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Half of Obsessive-Compulsive Disorder Cases Misdiagnosed: Vignette-Based Survey of Primary Care Physicians

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ABSTRACT

Objective: Medical settings are the primary mode of care for mental health problems; physicians' abilities with regard to psychiatric diagnosis and treatment recommendations are therefore essential. While misdiagnosis can occur across all psychiatric conditions, the heterogeneous nature of obsessive-compulsive disorder (OCD) may make this condition at an elevated risk for misidentification. The study's aim was to assess primary care physicians' ability to identify OCD.

Method: The study was cross-sectional in design. An online, vignette-based survey was emailed to 1,172 physicians from 5 major medical hospitals in the Greater New York Area. The email included a link to the survey, which consisted of 1 of 8 randomized OCD vignettes; each vignette focused on one of the following common manifestations of OCD: obsessions regarding aggression, contamination, fear of saying things, homosexuality, pedophilia, religion, somatic concerns, or symmetry. Participants provided diagnostic impressions and treatment recommendations for the individual described in the vignette. Data collection took place from December 10, 2012, through January 18, 2013.

Results: Two hundred eight physicians completed the survey. The overall misidentification rate was 50.5%. Vignette type was the strongest predictor of a correct OCD response (Wald $\chi^2_7 = 40.58$; $P < .0001$). Misidentification rates by vignette were homosexuality (84.6%), aggression (80.0%), saying certain things (73.9%), pedophilia (70.8%), somatic concerns (40.0%), religion (37.5%), contamination (32.3%), and symmetry (3.70%). Participants who misidentified the OCD vignette were less likely to recommend a first-line empirically supported treatment (cognitive-behavioral therapy [CBT] = 46.7%, selective serotonin reuptake inhibitor [SSRI] = 8.6%) compared to participants who correctly identified the OCD vignette (CBT = 66.0%, SSRI = 35.0%). Antipsychotic recommendation rates were elevated among incorrect versus correct responders (12.4% vs 1.9%).

Conclusions: Elevated OCD misdiagnosis rates and the impact of incorrect diagnoses on treatment recommendations highlight the need for greater training regarding OCD symptomatology and empirically supported treatments.

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The prevalence of individuals seeking mental health treatment from primary care physicians has significantly increased; results from the National Comorbidity Survey Replication study[1] suggest general medicine (without additional treatment by mental health professionals) is the most common source of mental health care in the United States (32.3%). These findings support reports from a focus group in which patients "viewed primary care as the cornerstone of their physical and mental health" and "favored seeing the same [general practitioner] for their physical and mental health needs."[2] Since stigmatization fears are a common barrier to seeing a mental health specialist,[3–5] individuals may feel more comfortable speaking about mental health concerns with their primary care doctor. Also, medical versus mental health visits are reimbursed at higher rates, making the former more economically feasible for individuals.[6,7]

As a result, primary care physicians have become a principal source for the prescription of psychiatric medications, which in turn, appears to be increasing over time.[8–11] For example, 1 in 5 adult Americans are currently prescribed at least 1 psychotropic medication, and almost 80% of all psychiatric drugs are provided by medical doctors who are not psychiatrists.[11] In 2011, the total number of prescriptions across the 25 most commonly prescribed psychiatric medications in the United States totaled approximately 400 million.[9]

Since general medical doctors provide care for the majority of individuals with mental health problems, the need for physicians to be well versed in psychological disorders and empirically supported treatments to treat them is essential. Although misdiagnoses can occur across all mental health conditions, obsessive-compulsive disorder (OCD) may be at a particularly elevated risk: OCD is a heterogeneous disorder and the symptom presentation of obsessions, compulsions, or both vary greatly.[12,13] The Yale-Brown Obsessive Compulsive Scale,[14] the gold-standard assessment measure for OCD, outlines the following subcategories for obsessions: aggressive, contamination, hoarding, religious, sexual, symmetry/exactness, somatic, and miscellaneous.[15] Due to the various ways OCD manifests, it is important for health care professionals to be aware of the idiosyncratic nature of OCD.

Our prior work[16] examined mental health professionals' ability to correctly identify OCD via an online, vignette-based survey. The study compared clinicians' ability to identify taboo thoughts (aggressive, religious, or sexual obsessions) versus contamination obsessions. The following misidentification rates were found: obsessions regarding homosexuality (77.0%), pedophilia (42.9%), aggression (31.5%), religion (28.8%), and contamination (15.8%). These findings suggest that greater education is needed regarding the symptomatology of OCD.

Since high OCD misidentification rates were found among clinical psychologists, we expected that medical professionals who do not specialize in psychiatry would be even less aware of the various manifestations of OCD despite the fact that they encounter the

Clinical Points

- Approximately 50% of the primary care physicians misidentified the obsessive-compulsive disorder (OCD) vignette, suggesting primary care physicians may not be aware of the heterogeneous nature of OCD.
- Participants who misidentified the OCD vignette were less likely to recommend a first-line, empirically supported treatment compared to participants who correctly identified the OCD vignette.
- Elevated OCD misdiagnosis rates and the impact of incorrect diagnoses on treatment recommendations highlight the need for greater training regarding OCD symptomatology and empirically supported treatments.

vast majority of individuals presenting with psychological problems. The purpose of this study was to assess the ability of primary care physicians to correctly diagnose OCD. On the basis of our prior work[16] and the fact that educational materials on OCD typically focus on contamination and symmetry manifestations of OCD,[17–19] we hypothesized high OCD misidentification rates. Furthermore we predicted participants would be significantly more likely to correctly identify the contamination and symmetry vignettes compared to the noncontamination and nonsymmetry vignettes. Additionally, it was hypothesized that participants who correctly versus incorrectly identified the vignettes would be more likely to recommend an empirically supported treatment.

METHOD

Design Overview

The Institutional Review Board at the Albert Einstein College of Medicine/Yeshiva University, Bronx, New York, approved the study. Data collection occurred from December 10, 2012, through January 18, 2013. Eight OCD vignettes were developed for the study (see eAppendix A). Each vignette focused on one of the following common manifestations of OCD: obsessions regarding aggression, contamination, fear of saying things, homosexuality, pedophilia, religion, somatic concerns, and symmetry. In accordance with a review article[20] of clinical vignette-based studies, which emphasized that "clarity and brevity [of the vignettes] are imperative," the length of this study's vignettes ranged between 10–11 sentences (word count range, 136–170). According to the Flesch-Kincaid Grade Level,[21] the vignettes were written at an average grade level of 7.82 (range, 7.8–7.9).

One vignette was randomly assigned to each participant; each vignette was sent to the same number of physicians (N = 146). Participants were emailed a description of the study and a link to the survey site. Approximately 3 weeks later a follow-up reminder email was sent. Participants who did not provide study consent were not permitted to complete the study. To reduce content bias, the demographic information of the patient remained constant across all vignettes. However, participants were asked whether they primarily worked with children/adolescents or adults. On the basis of the response, the participant was presented with a vignette that described "Jack, a middle-aged man" or "Jack, a teenage boy." Following reading of the vignette, participants gave their diagnostic impressions by selecting from a list of 47 psychiatric and nonclinical diagnoses. Participants also provided treatment recommendations from a list of 31 treatment techniques (see eAppendix B). Upon completion, participants were invited to enter a raffle drawing for a $100 gift card.

Vignette validation process. Validation of the 8 OCD vignettes was part of a larger validation process of 28 clinical and nonclinical vignettes. Five vignettes were randomized to each mental health professional who participated in the study; all professionals were affiliated with a major psychiatric or medical facility in New York. Twenty-eight professionals were involved in the validation process of the OCD vignettes. Each vignette was rated by at least 5 professionals (maximum = 7 professionals). Of the 28 professionals, 42.9% were female, the average age of the sample was 40.8 years (SD = 11.6), and the mean number of postgraduate clinical/clinical research years of experience was 11.0 (SD = 10.3). Most participants had a PhD (57.1%), followed by MD or MSW (14.3%), PsyD (7.1%), and LMSW or MA (3.6%).

Participants were given the vignette along with the vignette rating form (see eAppendix A). The vignette was subsequently revised if a vignette was coded as not meeting its intended condition by more than 1 reviewer; this occurred for 1 vignette (obsessions about homosexuality). The vignette was modified accordingly and subsequently rerated by the original reviewers; each professional reported that the revised vignette met OCD criteria. In total, 47 OCD rating forms across the 8 OCD vignettes were completed; 95.7% of the completed rating forms indicated that the vignette met diagnostic criteria for OCD.

Setting and Participants

The hospital directories for 5 major medical hospitals in the Greater New York Area were used to identify participants. All email addresses that were available for physicians who specialize in the following areas were obtained: adolescent medicine, family medicine, general medicine, internal medicine, and pediatrics. These areas of specialty were selected since physicians who specialize in these areas are more likely to serve in a primary care role for patients as opposed other areas, such as orthopedics or radiology. Results from a power analysis with a medium effect size ($F = 0.25$), $\alpha = .05$, and 80% power supported a sample size of 200. On the basis of the response rates of prior online-based surveys (approximately 15%),[16,22] we predicted a response rate of 15%–20%. Therefore, we expected that emailing 1,172 physicians would amount to approximately 205 completed surveys.

Of the 1,172 physicians emailed, 113 of the individuals were ineligible (the study flowchart is displayed in Figure 1).

Figure 1. Study Flowchart

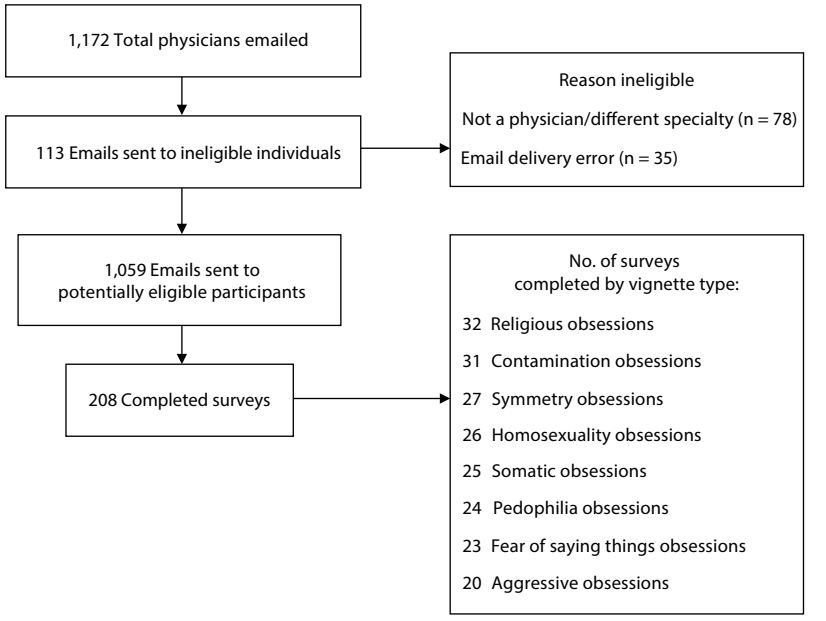

Table 1. Description of Total Sample (N = 208)

Characteristic	Value
Age, mean (SD), y	46.8 (11.4)
Female gender, %	57.2
Hispanic, %	7.7
Race, %[a]	
White	76.7
Asian	14.5
African American	8.8
Other	3.0
Native American	0.6
Professional setting, %[a]	
Clinical	80.4
Academia	26.0
Research	14.5
Other	5.4
Currently licensed, %	97.4
Highest degree, %	
MD	95.4
DO	3.1
Other	1.5
Area of specialty, %[a]	
Internal medicine	35.4
Pediatrics	32.3
Family medicine	22.2
Other	10.6
General medicine	4.5
Professional career, %[a]	
Academia	61.6
Clinical	60.1
Research	10.6
Other	2.0
Predominant patient population, %	
Adults	62.5
Child/adolescents	37.5
No. of clients/d, mean (SD)	12.6 (7.5)
No. of new clients/mo, mean (SD)	17.9 (19.1)
Location description, %[a]	
Urban	93.3
Suburban	7.7
Rural	1.0

[a]Denotes more than one answer was permitted.

Of the remaining 1,059 physicians, 208 physicians completed the survey. Of the respondents, 57.2% were female, and the mean age was 46.8 years (SD = 11.4). The majority of the sample was white (76.7%), and 7.7% identified as Hispanic. Approximately one-third of participants specialized in internal medicine (35.4%) or pediatrics (32.3%), and the majority (95.4%) had an MD degree. In an attempt to keep the participants blind to the study's aim, the participants' training and experience in treating OCD were not assessed. Sample demographics are shown in Table 1.

Statistical Analysis

We used SPSS (IBM Corporation; Armonk, New York) and SAS statistical software (SAS Institute; Cary, North Carolina) for descriptive and logistic regression analyses. All analyses were 2-tailed, and statistical significance was determined by $\alpha = .05$. Rates of OCD misidentification were examined for each vignette. A Wald χ^2 test within the context of a logistic regression analysis was conducted to compare rates of OCD misidentification for each vignette type versus the contamination/symmetry vignettes. Frequencies were calculated for the most prevalent non-OCD response for each vignette.

Point biserial correlations between OCD identification and each demographic variable were examined. To test for collinearity between demographic variables, point biserial correlations were calculated between those demographic variables that had a significant correlation with OCD identification. It was decided a priori that if a pair of demographic variables were correlated ≥ 0.6, guidelines for addressing multicollinearity would be followed.[23]

A multivariate regression was conducted to determine the best predictors of OCD identification among (1)

Table 2. Comparison of Rates of Incorrect OCD Identification Between the Symmetry Obsessions Vignette and Each of Nonsymmetry Vignettes (N = 208)

Obsession Vignette Type	n	Incorrect OCD Identification, %	*z* Value	*P* Value
Aggressive	20	80.0	−4.15	< .0001
Contamination	31	32.3	−2.28	.0224
Fear of saying things	23	73.9	−3.80	.0001
Homosexuality	26	84.6	−4.52	< .0001
Pedophilia	24	70.8	−3.86	.0001
Religious	32	37.5	−2.73	.0063
Somatic	25	40.0	−2.41	.0159
Symmetry	27	3.7	…	…

Abbreviation: OCD = obsessive-compulsive disorder.

demographic variables significantly correlated with an OCD response and (2) vignette type.

Frequencies of treatment recommendations across vignettes were calculated. Comparison of treatment recommendations provided by correct versus incorrect responders was conducted.

RESULTS

OCD Misidentification by Vignette Type

Across all 8 vignettes, 50.5% of participants provided an incorrect (non-OCD) response. Consistent with our predictions, the symmetry obsessions vignette resulted in the lowest misidentification rate (3.7%). Table 2 shows the OCD misidentification rates by vignette type.

The 7 vignettes that had elevated misidentification rates fell into 2 distinct categories; approximately half the vignettes were misidentified the vast majority of the time (70%–85%), while the misidentification rates for the other vignettes were lower but still elevated (32%–40%). The following vignettes fell within the high misidentification group: obsessions regarding aggression, fear of saying things, homosexuality, and pedophilia. Obsessions regarding contamination, religion, and somatic concerns fell within the moderately high misidentification range.

The most common incorrect primary diagnoses (listed with the correct OCD type in parentheses) were as follows: schizophrenia (31.3%; aggressive obsessions), obsessive-compulsive personality disorder (80%; contamination obsessions), Tourette's syndrome (64.7%; obsessions about saying things), obsessive-compulsive personality disorder (33.3%; religious obsessions), no disorder (29.4%; obsessions about pedophilia), sexual identity confusion (54.5%; obsessions about homosexuality), specific phobia (40%; somatic obsessions), and Asperger's/autistic disorder (100%; symmetry obsessions).

Predictors of OCD Identification

Bivariate correlations and χ^2 analyses identified the following participant demographic variables as significantly associated with a correct OCD response: Asian race ($r_{193} = -0.251$, $P = .000$), white race ($r_{189} = 0.240$, $P = .001$), and academia ($r_{198} = 0.153$, $P = .031$). Multicollinearity was found between the Asian and white race variables ($r_{189} = -0.725$, $P < .000$). However, when the aforementioned variables were entered in a multivariate logistic regression along with vignette type, only vignette type (Wald $\chi^2_7 = 40.58$; $P < .0001$), white race (Wald $\chi^2_1 = 13.08$; $P = .0003$), and academia (Wald $\chi^2_1 = 4.04$; $P = .0445$) remained significant. These results suggest the content of the vignette (ie, obsessions regarding homosexuality vs symmetry obsessions) was the strongest predictor of a correct OCD identification. In addition, participants who were white and worked in academia were more likely to correctly identify the OCD vignette compared to participants who identified as nonwhite or worked in clinical or research settings.

Table 3. Treatment Recommendations: Correct (OCD) Versus Incorrect (non-OCD) Responses

Treatment	OCD Response	Non-OCD Response
American Psychiatric Association first-line treatments,[28] %		
CBT	66.0	46.7
SSRI	66.0	8.6
CBT + SSRI	25.2	5.7
Additional top 5 treatment recommendations by condition, %		
Behavioral therapy	14.6	8.6
Acceptance and commitment therapy	9.7	13.3
Talk therapy	8.7	13.3
Antipsychotics	1.9	12.4
Biofeedback	3.9	8.6

Abbreviations: CBT = cognitive-behavioral therapy, OCD = obsessive-compulsive disorder, SSRI = selective serotonin reuptake inhibitor.

Treatment Recommendations: Correct OCD Response Versus Incorrect (non-OCD) Response

Large discrepancies existed between the top 5 treatment recommendations across conditions (correct vs incorrect OCD response). An OCD versus non-OCD diagnosis was more greatly associated with a first-line, evidence-based treatment for OCD (cognitive-behavioral therapy [CBT] = 66.0%, selective serotonin reuptake inhibitor [SSRI] = 35.0%, CBT + SSRI = 25.2% vs CBT = 46.7%, SSRI = 8.6%, CBT + SSRI = 5.7%). Additionally, incorrect responders were more likely than correct responders to recommend antipsychotic medication (12.4% vs 1.9%). None of the individuals who recommended antipsychotic medication additionally recommended an SSRI. Table 3 illustrates the top 5 treatment recommendations by condition (correct vs incorrect OCD response).

Correct versus incorrect responders were approximately twice as likely to recommend a dynamically based treatment (32.7% vs 16.7%, respectively). The following 4 therapies comprised the dynamically based treatment category: psychoanalysis, psychodynamic therapy, interpersonal psychotherapy, and talk therapy.

DISCUSSION

An alarmingly high percentage of the physicians (50.5%) provided an incorrect (non-OCD) diagnostic impression. This elevated misidentification rate, however, actually underrepresents the degree to which participants were unaware of OCD symptomatology, as seen by the fact

that half the study vignettes were misidentified at least 70% of the time (range, 70.8%–84.6%). In addition, as hypothesized, the symmetry obsessions vignette had a very low misidentification rate (3.7%); this percentage helped to lower the overall misidentification rate across the other 7 OCD vignettes.

Other vignettes were misidentified at elevated rates and fell into 2 distinct groupings, those that were misidentified at least a third of the time (moderately high) and those that were misdiagnosed well over half the time (high). From a clinical perspective, the incorrect primary diagnostic impressions reported instead of OCD were frequently concerning. Misidentification rates for the high group along with the most common incorrect primary diagnostic impression given instead were as follows: obsessions regarding homosexuality (84.6%; sexual identity confusion), aggression (80.0%; schizophrenia), fear of saying things (73.9%; Tourette's syndrome), and pedophilia (70.8%; no disorder). Misidentification rates for the moderately high group along with the most common incorrect diagnostic responses were as follows: obsessions regarding somatic concerns (40.0%, specific phobia), religion (37.5%; obsessive-compulsive personality disorder [OCPD]), and contamination (32.3%; OCPD).

As predicted, physicians exhibited high rates of misdiagnosis for taboo obsessions. This finding was not surprising, since our prior work[16] found elevated misidentification rates among mental health professionals. The high misdiagnosis rates, while anticipated, is still highly concerning and suggests that greater education regarding OCD symptomatology is needed.

The misidentification rate for contamination-related fears was higher than expected, which questions the belief that individuals typically associate OCD with contamination and checking symptoms.[24] However, a closer look at our results suggests that the elevated misidentification rate for the contamination vignette was mainly because 80% of participants who misidentified the vignette provided OCPD as the diagnostic impression. While there are clear distinctions between OCD and OCPD,[25] the disorders' names are nearly identical; this similarity may have led participants who were familiar with the symptoms, but unfamiliar with the difference between the 2 conditions, to select an incorrect response.

Although high misdiagnosis rates are concerning in general, some misdiagnoses may be more concerning than others. For example, the clinical implications of diagnosing an individual who has OCD with OCPD is likely less problematic than giving him or her a schizophrenia misdiagnosis (of the 80% of individuals who misidentified the aggressive obsessions vignette, approximately one-third made a schizophrenia diagnosis). Schizophrenia is one of the most stigmatized disorders[26] and has distinctly different treatment implications. In addition, literature has found that people diagnosed with a serious mental illness receive significantly poorer treatment by medical professionals.[27] While this fact is itself indefensible, the possible implications of misdiagnosing an individual who has OCD with schizophrenia remain significant.

Our results suggest that misdiagnosing OCD may have grave treatment implications for individuals. As we predicted, participants who correctly identified the vignette as OCD were approximately 1.5–4.5 times more likely to recommend an APA first-line, evidence-based treatment.[28] By contrast, participants who misidentified the vignette were approximately 6.5 times more likely than those who identified the vignette to recommend antipsychotic medication. While empirical evidence supporting the efficacy of antipsychotics as an augmentation to SSRIs for the treatment of OCD exists,[29,30] none of the participants who provided an antipsychotic medication response also recommended SSRIs.

In addition, participants who incorrectly identified the OCD vignette were more likely than those who correctly identified it to recommend a dynamically based treatment (32.7% vs 16.7%, respectively). Empirical support exists for the efficacy of psychodynamic treatment approaches for some conditions,[31,32] but dynamic psychotherapy or psychoanalysis is not recommended for the treatment of OCD.[33–35] Obsessive-compulsive disorder is characterized by pathological doubt[36,37] and is commonly referred to as a "disease of doubt"[38]; therefore, dynamically based approaches that may attempt to understand the origins of the doubt tend not to help with significant symptom reduction.[39] For example, if a mother presents with obsessions regarding a fear of harming her children (and upon a thorough assessment it appears as though the individual has OCD), trying to understand where these thoughts originated or even exploring whether the mother has underlying hostility toward her children would most likely not be beneficial and could actually lead to clinical worsening.

The findings suggest that an accurate OCD diagnosis (versus an incorrect one) may lead to the greater likelihood of a gold-standard treatment recommendation and a decreased likelihood of a contraindicated treatment approach. The elevated OCD misidentification rates, compounded by the fact that OCD misidentification was associated with a lower likelihood of being offered a first-line, evidence-based treatment, underscores the importance of increased training among primary care physicians regarding the broad range of OCD symptomatology.

Limitations and Future Directions

In order to maximize participation and reduce burden, the study completion time was targeted to take approximately 5 minutes. Although the vignettes underwent a systematic validation process to ensure that each met the OCD diagnostic criteria, providing a diagnostic impression based on a brief vignette does have significant limitations. In an attempt to reduce the impact of this constraint, there was no limit on the number of diagnostic impressions participants could provide, and a response was considered correct if OCD was selected regardless of how many additional conditions were chosen. Of course, the latter fact suggests that OCD

misidentification rates may be even greater than those reported here. Another study limitation was that the study included only primary care physicians from the 5 major hospitals in the Greater New York area; a more representative sample is needed for generalizability purposes.

Although our results need to be replicated using a nationally representative sample, the startlingly high rates of misdiagnoses along with the incorrect treatment recommendations observed in the present study suggest that physicians require training in diagnosing OCD and effective OCD treatments. Future studies could also assess the ability of younger cohorts and trainees to correctly identify OCD to see if training in mental health diagnoses has improved. If elevated OCD misidentification rates are found among trainees, then implementing more education regarding OCD symptomatology at the training level may be an additional future direction. Additionally, a variety of validated computer-based psychodiagnostic measures that assess a range of psychiatric conditions including OCD exist.[40,41] Future research should examine if utilizing the OCD modules is an efficient and effective way to help reduce the number of misdiagnosed cases of OCD.

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Supplementary material follows this article.

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Supplementary Material

Article Title: Half of Obsessive-Compulsive Disorder Cases Misdiagnosed: Vignette-Based Survey of Primary Care Physicians

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List of Supplementary Material for the article

1. **eAppendix A** Study Vignettes
2. **eAppendix B** Vignette-based questions

Disclaimer

This Supplementary Material has been provided by the author(s) as an enhancement to the published article. It has been approved by peer review; however, it has undergone neither editing nor formatting by in-house editorial staff. The material is presented in the manner supplied by the author.

eAppendix A. Study Vignettes

1. OCD: Contamination Vignette

Unless otherwise stated, Jack's symptoms below are not because of another psychological condition. They are not due to a general medical condition. They are not due to substance use. The symptoms, unless stated, have been present for more than five years and cause him significant distress.

Jack, a middle-aged man, constantly worries about dirt and germs. He knows that his thoughts come from within his own mind and are excessive in nature. However, even knowing this he remains upset by the thoughts and is not able to stop them. He is unable to complete many of his daily activities because he tries at all costs to avoid touching things he thinks may be dirty. However, if he does touch a "dirty" object, Jack will immediately wash his hands so that he will not catch a disease.

2. OCD: Aggressive Obsessions Vignette

Unless otherwise stated, Jack's symptoms below are not because of another preexisting condition. They are not due to a general medical condition. They are not due to substance use. They are not due to another psychiatric disorder. The symptoms, unless stated, have been present for more than five years and cause him significant distress.

Jack, a middle-aged man, thought about pushing the lady next to him onto the subway tracks. He was afraid by the thought and the fear that he may act on it, so he immediately left the subway and decided to walk home. Jack remained worried and continued to visually replay the situation to ensure that he did not actually harm the lady. Jack frequently finds himself worrying that he may want to or will harm others and these thoughts greatly upset him. He knows that his thoughts come from within his own mind and are excessive in nature. However, even knowing this he remains upset by the thoughts and is not able to stop them.

3. OCD: Obsessions about Homosexuality Vignette

Unless otherwise stated, Jack's symptoms below are not because of another preexisting condition. They are not due to a general medical condition. They are not due to substance use. They are not due to another psychiatric disorder. The symptoms, unless stated, have been present for more than five years and cause him significant distress.

Jack, a young adult, has been in a committed relationship with his girlfriend for over five years. He loves her very much and is attracted to her. Although he is not sexually attracted to men, Jack is preoccupied by thoughts that he may be gay and worries that he is not living an honest life. He knows that his thoughts come from within his own mind and are excessive in nature. However, even knowing this he remains upset by the thoughts and is not able to stop them. Upon seeing men, Jack immediately assesses his body for any signs that he may be sexually aroused; when he finds no signs of arousal, he experiences momentary relief.

4. OCD: Religious Obsessions Vignette (Scrupulosity)

Unless otherwise stated, Jack's symptoms below are not because of another preexisting condition. They are not due to a general medical condition. They are not due to substance use. They are not due to another psychiatric disorder. The symptoms, unless stated, have been present for more than five years and cause him significant distress.

Jack, a middle-aged, highly religious man, believes that one should not have any negative thoughts about religion. He greatly worries when he notices himself having such negative religious thoughts (i.e. why does God have bad things happen to good people?). When these "bad" thoughts occur, as they frequently do, he becomes distressed and fears God will punish him. Jack then prays repeatedly to himself until he feels safe from harm, this can go on for hours. He knows that his thoughts come from within his own mind and are excessive in nature. However, even knowing this he remains upset by the thoughts and is not able to stop them.

5. OCD: Sexual Obsessions about Children Vignette

Unless otherwise stated, Jack's symptoms below are not because of another preexisting condition. They are not due to a general medical condition. They are not due to substance use. They are not due to another psychiatric disorder. The symptoms, unless stated, have been present for more than five years and cause him significant distress.

Jack, a middle-aged man, loved spending time with his nieces and nephews and was considered their "favorite uncle." However, he started having images of touching the children in a sexual manner. He had no desire to touch the children and did not experience any sexual arousal during the image, but the worry of "what if" remained. He knows that his thoughts come from within his own mind and are excessive in nature. However, even knowing this he remains upset by the thoughts and is not able to stop them. He now tries to avoid being with the children and refuses to spend time alone with them.

6. OCD: Symmetry/Exactness Vignette

Unless otherwise stated, Jack's symptoms below are not because of another preexisting condition. They are not due to a general medical condition. They are not due to substance use. They are not due to another psychiatric disorder. The symptoms, unless stated, have been present for more than five years and cause him significant distress.

Jack, a middle-aged man, worries when things are not orderly and systematic. He becomes anxious when individuals move his belongings and feels he must immediately return the objects to their proper place. He also rearranges things that are not in order to place them how they "should be." When things are not in proper order Jack is unable to focus until the objects are back in their correct place. He knows that his thoughts come from within his own mind and are excessive in nature. However, even knowing this he remains upset by the thoughts and is not able to stop them.

7. OCD: Somatic Obsessions Vignette

Unless otherwise stated, Jack's symptoms below are not because of another preexisting condition. They are not due to a general medical condition. They are not due to substance use. They are not due to another psychiatric disorder. The symptoms, unless stated, have been present for more than five years and cause him significant distress.

Jack, a middle-aged man, worries that he frequently offends others due to his "bad breath." Jack has been told countless times that his breath does not smell but he constantly finds himself fearing that maybe *this time* it does and often breathes into his hands to smell his breath to make sure it is okay. In addition, Jack frequently searches online to find foods that may improve or worsen his breath and further bases his diet on his findings. He knows that his thoughts come from within his own mind and are excessive in nature. However, even knowing this he remains upset by the thoughts and is not able to stop them.

8. OCD: Fear of Saying Certain Things Obsessions Vignette

Unless otherwise stated, Jack's symptoms below are not because of another preexisting condition. They are not due to a general medical condition. They are not due to substance use. They are not due to another psychiatric disorder. The symptoms, unless stated, have been present for more than five years and cause him significant distress.

Jack, a middle-aged man, worries that he says improper things (i.e. sexual comments or swears) when speaking with others. He knows that his thoughts come from within his own mind and are excessive in nature. However, even knowing this he remains upset by the thoughts and is not able to stop them. He constantly asks his co-workers and his wife when he is not at work if he has made any off-putting comments. Jack experiences temporary relief when they inform him he has made no such comments. Jack also often replays his conversations, in his head, many times to make sure that he did not say anything "bad."

eAppendix B. Vignette-based questions

1. Based on the vignette which option most likely applies?

____ Adjustment disorder
____ Agoraphobia with panic disorder
____ Agoraphobia without panic disorder
____ Alcohol abuse
____ Alcohol dependence
____ Anger management issues
____ Anorexia nervosa
____ Antisocial personality disorder
____ Asperger's disorder
____ Attention deficit hyperactivity disorder
____ Autism disorder
____ Avoidant personality disorder
____ Bipolar I disorder
____ Bipolar II disorder
____ Body dysmorphic disorder
____ Borderline personality disorder
____ Bulimia Nervosa
____ Delusional disorder
____ Due to a general medical condition
____ Generalized anxiety disorder
____ Histrionic personality disorder
____ Hypochondriasis
____ Impulse control disorder, NOS
____ Intermittent explosive disorder
____ Major depression disorder
____ Marital problems
____ Narcissistic personality disorder
____ No disorder/condition
____ Obsessive-compulsive disorder
____ Obsessive-compulsive personality disorder
____ Panic disorder
____ Paranoid personality disorder
____ Pedophilia
____ Posttraumatic stress disorder
____ Primary Insomnia
____ Psychosis
____ Sexual identity confusion
____ Schizophrenia
____ Schizoid personality disorder
____ Schizotypal personality disorder
____ Social phobia/social anxiety disorder
____ Somatization disorder
____ Specific phobia
____ Strong religious values
____ Tourette's
____ Trichotillomania
____ Other (please specify)_____

2. Based on the vignette which technique(s) would you most likely recommend as a **first-line treatment** for helping the individual?

Cognitive behavioral therapy
____ Acceptance and commitment therapy
____ Behavioral therapy
____ Cognitive therapy
____ Cognitive-behavioral therapy
____ Dialetical behavioral therapy
____ Exposure and response prevention
____ Eye movement desensitization and reprocessing
____ Prolonged exposure therapy
____ Unified protocol

Medication
____ Antipsychotics
____ Atypical antidepressants
____ Benzodiazepine
____ Serotonin-norepinephrine reuptake inhibitors
____ Selective serotonin reuptake inhibitors
____ Tricyclics
____ Other (please specify)_____

Psychodynamic/analytic therapy
____ Gestalt therapy
____ Humanistic-existential therapy
____ Interpersonal psychotherapy
____ Object relations therapy
____ Psychoanalytic therapy
____ Psychodynamic therapy
____ Talk therapy

Additional Treatment Modalities
____ Biofeedback
____ Couple's therapy
____ Family therapy
____ Group therapy
____ Hypnosis
____ Refer to a religious leader
____ No treatment recommendation
____ Other (please specify)_____