# Public opinions and beliefs about the treatment of depression in urban Turkey

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**Abstract** *Background* Although attitudes towards psychiatric illness influence its presentation, detection, recognition, treatment adherence and rehabilitation, the lay public's opinions and beliefs about the treatment of depression have not been investigated sufficiently. *Objective* The aim of this study was to determine public opinions and beliefs about the treatment of depression and the influence of perception and causal attributions on attitudes towards treatment of depression in urban areas. *Methods* This study was carried out with a representative sample in Istanbul, which is the biggest metropolis in Turkey. Seven hundred and seven subjects completed the public survey form which consisted of 32 items rating attitudes towards depression. *Results* The public believes that psychological and social interventions are more effective than pharmacotherapy, and that the medicines used in treatment of depression are harmful and addictive. There was a general reluctance to consult a physician for depression, and psychiatrists were felt to be more helpful than general practitioners. The public viewed depression as treatable. A high educational level and perceiving depression as a disease is associated with positive beliefs and opinions about the treatment of depression; but the perception of depressive patients as aggressive is associated with negative beliefs and opinions about the treatment of depression. *Conclusion* The beliefs that "psychological and social interventions are more effective than pharmacotherapy" and "antidepressants are harmful and addictive" must specifically be taken into account in clinical practice and in anti-stigma campaigns. Additional studies are needed to understand the public's tendency to conceptualise depression as a psychosocial problem. In clinical practice, depression should be introduced as a bio-psychosocial disease whatever its cause: biological, psychological or social. In addition, the differences between extreme worry and disease, and the lack of aggressiveness of depressive patients, must be emphasised.

**Key words** depression – public attitudes – stigma – treatment

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## Introduction

Public attitudes towards mental illness and mentally ill people have been the subject of scientific investigation for decades. Most members of the public have negative attitudes, beliefs and opinions towards mental illness and its treatment. Depression is less affected by this stigma than schizophrenia, but stigma is still associated with depression [16, 18, 21].

The stigma of psychiatric illness is a negative factor in its presentation, detection, recognition, treatment

adherence and rehabilitation [7]. Blumenthal and Endicott [6] found that 55% of subjects who met criteria for a Research Diagnostic Criteria major depressive episode did not seek treatment, and non-seekers regarded their episode as one that they could handle or treat by themselves, as a common response to life's circumstances and not serious enough to warrant treatment. Lingam and Scott [14] reviewed the prevalence, predictors and methods for improving adherence to medication in unipolar and bipolar affective disorders. They found that estimates of medication non-adherence for unipolar and bipolar disorders range from 10 to 60% (median 40%) and suggested that attitudes and beliefs are at least as important as side-effects in predicting adherence. Sansone et al. [20] found that psychotropic medications were less acceptable than non-psychotropic medications. Attitudes and belief systems prevalent in society have a major impact on help-seeking behaviour [5]. The lay perception of whether a person is regarded as being mentally ill or as going through a life crisis has an important impact on the treatment proposed [13]. The belief that depression is under personal control is associated with less receptivity to seeking care [11]. The perceived cause of mental distress, problem definition and anticipated prognosis influences attitudes towards treatment of mental disorders [19]. Stigma is a daily source of distress for psychiatric patients [7]. Perceived stigma associated with mental illness and individuals' views about the illness play an important role in adherence to treatment for depression [22]. Although the stigma of psychiatric illness influences its presentation, detection, recognition, treatment adherence and rehabilitation and although campaigns addressing public misconceptions and prejudices improve the effectiveness of treatment [17, 21], the lay public's opinions and beliefs about the treatment of depression and the influence of perception and causal attributions on opinions and beliefs about the treatment of depression have not been investigated sufficiently.

Studies assessing public attitudes towards depression in Turkey are few. In this context, a project titled "Searching Public Attitudes Towards Mental Diseases" is being conducted by the Center for Psychiatric Research and Education. Some findings of this project have been previously reported [15, 16]. It has seen that most of the subjects recognised the mental disease described in the vignette presented to them in the study. The subjects' attitudes towards depression were highly negative, and nearly half of the subjects perceived people with depression as dangerous [16]. The results suggest that socio-demographic characteristics have a minimal impact on attitudes towards depression [15]. Perceptions and beliefs about the causes of depression, however, had some effect on attitudes towards depression. The subjects who considered depression as a disease and who believed that weakness of personality and social problems cause depression had negative attitudes towards it [16].

In the present study, by referring to the findings of the above-mentioned project and by using the findings of the same population, we will report the urban public's opinions and beliefs about the treatment of depression. We will also examine the influence of demographic features, perception of depression and causal attributions of depression on opinions and beliefs about the treatment of depression.

## Subjects and methods

### Subjects

This study was carried out with a representative sample in Istanbul, the most highly populated metropolis in Turkey. The inclusion criteria were being above 15 years old and having physical and mental competence to answer the questions. The sample was constituted in three stages using a random-route procedure. Sample points were determined in the first stage and households in the second stage. In the third stage, all individual households meeting the inclusion criteria were selected. We determined 719 subjects, 12 (1.7%) of whom refused to participate in the study. Thus, 707 subjects finally constituted the sample of this study. The demographic characteristics and personal and familial medical story for mental disorder of the participants have been reported previously [16].

## Materials

A questionnaire designed by the Center for Psychiatric Research and Education for rating attitudes towards depression was used. Face-to-face interviews were made with each participant to fill in the questionnaire. The questionnaire consisted of 10 items screening the demographic features and the health status of the participants and 32 items rating attitudes towards depression. The second section of the form consisted of two major parts. In the first part, the subjects were asked to reply to six questions related to a case vignette describing a person who met the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria for major depressive disorder with the symptoms depressive mood, markedly diminished interest, decrease in appetite, weight loss, insomnia and fatigue [1]. The respondents were asked to reply to the 26 questions in the second part, following an explanation that the case vignette was a sample of depression. These 26 questions were mainly focused on the subjects' opinions, beliefs and attitudes about perception, causal attributions, treatment and social distance. Four of the questions in the first part and 24 of the questions

**Table 1** Opinions and beliefs about treatment of depression

| | I agree | | I don't agree | | I have no idea | |
|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % |
| Environmental change (taking a vacation etc.) contribute to recovery from depression | 594 | 84.0 | 84 | 11.9 | 29 | 4.1 |
| Persons with depression do not recover completely | 166 | 23.5 | 476 | 67.3 | 65 | 9.2 |
| *Hodjas* can treat depression | 88 | 12.4 | 588 | 83.2 | 31 | 4.4 |
| Depression cannot be treated without solving social problems (unemployment, poverty, familial problems, etc.) | 549 | 77.7 | 128 | 18.1 | 30 | 4.2 |
| Depression is a treatable disease[a] | 467 | 94.5 | 23 | 3.3 | 4 | 0.6 |
| Depression is a disease which can be treated by drugs[a] | 291 | 58.9 | 143 | 20.2 | 60 | 8.5 |
| Depression is a disease which can be treated by psychotherapy (talking therapy)[a] | 443 | 89.7 | 25 | 5.1 | 26 | 5.3 |
| The medicines which are used for the treatment of depression may lead to addiction[a] | 307 | 62.1 | 58 | 11.7 | 129 | 18.2 |
| The medicines which are used for the treatment of depression have serious side-effects[a] | 271 | 54.9 | 59 | 11.9 | 164 | 33.2 |

[a] These items were not completed by the participants who answered the item "depression is a disease" as "I disagree" or "I have no idea" (*n*=213)

in the second part were Likert type rated as "I agree", "I tend to agree", "I tend to disagree", "I disagree" and "I have no idea".

In Turkey, two terms *ruhsal hastalık* and *akıl hastalığı* are used for psychiatric disorders. Although both of them semantically mean mental illness, they have been used in different meanings. Whereas *ruhsal hastalık* is used for all kinds of psychiatric disorders, *akıl hastalığı* is used mostly for patients who have serious deviant behaviour, or as a synonym for insanity. Therefore, the influence of two terms on attitudes towards individuals suffering from depression was investigated by using two items ("Mrs. Fatma has a *ruhsal hastalık*." and "Patients with depression are *akıl hastası*.").

## Statistics

In addition to the descriptive analyses, logistic regression analysis was performed to explain the effects of demographic features, perception of depression and causal attributions of depression on opinions and beliefs about treatment.

In the logistic regression analysis the answers "I agree" and "I tend to agree" were evaluated together as "I agree", and the choices "I tend to disagree" and "I disagree" were considered together as "I disagree". The answer "I have no idea" was included in the descriptive analyses, but excluded from the regression analysis. The procedure of recoding was performed for the regression analysis. In this analysis, each item of the questionnaire about the treatment of depression was accepted as a dependent variable. For each item about the treatment of depression that was accepted as a dependent variable, demographic features, the items about the perception of depression and the causal attributions of depression were grouped separately and accepted as independent variables.

## Results

### Opinions and beliefs about the treatment of depression

About two thirds of participants believed that persons with depression recover completely. Most of the participants hold psychosocial problems to be part of recovery and gave importance to environmental change and solving social problems in the treatment of depression. Only 12% of the participants believed that *hodjas* (faith healers) could treat depression (Table 1).

Nearly all of the participants who looked upon depression as a disease believed that depression is a treatable disease. They gave higher esteem to psychotherapy than to drug treatment in its treatment;

**Table 2** Treatment/physician proposed for the subject of the case vignette

| | Number of subjects | Percent |
|---|---|---|
| To recover from this condition what should she do? | | |
| She should give precedence to applying to a physician | 366 | 51.9 |
| She should give precedence to being strong. | 146 | 20.7 |
| If she wants, she can cope with this condition | | |
| She should give precedence to leaving from her stressful environment (taking a vacation etc.) | 60 | 8.5 |
| The conditions of her life should be corrected in the first instance | 127 | 18.0 |
| Others | 5 | 0.5 |
| I have no idea | 3 | 0.4 |
| If Mrs. Fatma wants to go a physician | | |
| She must give precedence to a physician in a primary care unit | 18 | 2.5 |
| She must give precedence to an internist | 25 | 3.5 |
| She must give precedence to a psychiatrist | 610 | 86.3 |
| The condition does not necessitate her applying to a physician | 48 | 6.8 |
| Others | 2 | 0.3 |
| I have no idea | 4 | 0.6 |

**Table 3** The effects of demographic features on opinions and beliefs about treatment of depression

| | *p* | *B* | *R* | OR | 95% CI |
|---|---|---|---|---|---|
| A change of milieu (stressful environment/circumstances, e.g. taking a vacation etc.) contribute to recovery from depression | | | | | |
| Mental disorders in relatives | 0.02 | 1.41 | 0.08 | 4.11 | 1.24–13.61 |
| Persons with depression do not recover completely | | | | | |
| Education | 0.00 | 0.56 | 0.08 | 1.76 | 1.18–2.62 |
| *Hodjas* can treat depression | | | | | |
| Education | 0.03 | 0.55 | 0.07 | 1.74 | 1.04–2.89 |
| Depression cannot be treated without solving social problems (unemployment, poverty, familial problems, etc.) | | | | | |
| Age | 0.04 | 1.21 | 0.05 | 3.36 | 1.02–11.07 |
| Education | 0.03 | 0.46 | 0.06 | 1.59 | 1.02–2.46 |
| Depression is a disease which can be treated by drugs | | | | | |
| Gender | 0.00 | −0.62 | −0.10 | 0.53 | 0.34–0.81 |
| Mental disorders in relatives | 0.02 | 0.82 | 0.07 | 2.28 | 1.11–4.65 |
| Socio-economical level | 0.01 | 0.70 | 0.08 | 2.02 | 1.14–3.61 |
| Depression is a disease which can be treated by psychotherapy (talking therapy) | | | | | |
| Education | 0.04 | −0.95 | −0.10 | 0.38 | 0.15–0.97 |
| The medicines which are used for treatment of depression may lead to addiction | | | | | |
| Socio-economical level | 0.02 | 0.84 | 0.10 | 0.43 | 1.13–4.74 |

and more than half of the participants who thought of depression as a disease held the opinion that the medicines that are used for treatment of depression may lead to addiction and have serious side-effects (Table 1).

Half of the participants gave precedence to applying to a physician for the case described in the vignette. A quarter of the participants gave precedence to social intervention, and nearly a quarter of the participants gave precedence to the suggestion that the patient should 'be strong'. Most of the participants thought that if the person defined in the case vignette wanted to apply a physician, she should give precedence to a psychiatrist. Nearly all of the participants suggested that the patient in the case vignette should consult psychiatrist, and the percentage of participants who suggested a general practitioner is low (Table 2).

## The effect of demographic features

Educational level influenced opinions and beliefs about the treatment of depression more than other demographic feature. The participants with low education levels believed that persons with depression do not recover completely, that *hodjas* can treat depression, gave more importance to solving social problems and less importance to psychotherapy. Those participants whose relatives had a mental disorder believed that environmental change can contribute to recovery

**Table 4** The effects of perceptions of depression on opinions and beliefs about treatment of depression

| | *p* | *B* | *R* | OR | 95% CI |
|---|---|---|---|---|---|
| A change of milieu (stressful environment/circumstances, e.g. taking a vacation etc.) can contribute to recovery from depression | | | | | |
| Depression is a condition of extreme worry | 0.02 | 0.91 | 0.09 | 2.48 | 1.133–5.45 |
| Persons with depression do not recover completely | | | | | |
| Depression is a condition of mental weakness | 0.00 | 0.99 | 0.10 | 2.71 | 1.33–5.51 |
| *Hodjas* can treat depression | | | | | |
| Persons with depression are aggressive | 0.04 | 0.61 | 0.07 | 1.84 | 1.00–3.36 |
| Patients with depression are mentally ill (*akıl hastalığı*) | 0.02 | 0.85 | 0.09 | 2.35 | 1.12–4.95 |
| Depression cannot be treated without solving social problems (unemployment, poverty, familial problems, etc.) | | | | | |
| Mrs. Fatma has a somatic disease | 0.00 | −0.74 | −0.11 | 0.47 | 0.28–0.78 |
| Depression is a condition of extreme worry | 0.00 | 0.98 | 0.10 | 2.66 | 1.28–5.52 |
| Depression is a disease | 0.00 | 0.95 | 0.16 | 2.60 | 1.58–4.26 |
| Depression is a treatable disease | | | | | |
| Depression is a condition of mental weakness | 0.02 | 1.24 | 0.14 | 3.47 | 0.10–0.82 |
| Persons with depression are aggressive | 0.01 | −2.70 | −0.17 | 0.06 | 0.00–0.52 |
| Depression is a disease | 0.02 | 1.26 | 0.13 | 3.53 | 1.14–10.94 |
| Depression is a disease which can be treated by drugs | | | | | |
| Patients with depression are mentally ill (*akıl hastalığı*) | 0.04 | 0.77 | 0.07 | 2.17 | 1.02–4.61 |
| Depression is a disease | 0.00 | 1.26 | 0.13 | 3.53 | 1.5817–7.90 |
| Depression is a disease which can be treated by psychotherapy (talking therapy) | | | | | |
| Mrs. Fatma has a mental disease (*ruhsal hastalık*) | 0.03 | 1.21 | 0.12 | 3.37 | 1.06–10.75 |
| The medicines which are used for the treatment of depression may lead to addiction | | | | | |
| Persons with depression are aggressive | 0.04 | 0.68 | 0.08 | 1.98 | 1.00–3.93 |

**Table 5** The effects of causal attributions of depression on opinions and beliefs about treatment of depression

| | *p* | *B* | *R* | OR | 95% CI |
|---|---|---|---|---|---|
| A change of milieu (stressful environment/circumstances, e.g. taking a vacation etc.) can contribute to recovery of depression | | | | | |
| Mrs. Fatma's condition is due to the weakness of her personality | 0.00 | 0.81 | 0.12 | 2.25 | 1.32–3.81 |
| Depression cannot be treated without solving social problems (unemployment, poverty, familial problems, etc.) | | | | | |
| Mrs. Fatma's condition is due to her social problems (unemployment, poverty, family problems, etc.) | 0.00 | 0.35 | 2.79 | 1.41 | 1.41–5.52 |
| Depression is due to social problems (unemployment, poverty, family problems, etc.) | 0.00 | 0.21 | 0.16 | 4.60 | 2.24–9.44 |
| Depression is a disease which can be treated by drugs | | | | | |
| Mrs. Fatma's condition is due to her social problems (unemployment, poverty, family problems, etc.) | 0.00 | 1.38 | 0.12 | 3.98 | 1.66–9.52 |

from depression and that depression can be treated by drugs. The participants from higher socio-economical levels believed that depression can be treated by drugs and that the medicines used for treatment of depression may lead to addiction. Older participants gave more importance to the solving of social problems in the treatment of depression. Female participants believed that depression could be treated by drugs. On the other hand, personal experience with mental disorders, marital status and occupation had no influence on the results (Table 3).

### The effect of perception of depression

It has seen that all of the items about the perception of depression have some effect on the opinions and beliefs about the treatment of depression (Table 4). "Persons with depression are aggressive" and "Depression is a disease" were among the items that most strongly influenced attitudes about the treatment of depression. The participants who thought of depressive patients as aggressive believed that *hodjas* can treat depression, that depression is not a treatable disease and that medicines which are used for its treatment may lead to addiction. The participants who thought of depression as a disease believed that depression is a treatable disease and gave an importance to solving social problems and to drugs.

The participants who thought of depressive patients as mentally ill (*akıl hastalığı*) believed that *hodjas* can treat depression and gave more importance to drugs in the treatment.

The participants who thought that depression is a condition of extreme worry gave more importance to solving social problems and thought that environmental change contributes to recovery from depression.

The participants who thought of depression as a condition of mental weakness believed that depressive patients do not recover completely but that depression is a treatable disease.

The participants who thought the person described at the case vignette had a somatic disease gave less importance to solving social problems in the treatment of depression.

The participants who thought the person described at the case vignette had a mental disease (*ruhsal hastalık*) believed that depression is a disease, which can be treated by psychotherapy.

### The effect of causal attributions of depression

The participants who thought that the condition of the person described in the case vignette's was due to her social problems believed that depression cannot be treated without solving social problems and that depression is a disease which can be treated by drugs.

The participants who thought that depression is due to social problems believed that depression cannot be treated without solving the social problems.

The participants who thought that the condition of the person described in the case vignette was due to a weakness of personality believed that a change of milieu would contribute to recovery from depression (Table 5).

## Discussion

The results of this study showed that the public in urban Turkey believes that psychological and social interventions are more effective than pharmacotherapy and that the medicines used in the treatment of depression are harmful and addictive. There was a general reluctance to consult a physician for depression, and psychiatrists were felt to be more helpful than general practitioners. The public viewed depression as treatable. Most of the public thought that traditional healers (*hodjas*) cannot treat depression. Educational level, perception of depression and causal attributions of depression has a major impact on attitudes towards the treatment of depression. A high educational level and the perception of depression as a disease are associated with positive beliefs and opinions about the treatment of depression; but the perception of depressive patients as aggressive is associated with negative beliefs and opinions towards the treatment of depression.

In urban Turkey, most of the public viewed depression as a treatable disease, and a quarter of the participants held the opinion that persons with depression do not recover completely. This result is in accordance with other studies [8, 12]. In England, only 16.0% of

the public thought that depression would not improve if treated, and 23.2% of the public believed that depression could never be totally cured [8]. In Australia, 80% of the public thought that there could be full recovery with help [12]. These findings suggest that the public has an optimistic view about the prognosis and treatment of depression, whatever their cultural characteristics.

As consistent with other studies [3, 12, 18], the present study shows that psychotherapy (90%) was much more frequently considered as the appropriate therapy for depression than drug treatment (59%) in urban Turkey. In England, 85% of the public believed counselling to be an effective treatment for depression, and 46% thought that antidepressants were effective [18]. In Germany, psychotherapy was recommended by 47.6% of the public in the west and 34.5% of the public in the east, but only 28.5% of the public in the west and 18.2% of the public in the east recommended drug treatment [3]. Angermeyer and Matschinger [4] compared the acceptance of psychiatric treatment of the German public in 1990 and 2001 and noted that psychotherapy was still recommended more than psychotropic drugs. In Australia, antidepressant medication was recognised as helpful for depression by 29%, and psychotherapy was seen as helpful by 34% of the public [12]. In a Swiss population, it was seen that psychotherapy has thought to be more helpful than antidepressants (36 vs 25%) [13]. These findings suggest that psychotherapy is considered to be more helpful than pharmacotherapy all over the world. In this study and in Germany, it has been found that the preference for psychotherapy increased according the subjects' level of education, but that the reverse true for biological treatment methods [2].

Similar to Australia, Germany and the UK [2, 12, 18], the urban public in Turkey has a tendency to consider antidepressants as harmful and addictive. Sixty-two percent of the participants believed that the medicines used in the treatment of depression were addictive and harmful. In England, 78% of the lay public considered that antidepressants are addictive [18]. In Australia, antidepressant medication was recognised as harmful by 42% of the public [12]. In a Swiss population, it has been seen that antidepressants were found to be more harmful than psychotherapy (34 vs 8%) [13].

Although methodological differences may affect the results, these results suggest that the public believe that psychotherapy is more helpful than pharmacotherapy in depressive patients, whatever their cultural characteristics. In addition, the belief that antidepressants are harmful and addictive is universal. Although it is a known fact that beliefs are a strong predictor of how antidepressants will be used [9], the effects of beliefs about psychotherapy on the help-seeking behaviour of depressive patients are not known to date. In addition, these findings suggest that there is a need to explore and understand the sources of beliefs about psychotherapy and pharmacotherapy. Angermeyer and Matschinger [2] mentioned that the public image of psychotherapy is largely determined by popular views on psychoanalysis and that public opinion about psychotropic drugs is strongly influenced by characteristics associated with benzodiazepines. The public believed that psychotherapy would enable therapists to uncover the causes of the disorder and to eradicate the root of the problem, but that medications could only reveal symptoms and have no influence on the underlying causes. But it is not known whether these ideas are valid or not for Turkey.

The results of the present study suggest there is a reluctance to consult a physician for depression in urban Turkey. Only half of the respondents gave precedence to applying to a physician for the case vignette, and only two thirds of the subjects stated that they would consult a physician if they suffered from depression. Recommending sources of help other than physicians is a common result in previous studies. In Germany, 34.7% of the respondents recommended turning to a confidant, 25.7% recommended a family physician, 13.5% recommended a self-help group, 10.4% recommended a psychiatrist and 9.8% recommended a psychotherapist for depression as a first choice [5]. In another study that was conducted in Ireland, 39% of respondents suggested family and friends as a source of help for depression, 37% suggested a psychiatrist, 30% a general practitioner, 22% a psychologist, 22% a support group, 19% a counsellor and 6% religious help [10].

A significant finding in this study was that there was a general reluctance to consult a general practitioner for depression in Turkey. Most of the participants preferred psychiatrists if they were to suffer from depression and recommended a psychiatrist for the case vignette. This is not consistent with other studies in which general practitioners were most frequently endorsed as people who could help [12, 13, 17]. In an Australian survey conducted by Jorm et al. [12], the general practitioner was mainly rated as helpful (83%), whereas only 51% considered the psychiatrist as helpful. In another study conducted in the UK, two thirds of the subjects stated that they would consult their general practitioner if they suffered from depression [17]. In a Swiss population, 58% of respondents found a practitioner to be helpful, and this ratio was 44% for a psychiatrist [13]. Angermeyer and Matschinger [4] compared the acceptance of psychiatric treatment of the German public in 1990 and 2001 and noted that the probability of recommending a psychiatrist and psychotherapist had increased for major depression, whereas the probability of recommending a general practitioner had decreased. The reasons for reluctance to consult a general practitioner for depression in urban Turkey are not exactly known. In an Irish study, it has seen that being male, dissatisfied with general practitioner care and believing that general practitioners were not

qualified to treat depression influenced the reluctance to consult a general practitioner for depression [10].

Data on the influence of demographic features, perceptions and causal attributions on the treatment of depression are lacking. The findings of this study indicate that educational level can influence opinions and beliefs about the treatment of depression more than other demographic features. The respondents with higher educational levels have a positive view about recovery and psychotherapy and a negative view about social and traditional interventions. Although they were influential on the results than educational level, experiencing mental disorders in relatives, socioeconomical level, age and gender had some effect on opinions and beliefs about the treatment of depression. On the other hand, personal experiences of the subjects with mental disorders, marital status and occupation had no influence at all.

In this study, it has been seen that the respondents who perceived depression as a disease had more positive attitudes towards the treatment of depression, whereas the respondents who perceived depressive patients as aggressive had more negative attitudes. It has also been shown that thinking of depression as a condition of extreme worry or as a condition of mental weakness has some effect on attitudes towards the treatment of depression. It has furthermore been seen that people who thought of social problems as a cause of depression have a tendency to give precedence to social interventions in the treatment of depression. But it is impossible to interpret how beliefs about thinking of social problems as a cause of depression and thinking of depression as a condition of extreme worry and as a condition of mental weakness influence attitudes towards the treatment of depression.

Some of our findings are consistent with the findings of Angermeyer and Matschinger's [2] and the studies of Angermeyer et al. [5], which were conducted in Germany. They found that preference for psychotherapy increased with the subjects' level of education, but this was reversed for biological treatment methods [2]. Angermeyer et al. [5] reported that if the distress described by the vignette was conceptualised in terms of a psychiatric disorder, interviewees were more likely to recommend a psychiatrist, a psychologist or a general practitioner. It has also been shown that people endorsed a lay support system as the best source of help when external causal factors were located in the social environment [5]. In a representative sample of the Swiss population, it was seen that the perception of whether a condition was considered to be an illness or due to a life crisis had a stronger influence on lay treatment recommendations than differences in the cases described in the vignettes (depression or schizophrenia). The interviewees who perceived the person described as being mentally ill recommended significantly more traditional psychiatric intervention strategies ('psychiatrist', 'psychotherapy' and 'psychopharmacology') [13]. In a study which investigated the relationship between stigma and care seeking for depression, the belief that depression was under personal control was associated with less receptivity towards seeking care, and dangerousness was unrelated to care seeking [11].

Although both of two terms—*ruhsal hastalık* and *akıl hastalığı*—are used for psychiatric disorders in Turkey semantically mean mental illness, interestingly, the subjects' attitudes towards the treatment of depression showed some differences dependent upon which term was used. The participants who thought of depressive patients as mentally ill (*akıl hastalığı*) gave more importance to drugs and religious help in the treatment of depression. On the other hand, the participants who thought that the person described in the case vignette had a mental disease (*ruhsal hastalık*) gave more importance to psychotherapy.

In conclusion, it has seen that perception of depression and causal attributions of depression have a major impact on attitudes towards the treatment of depression.

The beliefs that "psychological and social interventions are more effective than pharmacotherapy" and "antidepressants are harmful and addictive" must specifically be taken into account in the clinical practice and in anti-stigma campaigns. Campaigns should primarily focus on people with high educational and socio-economical levels. Depression should be introduced as a disease in clinical practice and anti-stigma campaigns. On the other hand, the public's tendency to conceptualise depression as a psychosocial problem should also be taken into account. Depression should be introduced as a biopsychosocial disease whatever its cause—biological, psychological or social. The differences between extreme worry and disease and the lack of aggressiveness in depressive patients must be emphasised.

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