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REDUCING THE SOCIAL STIGMA ASSOCIATED WITH OBSESSIVE COMPULSIVE DISORDER: A CONTROLLED TRIAL OF AN INTERVENTION PROGRAM IN A TURKISH COMMUNITY SAMPLE

Ayça Aktaç Gürbüz[1], Orçun Yorulmaz[1], Gülşah Durna[1]*

[1] Department of Psychology, Faculty of Letters, Dokuz Eylul University, Izmir-Turkey

Abstract

Scientific research into the reduction of stigmatization, particularly related to specific problems such as Obsessive-Compulsive Disorder (OCD), is scarce. In the present study, we examine the impact of a video-based anti-stigma intervention program for OCD in a pretest-posttest control group research. After being randomly assigned to either an intervention (n= 101) or control group (n= 96), the participants reported their attitudes on a hypothetical case vignette before and after OCD vs. Multiple Sclerosis (MS) videos, and again six months later as a follow up assessment. The mixed design analyses for the group comparisons indicated that although there was no significant difference in the measures of the control group, the participants watching the anti-stigma OCD video, in which the focus was psychoeducation and interaction strategies, reported significantly lower scores on social distances and negative beliefs for the case vignettes they read, and this difference was maintained six months later. Then, the present results indicate the effectiveness of our anti-stigma intervention program for OCD. Interventions to reduce stigmatization can also be viewed as effective tools for changing the attitudes of people toward OCD, although further research and applications are needed related to specific disorders if a long-lasting impact is to be achieved.

Keywords: Mental health, Social stigma, Obsessive Compulsive Disorder, Intervention program, Stigma reduction

* Correspondence concerning this article should be addressed to Orçun Yorulmaz, Department of Psychology, Faculty of Letters, Tinaztepe Campus, Dokuz Eylul University, Buca-Izmir-Turkey.
Telephone: +90506 862 03 50
E-mail: orcun.yorulmaz@deu.edu.tr

Introduction

People who suffer from serious mental illness often face the additional problem of public or social stigma (Rüsch et al., 2005). As an influential character in stigma research, Goffman (1963) defined social stigma as "the situation of the individual who is disqualified from full social acceptance" (p. 9). Most people with mental disorders are unable to access appropriate mental health treatment, or only after a long delay (Wang et al., 20017), and among various factors influencing help-seeking behaviors, stigma is cited as one of the leading barriers to psychological treatment (Clement et al., 2015).

The stigma associated with mental health not only has a detrimental impact on the help-seeking behaviors of individuals with mental illness, but also leads to lowered self-esteem, and reduced employment and housing opportunities (Sickel et al., 2014). Furthermore, the significant others and family members of individuals with mental illness are also subjected to discriminatory and stigmatizing attitudes in society (Van der Sanden et al., 2013). These negative consequences offer a clear indication of the need to reduce social stigma for the well-being of individuals with mental illnesses, as well as their family members and society as a whole.

OCD is characterized by recurrent intrusive thoughts, images or urges known as obsessions, along with repetitive behaviors that are referred to as compulsions that serve to decrease the distress related to obsessions (American Psychiatric Association, 2013). The symptoms of OCD adversely affect the individuals and their environment, however only a small number of individuals with OCD seek professional help (Belloch et al., 2009). In a systematic review study, the lifetime treatment seeking rates associated with OCD are reported to range between 10 and 40 percent (Schwartz et al., 2013). As is the case with other mental health problems, social stigma has been identified as one of the most significant factors preventing people with OCD from seeking help (García-Soriano et al., 2014; Goodwin et al., 2002; Marques et al., 2010). As such, the spouses, children and parents of people with OCD experience stigmatization and discrimination of various forms in their lives (Stengler-Wenzke et al., 2004). There is a tendency among those with OCD to conceal their diagnosis and isolate themselves from society due to the feelings of guilt and shame associated with the symptoms, the fear of what other people think about them, and the fear of being labeled "mentally ill", aside from social rejection (Belloch et al., 2009; Goodwin et al., 2002; Newth & Rachman, 2001). The association between the lack of public knowledge and negative beliefs, and the stigma related factors is clearly observable for OCD, as is the case for other mental disorders (e.g., Mino et al., 2001). That said, there have been only a limited number of empirical studies identifying OCD as one of the least recognized of all mental disorders (Chong et al., 2016), and those who are able to recognize the symptoms of OCD endorsed lower levels of desired social distance, fear, and feelings of dangerousness (McCarty et al., 2017). As a heterogeneous condition, the

subtypes of OCD may be perceived differently, in that intrusive experiences of aggressive, religious and sexual obsessions tend to be viewed as more socially unacceptable (Corcoran & Woody, 2008; Durna et al., 2019), and are more associated with greater levels of fear, desired social distancing and feelings of shame when compared to the more widely known types, such as checking and cleaning (Cathey & Wetterneck, 2013; Glazier et al. 2015; Simonds & Thorpe, 2003). Similarly, it has also been found that aggression-related OCD symptoms can be misidentified as schizophrenia or major depressive disorder, and have been associated with higher levels of stigma when compared to the order subtypes (García-Soriano & Roncero, 2017). Unfortunately, there have been only a few studies examining the effects of brief psychoeducation on the stigma surrounding OCD, although it has been observed that only reading informative handouts can make a significant difference (e.g., Warman et al., 2015; Snethen & Warman, 2018).

If the consequences of the stigmatization are to be reduced, it is necessary to change such negative attitudes towards mental health problems, which can be achieved through various intervention programs. The Socio-Cognitive Model (Corrigan, 2000, Corrigan and Watson, 2002) suggests that public stigma takes the form of stereotypes, prejudices, negative emotions and discrimination, and in efforts to change the stigma surrounding mental illness, psychoeducation can play a significant role by replacing myths about mental illness with accurate information (Corrigan & Shapiro, 2010). Moreover, interactions with those with experience with mental illnesses could also change existing beliefs of uncontrollability and responsibility, which may reduce such negative emotions as anger, may elicit more empathy and may lead to long-term change (Corrigan and Kosyluk, 2003). Accordingly, several influential anti-stigma intervention programs related to mental disorders include strategies that are in line with these suggestions, although they have to date not been widely applied around the world (Ng et al., 2019; Stuart, 2016). To date, many intervention programs have focused mainly on such salient problems as schizophrenic disorders. (i.e., Gaebel et al., 2008; Ritterfeld & Jin, 2006), although it is well known that despite the similarities, the stigmatization process may work differently in various kinds of mental disorders. Still, however, similar programs for other mental health problems few in number (Fox et al., 2017). To illustrate, possibly because of different nature of problems as well as awareness and attributions, individuals diagnosed with eating disorders are considered to be more responsible for their disorders and more sensitive than those diagnosed with depression (Roehring and McLean, 2010). In contrast, although people with OCD and their family members also face stigmatizing attitudes and behaviors (Ociskova et al., 2013), they carry the additional burden of the negative reactions associated with the problem. Accordingly, one of the aims of the present study is to design an anti-stigma intervention program related specifically to OCD, and to investigate its impact in reducing stigmatizing attitudes.

The format of the content of such intervention programs is also important. Corrigan and Penn (1999) identified two approaches to the reduction of mental health stigma: psychoeducation and contact. Considering that stigmatizing attitudes stem from misinformation and inaccurate beliefs about mental illness (Penn, et al., 1999), it is only natural to rely on educational strategies that are aimed at providing the public with facts about mental illness and the associated treatments in such intervention programs (Rüsch et al., 2005). On the other hand, contact or interaction has been found to be particularly effective when the following specific conditions are met: equal status with the contact person, sharing common goals, intergroup cooperation and authoritative support in the interaction (e.g., Alexander & Link, 2003). Interaction in these programs is usually provided to individuals who experience mental illness through face-to-face interactions, as well as videos. In fact, both video-based and face-to-face interactions have been shown to have similar effects on the reversal of stigmatizing attitudes (Reinke et al., 2004); although video-based interaction seems to be more practical, and more appropriate for wide use at the outset (Stuart, 2006). Furthermore, interventions in the form of psychoeducation and interaction have been reported to be more effective than psychoeducation without contact in reducing stigma (e.g., Meise et al., 2000). As such, in many anti-stigma programs, psychoeducation has been combined with contact to enhance the effect of intervention programs that aim to reduce the stigma associated with mental illness (e.g., Ahuja et al., 2017; Wood & Wahl, 2006).

Overall, reducing the public stigmatization experienced by individuals with mental disorders and their families in general, and specific problems, are of considerable importance in eliminating significant and irreversible costs. Unfortunately, there has been only limited empirical research to date (i.e., Warman et al., 2015; Snethen & Warman, 2018) in the relevant field, among which is described a comprehensive anti-stigma intervention program that focused specifically on OCD in a controlled trial. Accordingly, the purpose of the present study is to evaluate the effectiveness of an intervention program for OCD that includes both psychoeducation and interaction components, with a comparison made with a control group on the effects of decreasing social distance, negative beliefs and public stigmatization toward individuals with OCD in a Turkish community sample. By providing accurate information about mental illnesses provided by an expert, and through interactions with people with OCD and their family members, it is expected that social stigma may be decreased through the reversal of inaccurate perceptions, attributions and acceptances, and the reduction of stereotypical beliefs, prejudices and discrimination. It is hypothesized in the present study that although both groups would not differ at the outset, the intervention group would record significantly lower posttest scores on measures of social stigma, and that these differences would be maintained in a six-month follow-up assessment.

Method

Participants

The sample was recruited from a larger research project on causal attributions, social stigmatization and intervention programs for OCD in İzmir, Turkey. Of the 600 adults who were invited to participate in the study, 197 (95 male; 102 female), with a mean age of 37.12 (SD= 13.29, range= 18-67) gave their informed consent to join the study. As group characteristics were considered, the intervention group comprised 101 adults (50.5% female, age M= 36.57, SD= 12.93, age range= 20-67), while there were 96 adults in the control group (56.3% female, age M= 38.04, SD= 13.33, age range= 18-65). The majority of participants in both groups were employed (58.9%), were high school graduates with some form of higher education (50.8%), were in the middle-income category (54.1%) and resided with their families (85.3%). The group comparisons (i.e., Chi square and Independent sample t-tests, respectively) revealed no statistically significant differences between the two groups in terms of personal information. Of the total, 99 of the respondents (58 female; 41 male) attended the follow-up assessment (i.e., 48 adults in the intervention group; 51 adults in the control group). The participant characteristics are summarized in Table 1.

Table 1. Demographics of Participants at Baseline (n=197)

Variable		Intervention (n=101)	Control (n=96)
		n (%)	*n (%)*
Gender			
	Female	51 (50.5)	54 (56.3)
	Male	50 (49.5)	42 (43.8)
Marital Status			
	Single	55 (54.5)	41 (42.7)
	Married	46 (45.5)	55 (57.3)
Employment			
	Employed	65 (64.4)	51 (53.1)
	Unemployed	34 (33.7)	41 (42.7)
Level of Education			
	High school below	42 (41.6)	55 (57.3)
	High school & above	59 (58.4)	41 (42.7)
Presence of psychiatric diagnosis			
	Yes	11 (10.9)	17 (17.7)
	No	90 (89.1)	79 (82.3)
Having a relative diagnosed with a mental disorder			
	Yes	30 (29.7)	25 (26.0)
	No	71 (70.3)	71 (74.0)
		Mean (SD)	Mean (SD)
Age		36.57 (13.12)	38.04 (13.49)

Procedure

The present study was approved by the Ethical Committee of the Faculty of Letters of Dokuz Eylul University (Date: December 24, 2015 Verdict no: 2). In the present study, a pretest and posttest research control group design was preferred to allow an investigation of the effectiveness of the intervention program using a quantitative approach, with a follow-up assessment six months later. To increase participation, a convenience sampling procedure was selected for the collection of data. Initially, in line with previous studies (e.g., Warman et al., 2015; Simonds & Thorpe, 2003), five case vignettes (see Appendix) on the subtypes of OCD, including symptom presentations from five main subtypes, with emphasis on the Diagnostic and Statistical Manual of Mental Disorders criteria (American Psychiatric Association, 2013) were designed for the study. These included, but were not limited to, manifests of obsessions and compulsions, contamination/cleaning, doubt/checking, harm, sexual and religious obsessions/reassurance seeking, control and avoidance, distress, ego-dystonic behavior, functional impairment, avoidance, and the absence of intentions in real life. Even though its content is based on real daily lives of patients with OCD, there is no obvious psychiatric diagnosis title in order to prevent a possible bias of diagnostic and medical terms. The validity of the vignettes, which had been utilized for other relevant bodies of research, was tested by taking the opinions of five clinical psychologists (Durna et al., 2019). In the following stage, an OCD video was put together for the intervention group with the help of students and equipment from the Faculty of Fine Arts of our university; while similar scenes were taken from a web page that was a part of a national campaign related to Multiple Sclerosis (MS) (www.livinglikeyou.com/en) for the control group video. Although the focal points of the anti-stigma videos were naturally different, the same features were highlighted in both videos, being an interaction section in which a patient describes their symptoms, the problems they experience due to illness and the social stigma they endure; and a family member speaks about their experiences and reactions; while in the psychoeducation part, an expert gives information on the problems and treatment options. It was expected that factual information given by an expert would provide an opportunity to understand the mental illness, and would result in decrease in stereotypical beliefs and misinformation. Furthermore, the provision of accurate information coupled with interaction with an individual who has experienced OCD, along with a family member, would also lead to a change in attitude, as a result of having been able to observe real-life experiences, to establish identification, to increase empathy and to elicit different emotions (e.g., Pettigrew and Tropp, 2008).

For the collection of data, in the first phase of the study, those who provided informed consent for participation were asked to fill out the sociodemographic information section and to read one of the five randomly assigned case vignettes. Since there is no specific focus in the present research with regard to the different symptom manifestations, the number of participants in each vignette in areas such as contamination, checking, violence, sexuality and religion ranged from 37 to 42 for the pretest/posttest phases, and subsequently 18 to 24 in the follow-up

assessments. After which, the respondents completed the written Social Distance Scale and the Beliefs Toward Mental Illness Scale, considering the case vignette that they had read previously. For the second phase of the study, which took place two weeks later, the researchers contacted the respondents via phone and made appointments for face-to-face meetings. The participants were then asked to watch one of the randomly assigned videos, which were related to intervention or control (n= 101, n= 96 respectively), using laptops and headsets arranged by the researchers. After watching the anti-stigma videos, all of the respondents in the groups re-read the case vignette that they had read previously in the first phase of the study, and provided a reevaluation with regard to the desired social distance and negative beliefs. All parts were answered again in writing. For the final phase, the participants were contacted by telephone six months later for the follow-up study, and a face-to-face appointment was arranged with each available respondent, during which they were asked to complete the same two scales after reading over the case vignette assigned to them earlier (n = 48 for the intervention, n = 51 for the control group). Similar to the first two stages, the final phase involved completing written questionnaires (Figure 3 shows a diagram of the study flow).

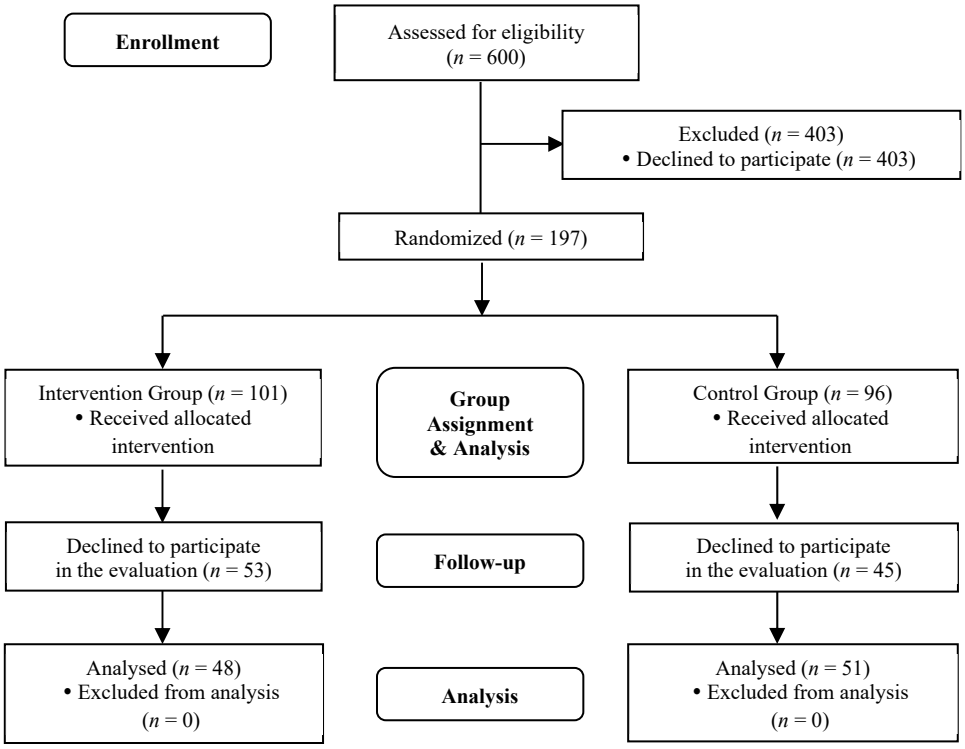


Figure 3. CONSORT Flowchart of Participants

Materials/Measures

Personal Information Form

This form was designed for the present study, and was applied to garner personal and socio-demographic information from the participants such as age, gender, income, marital status and psychiatric diagnoses among close relatives.

Social Distance Scale (SDS)

The SDS is a self-reported questionnaire consisting of 14 items that makes use of a 7-point response option scale, developed originally by Arkar (1991) for the assessment of the desired social distance and level of social rejection among individuals with mental disorders. The participants were asked what they thought interactions in such social situations as marriage, sharing the same room, renting a house, sitting side-by-side, etc. (e.g., Item 1: "Would it bother you to travel on public transport vehicle with this person sitting by your side?"; Item 6:" Would it bother you to attending a family meeting if you learned beforehand that this person would be in attendance?"; "Item 10: Would it bother you if this person moved to your apartment as your next door neighbor?"). The item scores were totaled to provide a single score, and served as an indicator of social stigma level. The SDS has been reported to be a reliable and valid measure (Arkar, 1991), and was included in the present study to evaluate social stigma by asking particularly to answer it as taking the person in vignettes into consideration previously. The internal consistency of the SDS for our sample was found to be acceptable (Cronbach's alpha =.85).

Beliefs Toward Mental Illness Scale (BMI)

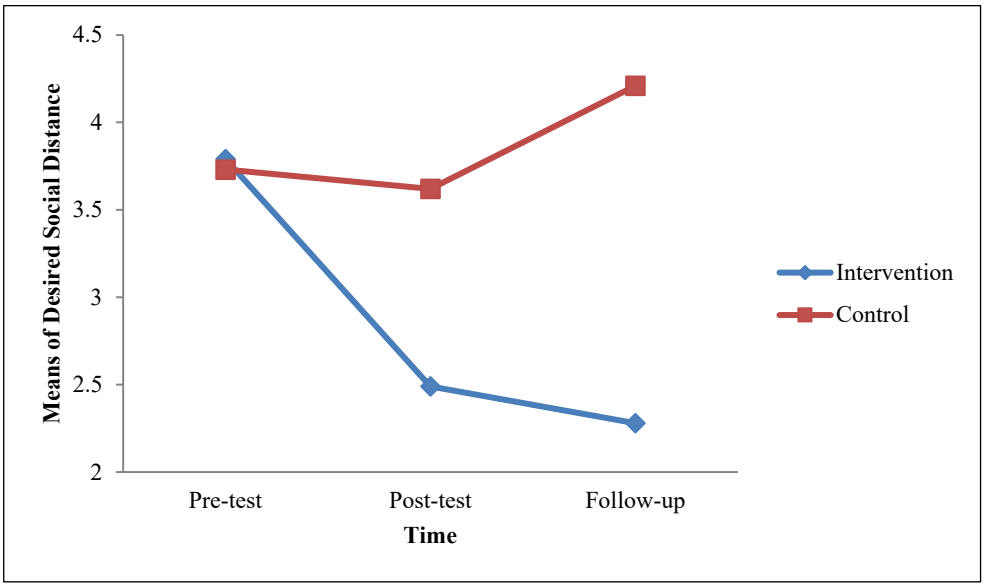
The BMI is a self-reported inventory that was developed originally by Hirai and Clum (2000) to assess negative beliefs toward mental illness. The BMI is a 21-item questionnaire in which each item (e.g., "Item 1: A mentally ill person is more likely to harm others than a normal person", Item 5: "A person with psychological disorders should have a job with only minor responsibilities") is rated on a six-point Likert Scale (0= completely disagree – 5= completely agree). It can be used as a total score or as the three subscales of dangerousness; poor social and interpersonal skills; and incurability. The original and Turkish versions of the scale reveal satisfactory psychometric properties (Çam & Bilge, 2011). The total Turkish BMI score was used in the present study to assess the views of the participants concerning negative beliefs about mental illness, considering the person described in the case vignette. The Cronbach's alpha for the overall scale was reported as .89.

Results

The impact of the intervention program on the desired social distance was examined with a 2 (intervention vs. control groups) by 2 (pre vs. posttest scores on SDS) mixed design ANOVA. The analyses revealed the most significant effects for the video types ($F(1, 195) = 7.06$, $p < .05$, $\eta_p^2 = .04$), the time period ($F(1, 195) = 89.79$, $p < .001$, $\eta_p^2 = .33$) and, more importantly, the interaction effect of the video, also by time (Wilk's Lambda= .758, $F(1, 195) = 62.28$, $p < .05$, $\eta_p^2 = .24$). The post-hoc analyses of the interaction effect revealed that in the intervention group, significant differences were noted between the pretest and posttest assessments ($t(100) = 9.97$, $p < .05$); that is to say, the degree of social distance towards OCD after intervention was significantly lower than at the beginning of the study. In the control group, however, no significant change was noted between the pretest and post-test time points ($t(95) = 1.72$, $p > .05$).

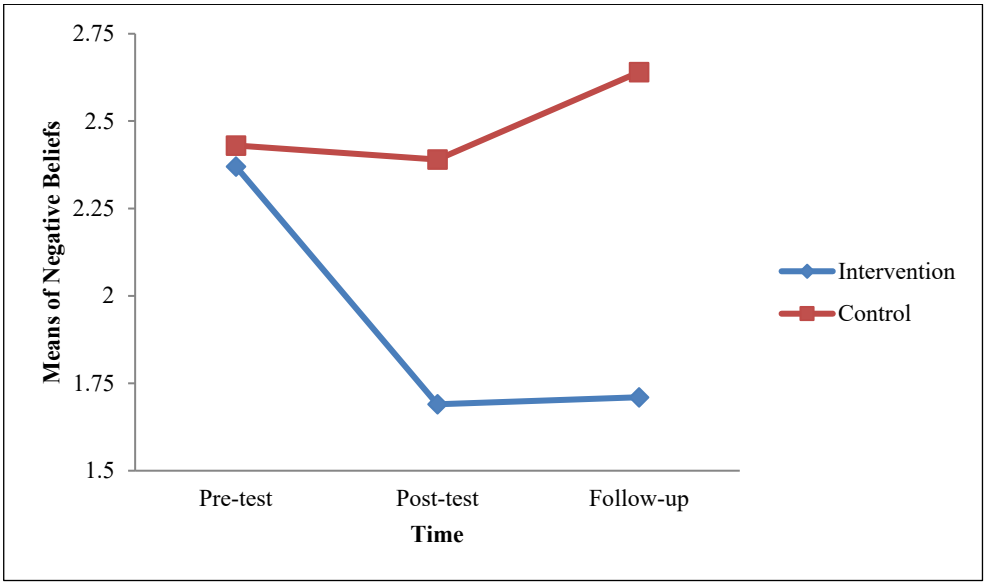
The same mixed design ANOVA analysis strategy (i.e., a 2 (intervention vs. control groups) x 2 (pre vs. posttest scores on BMI) was conducted for the perceived negative beliefs toward the target. The analyses revealed significant main effects for the video types ($F(1, 195) = 19.37$, $p < .05$, $\eta_p^2 = .09$), the time period ($F(1, 195) = 99.40$, $p < .001$, $\eta_p^2 = .34$) and, more importantly, interaction effect of the video by time (Wilk's Lambda= .706, $F(1, 195) = 81.28$, $p < .05$, $\eta_p^2 = .29$). Further analyses for the assessment of the interaction effect revealed significant differences between the pretest and posttest assessments in the intervention group ($t(100) = 11.67$, $p < .05$), while no significant change was detected between the pretest and post-test time points in the control group ($t(95) = .90$, $p > .05$).

Finally, after examining the pretest and post-test values, as well as the follow-up data (i.e., six months later; with a 50% drop in the participation rate), all were further examined with an Independent t-test analyses to observe the maintenance of the impact of the intervention program. The results of analyses indicated that our intervention program had maintained its impact, since the participants in the intervention group had significantly lower scores on social desire (i.e., SDS) than the control group ($t(97) = 8.11$, $p<.05$). Similarly, the BMI follow-up scores were lower in the intervention group than in the control group ($t(97) = 8.37$, $p<.05$). Mean scores and standard deviations of two groups are presented in Table 2, while the changes in the scores of SDS and BMI across assessment points are presented in Figures 1 and 2.



Note. This figure shows the means of SDS score at pre-test (n = 197), post-test (n = 197) and follow-up (n = 99) assessments relatively.

Figure 1. Graphical Changes of the SDS Scores Across Conditions



Note. This figure shows the means of BMI scores at pre-test (n = 197), post-test (n = 197) and follow-up (n = 99) assessments relatively.

Figure 2. Graphical Changes of the BMI Scores Across Conditions

Table 2. Means and Standard Deviations for SDS and BMI at Pre-test, Post-test and 6 Months Follow-up

	Scale	Pre-test *M (SD)*	Post-test *M (SD)*	Follow-up *M (SD)*
SDS				
	Intervention	3.79 (1.47)	2.49 (.89)	2.28 (.91)
	Control	3.73 (1.76)	3.62 (1.75)	4.21 (1.52)
BMI				
	Intervention	2.37 (.76)	1.69 (.57)	1.71 (.59)
	Control	2.43 (.65)	2.39 (.67)	2.64 (.58)

Note. SDS = Social Distance Scale, BMI = Beliefs Toward Mental Illness Scale

Discussion

The present study investigated the effectiveness of a video-based anti-stigma intervention program, consisting of psychoeducation and interaction components, aimed at reducing the social stigmatization against OCD when compared to a control group. As expected, the comparison analyses in this controlled trial showed that even though no change was recorded between the two study groups at the pretest assessment, exposure to the anti-stigma intervention program resulted in a significant decrease in desired social distance and negative beliefs toward individuals with OCD in the posttest scores. Generally speaking, this result is consistent the findings of some previous studies, indicating the impact of intervention programs in decreasing mental health-related stigma. For instance, Snethen and Warman (2018) found that educating others about OCD improved perceptions toward individuals who experience intrusive thoughts, for instance about pedophilia. Furthermore, another study investigated the effect of a school-based anti-stigma intervention program and found it to be effective in increasing knowledge and positive attitudes toward mental illness (Lanfredi et al., 2019). In summary, it is widely known that learning about mental illness and interacting with those with mental illness is effective in reducing the negative stereotypes, prejudice and discriminatory behaviors that constitute stigmatization. Furthermore, the results of the present study reveal that a more comprehensive intervention program, with elements covering the various symptom manifestations of OCD, had a significant effect on stigmatization. These results also highlight the positive impact of a video-based program as an alternative to face-to-face psychoeducation and interaction programs.

Similarly, the findings support research findings that programs including various methods, psychoeducation and contact together in this condition, seem to be an effective combination for successful stigma reduction. For example, Chan et al.

(2009) made a comparative investigation of the effectiveness of three versions of a school-based stigma reduction program in decreasing stigma among students, being psychoeducation; psychoeducation followed by interaction; and interaction followed by psychoeducation. The authors found that education followed by interaction condition led to greater improvements in stigmatizing attitudes in comparison to the psychoeducation approach. Furthermore, Patten et al. (2012) found interaction-based education to be an effective method of mental health-related stigma among pharmacy students. Since OCD is one of the most stigmatized mental disorders, to the detriment of both people and society, it is crucial to change the negative attitudes that exist toward this condition, although there have been few efforts to date focusing on a psychoeducation approach (e.g., Warman et al., 2015). For this reason, the examination of the intervention program in the present study considered various strategies together, such as both psychoeducation and interaction, and their ability to reduce the levels of stigmatization toward individuals with OCD, making this study somewhat unique.

As mentioned earlier, the stigma is based on are stereotypes, prejudice and discrimination, and is a direct result of misconceptions about a stigmatized group (Corrigan, 2000). For example, some of the common misconceptions are that individuals with mental illness are unpredictable, irresponsible, incompetent and dangerous (Corrigan and Kosyluk, 2014). Among the various approaches to reducing stigma, psychoeducation aims to address false assumptions and misconceptions about the stigmatized group, while interventions focusing on contact are thought to work by increasing empathy and awareness, and by reducing negative emotions (Pettigrew & Tropp, 2008; Ng et al., 2019). Accordingly, the current intervention program is based on these two strategies, first presenting factual information and then providing insight into the real life and difficulties experienced by those with OCD, thus invalidating mistaken beliefs; disconfirming the negative stereotypical beliefs related to OCD; and thereby enhancing empathy and acceptance. Ultimately, it may be asserted that after being subjected to such an intervention, recipients may become less compelled to seek social distance, and may have a more positive and inclusive understanding of the condition.

Another aspect of the present study is its highlighting of the continuing effect of this anti-stigma program on desired social distance and negative beliefs after a period of six months when compared to a control group. This finding demonstrates that the positive effect of anti-stigma interventions on stigmatized attitudes are maintained. Nonetheless, even though the findings did not reach statistical significance, a visual examination of the changes in negative beliefs (see Figure 2) revealed a slight increase at the follow-up that may be worthy of attention. It can thus be stated that although the present anti-stigma intervention program is effective in reducing desired social distance and negative beliefs toward individuals with OCD, it would also be further beneficial to re-apply the current program and/or to support it periodically with alternative interventions in order to maintain a

permanent change in attitude towards psychological disorders. Nevertheless, the results of the present study support those of previous studies examining the effectiveness of anti-stigma intervention programs at follow-up assessment (e.g. Ahuja et el., 2017; Chan et al., 2009). The present study also reminds of need to re-administer similar programs aimed at changing attitudes to ensure effective mental illness stigma reduction and to prevent any negative factors, such as corrosion over time and recall bias, and to ensure long-lasting modifications and internalizations are maintained. Obviously, further studies with longitudinal research designs would provide more meaningful findings related to this issue.

There are some limitations of the present study that should be taken into consideration. The first major limitation relates to its generalizability issue, since a convenience sampling method was used to increase participation. Although the sample in this study all live in İzmir, Turkey, which is a relatively large and modern city, further researches involving larger samples from different parts of the country (e.g., rural areas) would provide more variance in the social stigma analyzed, and more accurate results related to the intervention programs. Accordingly, further studies should aim to -collect data from different parts of the country to evaluate the effects of intervention programs aimed at decreasing stigmatization toward mental disorders. Moreover, although we did not focus on any specific symptom manifestations of OCD in the intervention video, observing the general reactions to various symptoms manifestations may be a fruitful area for research in future studies. Furthermore, causal attributions may play a significant role in understanding public stigma. For instance, it has been reported that when the cause of mental illness is attributed to the individual rather than the biological causes or stressful life circumstances, people tend to seeks greater social distance (Martin et al., 2000). As such, a future study should also examine whether styles attribution moderate the relationship between the effectiveness of anti-stigma interventions and public stigma. Finally, the number of participants in the follow-up assessment (i.e., around 50% returned for follow-up) and the absence of intervals of longer periods are worthy of note. Drop-out in the long-term follow ups of preventive interventions is a general problem (i.e., Svensson & Hansson, 2014). The relatively high attrition rate in the present study may be attributed to many reasons, such as the 6-month wait after post-test assessment, a loss of interest in the topic, the lack of willingness to fill out the same questionnaire, or any subjective issues in the respondents. With more participants and assessments taken in a year or later, it would be possible to observe the real impact and sustainability of such interventions.

In conclusion, the results of this study support the use of anti-stigma intervention programs for the reduction of negative attitudes and beliefs toward those with OCD. To the best of our knowledge, this is the first study to evaluate specifically the effectiveness of an intervention program based on psychoeducation and contact aimed at reducing stigmatizing attitudes toward OCD in a controlled trial. It can be concluded that like other mental health issues, the stigma surrounding OCD

may also be changed through the imparting of knowledge and interaction, which in turn can modify negative stereotypes, prejudices and discrimination. Likewise, it can be states more anti-stigma intervention programs are needed for other mental problems and in disorder-specific forms to raise awareness, improve treatment and adherence, encourage social contact and public support. Furthermore, since this program is video-based, it is also very practical to administer, and can be administered through various methods, such as through web-pages, smartphone applications, etc., while animations, popular characters, and social media can also be utilized. In its basic form, launched an initiative involving a website with specific focus on OCD, which includes some information on the illness and the impact of stigmatization, and is accessible in the Turkish language (https://damgalama.wordpress.com).

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Appendix A. Vignettes

Harm: Esra is 29 years old and she is a mother to her 2-year-old boy. She is a loving parent who strives to do the best for her son. However, recently Esra told you about experiencing involuntary, recurring, and distressing thoughts. When she spends time with her child in the kitchen, she has thoughts about stabbing her child with a sharp kitchen knife and killing him. Thus, she wants to stay away from her child as much as possible and she cannot handle sharp and pointed objects when the child is near. Even though she knows these thoughts are ridiculous and she is not going to carry them out deliberately, she still says that she cannot get rid of these thoughts. She feels annoyed when she sees sharp needles and screwdrivers. She checks these objects and recurrently imposes herself not to behave in a violent way in the environments that she enters. Esra has never exhibited acts of violence up to now, but she is still very worried about it.

Sexuality: Merve is 24 years old and she is unmarried. She frequently stays in sister's home in order to look after her 4-year-old niece. However, recently Merve told you about experiencing involuntary, recurring, and distressing thoughts. Without realizing it, thoughts like she could touch her 4-year-old niece in a sexually inappropriate way, or abusing her, go through her mind. Even though she knows these thoughts are ridiculous and she will not exhibit these behaviors intentionally, she stays away from being alone with her niece. When she stays with her niece or other children alone, she constantly reminds herself to control her body over and over again whether she experiences sexual arousal or not. Besides, she tries to convince herself while saying to herself, “I am not sexually aroused.” Merve has never previously behaved in a sexually inappropriate with any child and she has previously never felt any real sexual arousal to children. Although she knows that these ideas are not rationale, her concerns still intensely remain.

Contamination: Sema is a 25-year-old housewife. She is married and has two children. Recently, Sema told you about experiencing involuntary, recurring, and distressing thoughts. She is spending a lot of time in the bathroom for a while. Even though she has repeatedly washed her hands after having used the toilet, she is still concerned that her hands are not clean and that she is dirty. If she uses a public toilet, she thinks she will be infected with a deadly disease. Sometimes she stays at the sink and washes her hands for more than an hour. In public places, she never wants to touch the door handles and other belongings. After touching money, she feels forced to wash her hands over and over again. Sema has the fear of catching a disease and infecting other people by contaminating the objects used by them. Sema has not been diagnosed with a disease till now. Although she knows that this way of thinking is not rational, her concerns still intensely remain.

Checking: Murat is a 32-year-old man who works in a bank and lives alone. Recently, Murat told you about experiencing involuntary, recurring, and distressing thoughts. He has intense doubts as to whether he leaves the bathroom faucets open when he leaves home for work. He worries that by leaving the faucets open, he can cause a flood, which will damage not only his house—but also the other apartments in his building. Thus, he carries out numerous checking behaviors before leaving the house and even afterwards. He also checks the iron and other electronic appliances repeatedly before leaving the house. This causes a lot of time loss as he checks again and again. Despite the fact that Murat has never experienced such a situation up till now, and he knows that these ideas are not rational, his concerns still intensely remain.

Religion: Selim is a 52-year-old accountant, who grew up in a conservative family. His religious belief has a decisive role in his life and he fulfills all religious requirements. However, recently Selim told you about experiencing involuntary, recurring, and distressing thoughts. The thoughts consist of anti-religious ideas, insulting holy things, swearing, and related statements while reading Qur'an or praying. He persistently attempts to suppress the thoughts and then prays again. Moreover, he examines the Qur'an to reduce his doubts and frequently consults with his close friends and the religious leaders he trusts. However, he still says that he cannot get rid of these thoughts. Even though Selim knows that these ideas are not rational, his concerns still intensely remain.