

Examination of Stigmatization Levels Related to Tuberculosis in Patients and Healthy Individuals

Sağlıklı ve Hasta Bireylerde Tüberküloza İlişkin Damgalanma Düzeylerinin İncelenmesi

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SUMMARY

Objectives: This study aimed to determine the level of stigmatization of healthy individuals toward the patients with tuberculosis and the level of stigmatization of patients as an individual with tuberculosis.

Methods: This descriptive study comprised patients and healthy individuals who applied to the outpatient clinic between July 1, 2013, and July 7, 2014. The sample of the study consisted of 421 individuals including 312 healthy individuals and 109 individuals with tuberculosis. The data were collected using a questionnaire formed by the researchers and consisting of a question about the definitive characteristics of individuals and the Tuberculosis-Related Stigma Scale (TRS). The Kruskal–Wallis and Mann–Whitney U tests and reliability test were used for data analysis. Written permission was obtained from the institutions, the ethics committee, and the individuals to conduct the study.

Results: This study found that 36.9% of healthy individuals were aged between 36 and 53 years, and 33.7% of them were university graduates. It was also found that 42.2% of individuals with tuberculosis were aged between 36 and 53 years, and 40.4% of them were primary school graduates. The mean score on the TRS of healthy individuals was found to be 13.87±6.26, and that of individuals with tuberculosis was 11.08±5.50.

Conclusion: Both the level of stigmatization performed by the healthy individuals toward the patients with tuberculosis and the level of stigmatization of patients with tuberculosis were found to be low. However, more stigmatization was found in patients who had a feeling of pessimism because they were diagnosed with tuberculosis and who knew that tuberculosis was contagious. The result suggested that the public should be educated about tuberculosis disease.

Keywords: Healthy individual/patient; stigmatization; tuberculosis.

ÖZET

Amaç: Bu çalışma, sağlıklı bireylerin tüberkülozlu hastaları damgalama düzeyini ve tüberkülozlu hastaların tüberkülozlu birey olarak damgalanma düzeyini belirlemek amacı ile yapılmıştır.

Gereç ve Yöntem: Tanımlayıcı araştırmanın evrenini, 1 Temmuz 2013-7 Temmuz 2014 tarihleri arasında polikliniğe başvuran hasta ve sağlıklı bireyler, örneklemini ise 312 sağlıklı, 109 hasta birey olmak üzere toplam 421 birey oluşturmuştur. Veriler, araştırmacılar tarafından oluşturulan ve bireylerin tanıtıcı özelliklerinin yer aldığı sorudan oluşan anket formu ve “Tüberküloz ile İlgili Stigma Ölçeği” ile toplanmıştır. Verilerin analizinde Kruskal Wallis testi, Mann Whitney U testi ve güvenilirlik testi kullanılmıştır. Çalışmanın yapılabilmesi için kurumlardan, etik kuruldan ve bireylerden yazılı izin alınmıştır.

Bulgular: Sağlıklı bireylerin %36.9’u 36-53 yaş grubunda, %33.7’si üniversite mezunudur. Tüberkülozlu bireylerin ise %42.2’si 36-53 yaş grubunda, %40.4’ü ilköğretim mezunudur. Tüberküloz ile ilgili stigma ölçeğinin puan ortalaması sağlıklı bireylerde 13.87±6.26, tüberkülozlu bireylerde 11.08±5.50 olarak bulunmuştur.

Sonuç: Hem sağlıklı bireylerin tüberkülozlu hastaları damgalama düzeyi hem de tüberkülozlu bireylerin tüberküloz hastalığına ilişkin damgalanma düzeyi düşük bulunmuştur. Ancak, tüberküloz tanısı aldığı için karamsarlık duyguları yaşayan ve tüberküloz hastalığının bulaşıcı olduğunu bilen hastalarda daha fazla damgalanma görüldüğü saptanmıştır. Bu sonuca göre tüberküloz hastalığına ilişkin topluma eğitim verilmesi önerilmektedir.

Anahtar sözcükler: Sağlıklı/hasta birey; damgalanma; tüberküloz.

Introduction

Tuberculosis is a serious health problem in the world, particularly in Asia and Africa^[1,2] and in Turkey.^[3-6] It is the seventh leading cause of death across the world.^[7] According to the World Health Organization’s data, 6 million new cases of tuberculosis were reported in 2014.^[8] Tuberculosis leads to

many physical, social,^[9-12] economic, and mental/psychological problems.^[9,11,13] Like many other contagious diseases, tuberculosis causes stigmatization all around the world.^[1,4,7,11,14-16] Stigmatization means “unfair treatment received by a person or a group related to their specific feature generally because of bias.”^[7] Stigmatization is a feeling that decreases the status of an individual in the eyes of society and leads him or her to feel like “persona non grata” or “discredited.”^[11] Stigmatized individuals internalize the feeling of unworthiness and develop attitudes such as avoiding interpersonal relations, feeling ashamed, and having disgust and guilt.^[17] Studies found that patients with tuberculosis were stigmatized.^[4,7,18-23]

Being stigmatized because of tuberculosis has many negative consequences such as social isolation,^[1,4] hiding disease,^[11] being late for applying to a health care institution,^[24] and

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Psikiyatri Hemşireliği Dergisi 2017;8(3):129–136
Journal of Psychiatric Nursing 2017;8(3):129–136

Doi: 10.14744/phd.2017.30085

Submitted (Geliş tarihi): 16.06.2016 **Accepted (Kabul tarihi):** 06.09.2017

deterioration in the relationships within the family.^[25,26] The most common cause of tuberculosis-related stigmatization is the fear of contracting the infection.^[4,7,17] Patients often isolate themselves to avoid infecting other people and being a subject of gossip or exclusion.^[1,4,27] Studies found that patients experienced social isolation because of tuberculosis.^[3,6,11,28] Other studies reported that individuals with tuberculosis hid their diseases because of the fear of exclusion from the society.^[1,27,29,30] A study conducted in South India found that stigmatization was observed in 38% of patients before the treatment and 20% after the treatment; they hid the fact that they suffered from tuberculosis after their treatment ended.^[113]

Being late for applying to a health care institution is a serious concern that makes the control of tuberculosis difficult.^[24] The fear of being known as an individual with tuberculosis hinders the access to service delivery for daily care,^[1,4,18] causing a delay in applying to a hospital and a negative effect on the compliance to treatment.^[4,7,11,17,24,26,31] Also, the disease becomes contagious for a longer time with severer symptoms,^[4,19,26] consequently increasing the cost of treatment.^[4,19] Studies found that stigmatization associated with tuberculosis prevented individuals from applying to a health care institution and hindered their treatment.^[2,20] Another study (n=300) found that 26.3% of patients regarded tuberculosis as a stigmatizing disease, but their thoughts about stigmatization did not influence their application to a health care institution.^[26]

Job loss, divorce, interrupted attention of family members and society to the patient, becoming homeless, and being afraid of the landlord may be included in the social reflections of tuberculosis-related stigmatization.^[9] A study conducted in Pakistan found that tuberculosis was perceived as an extremely dangerous, contagious, and incurable disease. This perception led to stigmatization among patients with tuberculosis and their families. The hopes of young patients with tuberculosis about marriage decreased. Tuberculosis also had many social consequences such as divorce of patients' family members; females were mostly affected by this fact.^[25] Another study conducted in Thailand (n=480) found that the time of delay in applying to the hospital slightly increased in males with high stigmatization levels and slightly decreased in females. Further, the level of stigmatization was higher in patients with hemoptysis.^[24] A qualitative study conducted in Bangladesh, India, Malawi, and Colombia found that the stigmatization indicator was high in India, low in Malawi, and high in females in Bangladesh. The females in India and Malawi were worried that stigmatization might affect their hopes related to marriage.^[5] Another study conducted in Uganda found that the stigmatization levels of individuals having moderate or high educational level were higher.^[32] A study conducted in South Africa reported a strong belief in the society that tuberculosis was a consequence of not obeying the cultural rules.^[31] Another

study conducted in India (n=166) found that stigmatization was a cultural topic, and it did not change with socioeconomic and demographic factors.^[33] A study conducted with a total of 3011 individuals in Hong Kong reported that stigmatization was mostly against human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) in the society, followed by tuberculosis; no association was found between having information about the disease and stigmatization.^[34]

Therefore, patients with tuberculosis are stigmatized by their family members, friends, and society.^[4,12] Studies on tuberculosis reported different stigmatization levels in Turkey^[22,35] and in the world.^[16,19,20] A study conducted in Turkey found that individuals with tuberculosis were stigmatized moderately; primary school graduates and those with a moderate economic status faced more stigmatization in their family/friend relationships.^[22] Another study reported that the stigmatization levels of individuals with tuberculosis were high, and those who were married, widow, and self-employed faced stigmatization at higher levels.^[35]

Stigmatization is experienced against tuberculosis in the society because it is a contagious disease. Studies^[22,35] conducted on the stigmatization levels of patients with tuberculosis and the factors affecting stigmatization in different geographical regions of Turkey are limited. The aim of this study was to determine the level of stigmatization of healthy individuals toward patients with tuberculosis, the level of stigmatization of patients as an individual with tuberculosis, and factors affecting it.

Materials and Method

Participants

The population of this descriptive study consisted of healthy individuals who applied to the Internal Diseases, General Surgery, and Gynecology and Obstetrics polyclinics of a university hospital and the patients who were receiving treatment in Tuberculosis Dispensary between July 1, 2013 and July 7, 2014. The study sample comprised a total of 421 individuals including 312 healthy individuals and 109 patients. Those who were younger than 18 years and who did not want to participate in the study were excluded. Individuals who were diagnosed with tuberculosis and were receiving treatment in the Tuberculosis Dispensary formed the group of individuals with tuberculosis. The population and sample related to healthy individuals consisted of individuals who escorted their relatives as patients who were not diagnosed with tuberculosis and came to undergo an examination in the polyclinics of the hospital where the present study was conducted. Two scales were used for different samples in the same study, as recommended.

Data Collection Tools

The data were collected using a questionnaire formed by the researchers and consisting of a question about the defini-

tive characteristics of individuals and the Tuberculosis-Related Stigma Scale (TRS). The scale was developed by Van Rie et al. (2008),^[36] and its validity and reliability study for Turkish was conducted by Küçük Şapcıoğlu (2012).^[37] The TRS scale consisted of 10 items developed separately for healthy individuals (the TRS for Healthy Individuals) and patients with tuberculosis (the TRS for Patients with Tuberculosis). “Strongly disagree” and “strongly agree” answers in both scales were scored 0 and 3 (the strongest stigma), respectively. The lowest possible score obtained from the scale was 0, and the highest possible score was 30. Higher scores indicated high levels of stigmatization. Data were collected after the necessary explanations were given to the patients who agreed to participate in the present study using the face-to-face interview method. Only the patients who volunteered to participate were included in the present study. Because the scale consisted of separate questions for patients and healthy individuals, the study was conducted on both patients and healthy individuals.

The questionnaire form for the group of healthy individuals consisted of questions related to age, sex, marital status, educational level, profession, and economic status of healthy individuals and it included questions forming a separate scale (the TRS for Healthy Individuals) consisting of 10 items regarding the stigmatization of individuals in the society against individuals with tuberculosis. The questionnaire form for the individuals with tuberculosis included questions related to the TRS for Patients with Tuberculosis in which the emotions felt when individuals were diagnosed with tuberculosis and their thoughts about tuberculosis were stated, as well as questions related to their descriptive characteristics.

Statistical Assessment

Data were examined to determine whether they were normally distributed, and nonparametric tests were used because the data were not normally distributed. The Mann-Whitney U test was used to examine the difference between the total scores of healthy individuals regarding their stigmatization against individuals with tuberculosis according to their marital status and sex. The Kruskal-Wallis test was conducted to examine the difference between the total scores of healthy individuals regarding their stigmatization against individuals with tuberculosis according to the age group, educational level, profession, and economic status of healthy individuals. The Mann-Whitney U test was used to examine the difference between the total scores of individuals with tuberculosis regarding facing stigmatization as individuals with tuberculosis according to their marital status, sex, having other disease accompanying tuberculosis, staying in the hospital because of tuberculosis, informing other people that they had tuberculosis, emotions felt by them when diagnosed with tuberculosis, and their thoughts about the tuberculosis disease. The Kruskal-Wallis test was performed to examine

the difference between the total scores of individuals with tuberculosis regarding facing stigmatization as individuals with tuberculosis according to their age group, educational level, profession, and economic status.

The Cronbach's alpha reliability coefficients of both scales (the TRS for Healthy Individuals and the TRS for Patients with Tuberculosis) were calculated. The Cronbach's alpha reliability coefficient for the sections related to healthy individuals and individuals with tuberculosis was found to be 0.732 and 0.897, respectively.

Ethical Dimension of the Study

Permission to use was received from the researchers who developed the relevant scale. Written permissions were received from the Research Ethics Committee (dated 22.01.2013 and numbered 09) and the institutions where the study was conducted. Written informed consent was received from the individuals volunteering to participate in the study.

Results

Of the healthy individuals who participated in the study, 36.9% were aged between 36 and 53 years, 73.1% were mar-

Table 1. Descriptive characteristics of the healthy individuals and the individuals with tuberculosis

Descriptive characteristics	Healthy individuals (n=312)		Individuals with tuberculosis (n=109)	
	n	%	n	%
Age group (year)				
18-35	93	29.8	39	35.8
36-53	115	36.9	46	42.2
54-86	104	33.3	24	22.0
Sex				
Female	203	65.1	52	47.7
Male	109	34.9	57	52.3
Marital status				
Married	228	73.1	65	59.6
Single	84	26.9	44	40.4
Educational level				
Illiterate	11	3.5	13	11.9
Primary school	77	24.7	44	40.4
Secondary school	36	11.5	18	16.5
High school	83	26.6	21	19.3
University	105	33.7	13	11.9
Profession				
Retired	58	18.6	9	8.3
Housewife	106	34.0	18	16.5
Student	18	5.8	10	9.2
Official	70	22.4	11	10.1
Unemployed	5	1.6	21	19.3
Self-employed	55	17.6	40	36.7
Economic status				
Those regarding it as good	59	18.9	18	16.5
Those regarding it as moderate	241	77.2	76	69.7
Those regarding it as poor	12	3.8	15	13.8
Total	312	100.0	109	100.0

Table 2. Emotions and thoughts related to having tuberculosis (n=109)

Emotions and thoughts	n	%
Having other disease accompanying tuberculosis		
Yes	34	31.2
No	75	68.8
Staying in hospital because of tuberculosis		
Yes	54	49.5
No	55	50.5
Informing other people that they had tuberculosis		
Yes	85	78.0
No	24	22.0
Emotions felt when they were diagnosed with tuberculosis		
Acceptance		
Yes	37	33.9
No	72	66.1
Sadness		
Yes	48	44.0
No	61	56.0
Fear		
Yes	16	14.7
No	93	85.3
Pessimism		
Yes	6	5.5
No	103	94.5
Worry		
Yes	14	12.8
No	95	87.2
Anger		
Yes	10	9.2
No	99	90.8
Disregarding		
Yes	10	9.2
No	99	90.8
Thoughts about tuberculosis		
It is a curable disease		
Agreeing	94	86.2
Disagreeing	15	13.8
It is a contagious disease		
Agreeing	22	20.2
Disagreeing	87	79.8
It is a disease whose symptoms are mild		
Agreeing	10	9.2
Disagreeing	99	90.8
It is a disease whose symptoms are severe		
Agreeing	9	8.3
Disagreeing	100	91.7
It is a fatal disease		
Agreeing	3	2.8
Disagreeing	106	97.2
It is a disease related to poor living conditions		
Agreeing	13	11.9
Disagreeing	96	88.1
It is a disease that imposes restrictions in life		
Agreeing	14	12.8
Disagreeing	95	87.2
Total	109	100.0

ried, 26.6% were high school graduates, 34% were housewives, and 77.2% had a moderate economic status. The mean age of healthy individuals was found to be 45.31±14.54 years (min: 18, max: 78) (Table 1).

Table 3. Mean scores obtained by healthy individuals on the TRS Scale (n=312)

Descriptive characteristics	Healthy individuals	
	Mean±SD	p
Age group (year)		
18-35	13.13±6.05	KWx ² =3.165 p=0.205
36-53	13.66±6.64	
54-86	14.77±5.97	
Sex		
Female	14.18±6.37	z=-1.508 p=0.131
Male	13.30±6.04	
Marital status		
Married	14.06±6.34	z=-0.934 p=0.350
Single	13.38±6.05	
Educational level		
Illiterate	18.90±3.80	KWx ² =5.474 p=0.065
Primary school	15.11±6.72	
Secondary school	10.97±6.77	
High school	12.42±6.00	
University	14.59±5.50	
Profession		
Retired	13.37±6.01	KWx ² =1.048 p=0.903
Housewife	14.34±6.56	
Student	13.38±6.21	
Official	13.98±6.23	
Unemployed	13.00±7.61	
Self-employed	13.60±6.09	
Economic status		
Those regarding it as good	12.76±5.94	KWx ² =3.329 p=0.189
Those regarding it as moderate	14.10±6.28	
Those regarding it as poor	14.83±7.33	

TRS: Tuberculosis-Related Stigma Scale; SD: Standard deviation.

Of the individuals with tuberculosis, 42.2% were aged between 36 and 53 years, 59.6% were married, 19.3% were high school graduates, 36.7% were self-employed, and 69.7% had a moderate economic status. The mean age of individuals with tuberculosis was found to be 41.45±14.60 years (min: 18, max: 86) (Table 2).

The mean score of healthy individuals on the TRS for Healthy Individuals was 13.87±6.26 (n=312). The level of stigmatization of healthy individuals against the individuals with tuberculosis was not affected by the age group, sex, marital status, educational level, profession, and economic status of healthy individuals (Table 3).

The mean score of individuals with tuberculosis on the TRS for Patients with Tuberculosis was 11.08±5.50 (n=109). The level of stigmatization was not affected by the age group, sex, marital status, educational level, profession, and economic status of individuals with tuberculosis. This study found that 68.8% of individuals with tuberculosis did not have any other diseases accompanying tuberculosis, 22% could not inform other people that they had tuberculosis, and 44% felt sad when they were diagnosed with tuberculosis. Most of the participants (86.2%) stated that tuberculosis was a curable disease (Table 4).

Table 4. Mean scores obtained by the individuals with tuberculosis on the TRS Scale (n=109)

Descriptive characteristics	Individuals with tuberculosis	
	Mean±SD	p
Age group (year)		
18-35	10.94±4.57	KWx ² =1.643 p=0.440
36-53	10.78±5.28	
54-86	11.87±6.10	
Sex		
Female	11.38±5.77	z=-0.426
Male	10.80±4.66	p=0.670
Marital status		
Married	11.35±5.39	z=-0.505
Single	10.68±4.94	p=0.614
Educational level		
Illiterate	9.76±5.98	KWx ² =2.600 p=0.627
Primary school	11.02±6.04	
Secondary school	10.94±3.52	
High school	12.19±4.29	
University	11.00±4.94	
Profession		
Retired	9.11±4.80	KWx ² =11.466 p=0.245
Housewife	12.27±5.95	
Student	11.00±4.98	
Official	14.27±2.61	
Unemployed	11.57±6.13	
Self-employed	9.87±4.68	
Economic status		
Those regarding it as good	10.83±6.12	KWx ² =2.236 p=0.327
Those regarding it as moderate	11.42±5.02	
Those regarding it as poor	9.66±5.03	
Having other disease accompanying tuberculosis		
Yes	11.11±5.16	z=-0.161
No	11.06±5.25	p=0.872
Staying in hospital because of tuberculosis		
Yes	11.20±4.58	z=-0.103
No	10.96±5.79	p=0.918
Informing other people that they had tuberculosis		
Yes	10.67±5.30	z=-1.551
No	12.54±4.63	p=0.121
Emotions felt when they are diagnosed with tuberculosis		
Acceptance		
Yes	11.35±5.56	z=-0.536
No	10.94±5.04	p=0.592
Sadness		
Yes	11.37±4.80	z=-0.168
No	10.85±5.52	p=0.866
Fear		
Yes	10.68±4.72	z=-0.472
No	11.15±5.30	p=0.637
Pessimism		
Yes	14.16±1.32	z=-2.005
No	10.90±5.29	p=0.045
Worry		
Yes	13.28±4.61	z=-1.735
No	10.75±5.23	p=0.083
Anger		
Yes	11.10±6.11	z=-0.011
No	11.08±5.14	p=0.992
Disregarding		
Yes	10.50±5.89	z=-0.426
No	11.14±5.16	p=0.670

Table 4. Tüberkülozlu bireylerde TIS Ölçeği'nden elde edilen puan ortalamaları (n=109) (continuation)

Descriptive characteristics	Individuals with tuberculosis	
	Mean±SD	p
Thoughts about tuberculosis		
It is a curable disease		
Agreeing	11.02±5.14	z= -0.159
Disagreeing	11.46±5.71	p=0.874
It is a contagious disease		
Agreeing	13.77±4.74	z=-2.566
Disagreeing	10.40±5.12	p=0.010
It is a disease whose symptoms are mild		
Agreeing	13.00±5.90	z=-1.237
Disagreeing	10.88±5.12	p=0.216
It is a disease whose symptoms are severe		
Agreeing	12.11±3.91	z=-0.828
Disagreeing	10.99±5.31	p=0.408
It is a fatal disease		
Agreeing	12.66±0.57	z=-0.641
Disagreeing	11.03±5.27	p=0.522
It is a disease related to poor living conditions		
Agreeing	11.07±2.72	z=-0.277
Disagreeing	11.08±5.46	p=0.782
It is a disease that imposes restrictions in life		
Agreeing	11.71±3.53	z=-0.667
Disagreeing	10.98±5.41	p=0.504

TRS: Tuberculosis-Related Stigma Scale; SD: Standard deviation.

The scale mean score of individuals who were diagnosed with tuberculosis and had a feeling of pessimism (14.16±1.32) was found to be higher than that of those who did not have this feeling (10.90±5.29), and this difference was found to be statistically significant (z=-2.005, p=0.045). The scale mean score of individuals who knew that the tuberculosis was a contagious disease (13.77±4.74) was found to be higher than that of those who did not know it (10.40±5.12), and this difference was found to be statistically significant (z=-2.566, p=0.010) (Table 4).

Discussion

The level of stigmatization of healthy individuals against the individuals with tuberculosis was found to be low. This result could be attributed to the fact that healthy individuals included in the sample were generally more understanding toward patients because they were patient relatives. A study conducted with 193 individuals in a rural area found that the attitude toward tuberculosis hindered the interaction in the society.^[38] Another study by Bati et al. (2013) in Ethiopia to determine the knowledge, attitudes, and practices of individuals (n=422) in a rural area about tuberculosis found that 40.8% of individuals had a positive attitude.^[39] In a study conducted with 360 individuals in Uganda, 47% were found to have a stigmatizing attitude toward tuberculosis.^[32] Al-

though the level of stigmatization was found to be low, the finding was in line with the result of the present study.

The TRS scale mean score of individuals with tuberculosis was found to be 11.08 ± 5.50 , and the level of tuberculosis-related stigmatization was found to be low. A study by Öztürk (2013) found that the mean score obtained by participants on the TRS for Patients with Tuberculosis (TRS-PT) was 69.6 ± 12.6 , and the stigmatization levels of more than half of the participants (53.4%) were higher.^[35] Another study by Yiğit Açık and Çınar Pakyüz (2015) reported that patients with pulmonary tuberculosis were stigmatized at moderate levels.^[22] The stigmatization mean score in the present study was found to be lower than the mean score found in the studies by Öztürk (2013) and Yiğit Açık and Çınar Pakyüz (2015). This result could be attributed to the fact that the study was conducted in different geographical regions and different scales were used in the study.

Studies conducted on stigmatization in individuals with tuberculosis are available in the literature. In a qualitative study by Nnoaham et al. (2006) in the United Kingdom, the patients stated that they were being slightly stigmatized because of tuberculosis.^[20] A systematical review by Macq et al. (2006) in Nicaragua found that tuberculosis-related stigmatization was relatively low.^[16] A study by Ahmed Suleiman et al. (2013) in Sudan found the level of tuberculosis-related stigmatization to be low.^[19] The results of the present study were in parallel with the results of studies by Macq et al. (2006), Nnoaham et al. (2006), and Ahmed Suleiman et al. (2013). A study by Jittimane et al. (2009) reported that 65% of HIV-infected patients with tuberculosis in Thailand were stigmatized at a high level.^[40] The present study found that the healthy individuals stigmatized the individuals with tuberculosis at a low level, and the individuals with tuberculosis were stigmatized at low levels regarding their disease. These results confirmed the findings reported in the literature.

The present study found that 78% of individuals informed other people that they had tuberculosis, whereas a study by Arikan et al. (2000) found that 24% did not inform anybody except their first-degree relatives about their diagnosis, 20% informed people (their supervisors or when they faced difficulty in social life) when necessary, 16% informed people who needed protection because they were living together, and 40% informed everybody.^[28] A study by Duyan et al. (2005) found that the relationships of patients with their colleagues, neighbors, and friends decreased, their quality of life reduced, and they suffered from a strain in their relationships with family members.^[41] A similar study found stigmatization in 16.3% of patients, exclusion from the society in 10%, and deterioration in relationships within the family in 5.6%.^[42] A qualitative study on the tuberculosis-related social stigmatization in Nicaragua found that the individuals with tubercu-

losis who were affected by the tuberculosis-related stigmatization lost their jobs and were excluded from their families and society.^[43] The present study results and the results of other studies revealed that most of the patients with tuberculosis had serious social problems because of stigmatization.

The present study found that age group, sex, marital status, educational level, profession, and economic status did not affect stigmatization in the individuals with tuberculosis and healthy individuals (Table 1). Studies reported that age affected the stigmatization of individuals with tuberculosis.^[7] Moreover, those who were at advanced ages experienced higher levels of stigmatization,^[19] females were stigmatized more compared with males,^[1,23,25] their fear of being stigmatized was at higher levels,^[44] and stigmatization had serious socioeconomic consequences for females.^[17] A study conducted on 276 patients in India found that stigmatization was higher among males.^[45] Moreover, a study reported that single women in developing countries abstained from marrying because they thought that they would be exposed to tuberculosis-related stigmatization.^[4] However, some studies found that sex^[7,19,22] and marital status^[7,22] did not affect stigmatization. Another study found that the "Family/Friend Relationship" subscale stigmatization scores of individuals who were married and widow were higher compared with the scores of those who were single.^[35] Studies also showed that the profession of the patient affected the level of stigmatization; the level of stigmatization was higher in those who were self-employed^[35] and unemployed. However, another study found that the profession of patients did not affect stigmatization.^[22] Higher levels of stigmatization were found in individuals whose educational level was low.^[7,19] Individuals with tuberculosis whose socioeconomic levels were low were found to be stigmatized at higher levels.^[7] A relationship was found between the monthly income of the family and having a history of tuberculosis in the past and stigmatization.^[18] However, some studies found that religion, ethnicity,^[7] public insurance, and staying in the hospital^[22] did not affect the level of stigmatization, but living in a rural area^[19] had an effect on this level. The results of the present study were not in parallel with the results of studies in the literature. This could be attributable to the fact that studies were conducted on groups having different cultural characteristics.

This study found that patients who knew that tuberculosis was contagious and the individuals who were diagnosed with tuberculosis and had a feeling of pessimism were stigmatized at higher levels. This could be because the patients who knew that tuberculosis was contagious restricted their social relationships because they had a fear of transmitting the disease to other people, and the individuals who had a feeling of pessimism perceived the attitudes of other people as negative.

The present study found that 33.9%, 44%, 14.7%, 5.5%, 12.8%, and 9.2% of patients experienced the feelings of acceptance, sadness, fear, pessimism, worry, and anger, respectively. A study found that patients gave responses such as acceptance (75.5%), sadness (43.4%) and fear, pessimism, worry, and anger (28.6%).^[42] A qualitative study conducted to determine how a patient with active tuberculosis experienced their disease found that these patients understood tuberculosis with a medical model and perceived themselves as a disease vector; they felt that their families and friends avoided them after they were diagnosed with the disease.^[27] A study conducted in India to determine how social stigmatization affected patients who were just diagnosed with tuberculosis (n=1977) found a serious stigmatization in the society; 60% of patients hid their disease from their friends and neighbors.^[1] The present study found that the emotions felt by patients were similar to the emotions felt by patients in other studies, and these results were similar to the results of studies in the literature.

Conclusion and Recommendations

This study found that patients with tuberculosis were exposed to stigmatization at low levels and they themselves stigmatized other patients with tuberculosis at low levels. It was also found that age group, sex, marital status, educational level, profession, and economic status did not affect the level of stigmatization in the individuals with tuberculosis and the healthy individuals. Patients who had a feeling of pessimism because they were diagnosed with tuberculosis and knew that tuberculosis was contagious were found to stigmatize other patients with tuberculosis more. The results of the present study provided basic information for further studies on determining the negative effects of stigmatization, ensuring the compliance of individuals diagnosed with tuberculosis to the treatment, and preventing social isolation.

Psychological counseling should be provided to patients with tuberculosis, particularly those having a feeling of pessimism. Health professionals should counsel patients with tuberculosis under the risk of facing stigmatization. Healthy individuals in the society should be informed accurately about tuberculosis. The consequences of stigmatizing individuals should be taught to healthy individuals in the society from early ages using active methods such as role playing. It should be ensured that healthy individuals understand stigmatized individuals, and they should be taught not to stigmatize any person for any reason at advanced ages.

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