THE EUROPEAN SOCIETY OF MEDICINE
Medical Research Archives, Volume 13 Issue 11

REVIEW ARTICLE

Traumatization, Religious Commitment, and Obsessive–Compulsive Washing in Raped Refugee Women: A Comparative Study

Jan Ilhan Kizilhan [1,2]

[1] Institute for Psychotherapy and Psychotraumtology, University of Duhok, Zakho Street, Duhok, Iraq
[2] Institute for Transcultural Health Science, Coperate State University, Stuttgart/Heilbronn, Germany

OPEN ACCESS

PUBLISHED
30 November 2025

CITATION
Kizilhan, JI., 2025. Traumatization, Religious Commitment, and Obsessive–Compulsive Washing in Raped Refugee Women: A Comparative Study. Medical Research Archives, [online] 13(11). https://doi.org/10.18103/mra.v13i11.7062

DOI
https://doi.org/10.18103/mra.v13i11.7062

ISSN
2375-1924

ABSTRACT

Background: Religious rituals can shape the expression of psychopathology after severe trauma. We examined how religious commitment relates to obsessive compulsive disorder 55, particularly compulsive washing, among women treated for rape-related post-traumatic stress disorder.

Methods: In a comparative study, 32 Kurdish refugee inpatients and 30 German inpatients with rape-related post-traumatic stress disorders were assessed during early hospitalization using validated clinical interviews and questionnaires 84 alongside the Santa Clara Strength of Religious Faith Questionnaire. Thirty-eight healthy Kurdish refugee women served as controls.

Results: Post-traumatic stress disorders severity did not differ significantly between patient groups. Kurdish patients showed higher compulsive disorders severity than German patients (Y-BOCS total mean 18.5 vs. 10.8) and much higher compulsive-action scores (13.7 vs. 6.8); controls scored low (total 3.3; actions 1.5). Religious upbringing and, especially, practicing religion were more prevalent among Kurdish patients than among German patients and controls. Higher religious commitment correlated with greater compulsive washing on multiple Y-BOCS action items among Kurdish patients (e.g., bathing/showering, washing hands/face), with smaller or item-limited associations in German patients.

Conclusions: Cultural background, indexed here by strength of religious commitment, modulates the manifestation of compulsive disorders symptoms, particularly washing compulsions, in women with rape-related PTSD. Culturally sensitive assessment and treatment should explicitly address religious practices and meaning frameworks when planning post-traumatic stress disorders and compulsive disorders interventions for refugee populations.

Keywords: Post-traumatic stress disorders, obsessive-compulsive disorder, compulsive washing behaviour, sexual abuse, sexual violence, rape, religion, refugees,

Introduction

Sexual violence during armed conflicts, such as those in the former Yugoslavia, Rwanda, and more recently against women under the Islamic State (IS) regime in Iraq and Syria, has once again demonstrated the extreme cruelty that humans can inflict upon others[1].

This form of intraspecific aggression encompasses rape, coercion, mutilation, enslavement, branding, and even killing[2]. Rape, as a targeted and systematic act of violence, constitutes an assault on the intimate self, producing profound humiliation and violating both individual and collective notions of shame[3].

Consequently, victims and their communities may experience long-term traumatization[4-5]. Numerous studies have demonstrated that rape-related trauma can result in a range of severe mental disorders, including post-traumatic stress disorder (PTSD), anxiety, depressive and dissociative disorders, sexual dysfunction, substance abuse, and suicidality[6-10].

Often, the full extent of sexual traumatization becomes apparent only during psychotherapy, as many survivors conceal their experiences due to shame, guilt, moral injury, or fear of social exclusion[11,12].

Compared with other psychological disorders, trauma-related obsessive–compulsive disorder (OCD) has received limited research attention. Nevertheless, previous findings indicate an association between interpersonal trauma, especially sexualized violence, and later development of OCD. Childhood physical or sexual abuse has been linked to greater psychopathology and a markedly higher risk of developing obsessive–compulsive symptoms[13,14]. Similar results have been observed among victims of crime, rape survivors, and combat veterans[15-20].

The act of physical cleansing is a ritual present in nearly all major religions. The frequent linkage between bodily and spiritual purity suggests a psychological association: the need to "wash away" moral impurity, sometimes referred to as the *Macbeth effect*[21].

In Islamic culture, ritual cleansing (*wudu*) before prayer is an essential religious practice, and moral transgressions may be followed by repeated acts of purification[22]. Among Kurdish Muslim patients, this may involve washing 40 times after committing a sin—a culturally embedded ritual merging moral and physical purification.

When trauma survivors experience intense guilt or perceive themselves as morally tainted, common in post-traumatic cognitions, compulsive cleansing can represent a culturally shaped maladaptive coping mechanism[23,24]. These cleansing rituals, while rooted in religious tradition, may become pathological when they are excessive or disconnected from their intended symbolic meaning.

The present study investigates the relationship between sexual trauma, religious commitment, and obsessive–compulsive washing (ablutomania) among raped refugee women. By comparing Kurdish Muslim refugees and German patients with rape-related PTSD, this research explores how cultural and religious factors influence the manifestation of OCD symptoms and the role that faith plays in coping with extreme trauma.

Methods

PARTICIPANTS

Between 2022 and 2023, Kurdish and German female inpatients with a documented history of sexual trauma were recruited from three psychosomatic clinics in Germany. All participants met the diagnostic criteria for *post-traumatic stress disorder* (PTSD) according to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5)[25].

Diagnostic assessments were conducted by three trained clinicians using the *Structured Clinical Interview for DSM-5 (SCID-5)*. None of the examiners were involved in the treatment of the participants, ensuring neutral and independent evaluation. All assessments were performed within the first week of inpatient treatment.

The first patient group consisted of 32 Kurdish Muslim women (Sunni denomination) from Turkey. Participants identifying as Alevi, Christian, or Yazidi were excluded to maintain religious comparability. The Kurdish patients were aged 18–34 years (M = 24.72, SD = 2.62) and had resided in Germany for an average of six years with stable residence status. They received multimodal trauma-focused inpatient treatment lasting approximately eight weeks.

The second group comprised 30 German women aged 22–28 years (M = 26.32, SD = 2.12) who were treated for rape-related PTSD during an average hospital stay of ten weeks.

A control group of 38 healthy Kurdish women without PTSD was recruited through Kurdish community associations. Eligibility criteria included a Sunni Muslim background and the absence of any psychiatric disorder. The control participants were aged 22–36 years (M = 28.5, SD = 5.1). Mean years of formal education differed significantly among groups: Kurdish PTSD patients (M = 5.3, SD = 3.8), German PTSD patients (M = 10.7, SD = 2.7), and Kurdish controls (M = 7.1, SD = 4.7).

All participants provided written informed consent. The study was approved by the Ethics Committee of the Institute for Transcultural Health Science and the Institutional Review Boards of all participating clinics.

MEASURES

All instruments were administered in validated German or Turkish versions. Kurdish participants were fluent in Turkish; therefore, validated Turkish translations were used for these groups.

DEMOGRAPHIC QUESTIONNAIRE:

Collected age, education, marital status, number of children, migration background, and religious affiliation, as well as details regarding social and emotional support received after the traumatic event.

STRUCTURED CLINICAL INTERVIEW FOR DSM-5 (SCID-5):
Used to confirm psychiatric diagnoses according to DSM-5. The Turkish adaptation has shown strong reliability for Turkish-speaking populations[26].

POSTTRAUMATIC DIAGNOSTIC SCALE (PDS):
A self-report instrument assessing frequency and intensity of PTSD symptoms across intrusion, avoidance, and hyperarousal clusters[27]. The Turkish version demonstrated good reliability[28].

BECK DEPRESSION INVENTORY I (BDI-I):
Measures depressive symptom severity[29]. The Turkish validation reported high internal consistency ($\alpha \approx .85$)[30].

SYMPTOM CHECKLIST-90-REVISED (SCL-90-R):
Evaluates psychological and somatic symptom distress over seven days[31]. The Turkish version has been validated for use in clinical and student samples[32].

YALE–BROWN OBSESSIVE–COMPULSIVE SCALE (Y-BOCS):
The standard semi-structured interview assessing the presence and severity of obsessions and compulsions[33,34]. Turkish reliability and validity were confirmed[35]. Scores ≥ 16 indicate clinically significant OCD symptoms.

SANTA CLARA STRENGTH OF RELIGIOUS FAITH QUESTIONNAIRE:
Ten items rated on a 4-point scale assessing strength of religious faith[36]. Higher scores indicate stronger religiosity; the Turkish version showed good internal consistency[37].

All tools were used for the respective groups in the German and Turkish versions. The Kurdish investigation and control groups spoke good Turkish; therefore, the validated Turkish questionnaires were used.

PROCEDURE
Participants were examined individually by trained psychologists fluent in Turkish and German. Following informed consent, clinical interviews and self-report questionnaires were administered in private sessions lasting approximately 90 minutes. Data collection was conducted during the early inpatient phase (first treatment week) to minimize therapy-related bias. All measures were scored according to standardized instructions, and anonymized data were entered into a secured electronic database for statistical processing.

Statistical analyses were performed using *IBM SPSS Statistics for Windows* (version 22.0) and *SAS for Windows* (version 17.0). Given the moderate sample size, non-parametric tests were applied. Group comparisons were computed using the Mann–Whitney U test and the Kruskal–Wallis test. Associations between variables were assessed via Spearman's rank-order correlations.

The overall significance level was set at $\alpha = .05$. Post-hoc comparisons used Bonferroni-corrected α-levels. Effect sizes (*r* or η^2) were calculated where appropriate to indicate the magnitude of group differences.

Results

SOCIODEMOGRAPHIC CHARACTERISTICS
The Kurdish and German PTSD patient groups differed significantly in several sociodemographic variables. Kurdish patients had a lower level of education, were older, more often married, and had more children compared with the German patients. They also had a shorter duration of inpatient treatment. Specifically, the Kurdish patients demonstrated significantly fewer years of formal education, $\chi^2(2, N = 100) = 21.01$, $p < .001$, were older, $\chi^2(2, N = 100) = 2.72$, $p = .037$, and were more frequently married, $\chi^2(2, N = 100) = 10.16$, $p = .012$. The mean demographic characteristics are displayed in Table 1.

Table 1: *Demographic data of Kurdish and German PTSD patients and Kurdish controls*

Variable	Kurdish PTSD (n = 32)	German PTSD (n = 30)	Kurdish Controls (n = 38)
Age (years, *M* ± SD)	24.72 ± 2.62	26.32 ± 2.12	28.50 ± 5.10
Education (years, *M* ± SD)	5.3 ± 3.8	10.7 ± 2.7	7.1 ± 4.7

COMORBID PSYCHIATRIC DISORDERS
All patients were diagnosed with PTSD upon admission. Comorbid disorders differed across groups (see Table 2). The most frequent comorbidities among Kurdish patients were affective disorders (75%), anxiety disorders (62.5%), and somatoform disorders (56.3%). In contrast, German patients showed higher rates of personality (40%) and eating disorders (26.6%).

Obsessive–compulsive disorder (ICD-10 F42.1; predominantly compulsive acts) was identified in 43.7% of Kurdish and 20% of German PTSD patients, a significant difference, $\chi^2(1, N = 62) = 3.03$, $p < .05$.

Table 2: *Comorbid psychiatric diagnoses (ICD-10 categories)*

Diagnosis	Kurdish Patients n (%)	German Patients n (%)	Total n (%)
Substance-related disorders (F10–19)	12 (37.5)	12 (40.0)	24 (38.7)
Affective disorders (F30–39)	24 (75.0)	20 (66.6)	44 (70.1)
Anxiety disorders (F40–41)	20 (62.5)	16 (53.3)	36 (58.1)
Obsessional rituals (F42.1)	14 (43.7)	6 (20.0)	20 (32.2)
Somatoform disorders (F45–45.9)	18 (56.3)	6 (20.0)	24 (38.7)
Eating disorders (F50)	0 (0)	8 (26.6)	8 (12.9)
Personality disorders (F60)	4 (12.5)	12 (40.0)	16 (25.8)

OBSESSIVE COMPULSIVE SYMPTOMS

Kurdish patients demonstrated significantly higher levels of obsessive–compulsive symptoms than German patients and controls. The total *Y-BOCS* mean score for Kurdish patients was 18.5 ± 2.65, for German patients 10.8 ± 2.3, and for controls 3.3 ± 1.2. A Kruskal–Wallis test confirmed significant group differences, $\chi^2(2, N = 100) = 12.65$, $p < .001$, $\eta^2 = .18$ (large effect).

When divided into *obsessional thoughts* and *compulsive actions*, significant differences emerged particularly in compulsive actions: Kurdish PTSD patients scored 13.7 ± 1.7, German patients 6.8 ± 2.1, and controls 1.5 ± 1.2, $U = 32.00$, $p < .001$, $r = .61$. The group comparison is summarized in Table 3.

Table 3: *Comparison of obsessive–compulsive symptoms (Y-BOCS scores)*

Symptom Type	Kurdish PTSD (*M* ± *SD*)	German PTSD (*M* ± *SD*)	Controls (*M* ± *SD*)	*U*	*p*
Total OCD symptoms	18.5 ± 2.65	10.8 ± 2.3	3.3 ± 1.2	45.00	< .001
Obsessional thoughts	4.8 ± 1.34	4.1 ± 1.8	1.8 ± 0.9	43.00	< .008
Compulsive actions	13.7 ± 1.7	6.8 ± 2.1	1.5 ± 1.2	32.00	< .001

Kurdish patients with a higher level of education exhibited fewer compulsive actions, $F(1, 30) = 4.74$, $p = .031$, whereas no such association was found among German patients, $F(1, 28) = 1.48$, $p = .204$.This suggests that educational background may act as a protective factor against compulsive behaviors in Kurdish women.

ASSOCIATION BETWEEN PTSD AND OCD SEVERITY

Pearson correlations revealed significant positive associations between PTSD symptom severity (measured by PDS) and compulsive actions (Y-BOCS items 6–10). Higher PTSD total and cluster scores correlated with more pronounced compulsive actions: total PDS ($r = .46$, $p < .01$), re-experiencing ($r = .58$, $p < .01$), avoidance ($r = .42$, $p < .01$), and hyperarousal ($r = .42$, $p < .01$). These correlations are displayed in Table 4.

Table 4: *Correlations between PTSD symptom clusters and number of compulsive actions (Y-BOCS items 6–10)*

Variable	*r*	*p*
Total PDS score	.46	< .01
Re-experiencing	.58	< .01
Avoidance	.42	< .01
Hyperarousal	.42	< .01

RELIGIOUS COMMITMENT AND OCD SYMPTOMS

Marked differences emerged in both *religious upbringing* and *religious practice* across groups. Only 12.5% of Kurdish versus 13.3% of German PTSD patients reported no religious upbringing, but religious practice differed significantly: 46.7% of German patients reported not practicing religion, compared with only 12.5% of Kurdish patients, $\chi^2(3, N = 100) = 8.15$, $p = .024$.

Kurdish patients assigned higher importance to religion in daily life ($p < .001$) and expressed greater interest in personal prayer and religious questions ($p < .001$). Results are summarized in Table 5.

Table 5: *Religious upbringing and religious practice across groups*

Variable	Kurdish PTSD (%)	German PTSD (%)	Kurdish Controls (%)	χ^2	*p*
Religious upbringing	87.5	73.3	84.2	8.75	.021
Practicing religion	87.5	53.3	73.7	8.15	.024

RELIGIOUS PRACTICE AND COMPULSIVE WASHING

The relationship between religiosity and obsessive–compulsive behaviors was further explored using the Y-BOCS *compulsive action* subscale and the *Santa Clara Strength of Religious Faith Questionnaire*.

Among Kurdish PTSD patients, stronger religious commitment correlated significantly with compulsive washing behaviors such as bathing/showering ($r = .58$, $p < .01$*), washing hands/face ($r = .56$, $p < .01$*), and washing laundry ($r = .54$, $p < .05$*).

German patients showed a weaker and less consistent pattern, with only hand and face washing reaching significance ($r = .64$, $p < .01$*). No significant associations were found for neutral daily activities such as dressing or toothbrushing. This pattern suggests that religiously framed acts of purification, especially those involving water, carry heightened symbolic importance among the Kurdish women.

OBSESSIVE–COMPULSIVE ACTIONS AND RELIGIOUS ALLEGIANCE

To further examine the interaction between religious commitment and obsessive–compulsive behaviors, correlations were calculated between the *Santa Clara Strength of Religious Faith Questionnaire* and the *Y-BOCS compulsive-action items*. Nine behavioral categories were evaluated, including bathing or showering, washing hands and face, hair care, going to the toilet, touching or being touched by others, washing laundry, dressing and undressing, touching rubbish bins, and teeth cleaning. Each item was rated from 0 ("no problem with the activity") to 3 ("requires three times as long as most people").

Table 6: Correlations between religious upbringing, practising religion, and OCD-related compulsive actions (Spearman's ρ), Note. p < .05 (*); p < .01 (**); *unilateral testing*.

Activity	Religious Upbringing Kurdish	Religious Upbringing German	Practising Religion Kurdish	Practising Religion German
Bathing and showering	.43	.08	.58**	.15
Washing hands and face	.31	.64**	.56**	.43*
Hair care (washing/combing)	.56*	−.07	.65**	.25
Going to the toilet	−.32	.13	.55*	.17
Touching people or being touched	.52**	.55**	.66**	.47**
Washing laundry	.35	.38	.54*	.36
Getting dressed/undressed	.06	.22	.17	.06
Touching rubbish or bins	−.26	−.06	−.13	.02
Teeth cleaning	.55	.32	.55	.27

As shown in **Table 6**, stronger religious commitment among Kurdish PTSD patients was significantly associated with higher scores on several washing-related activities. Notably, bathing/showering ($r = .58$, $p < .01$), washing hands and face ($r = .56$, $p < .01$), and washing laundry ($r = .54$, $p < .05$) were positively correlated with practising religion. Similar, though weaker, patterns were found for hair care ($r = .65$, $p < .01$) and for avoidance-related items such as going to the toilet ($r = .55$, $p < .05$).

Among German PTSD patients, only a limited association was observed: practising religion correlated significantly with washing hands and face ($r = .64$, $p < .01$*). For both cultural groups, positive correlations were identified between religious upbringing and the variable "touching people or being touched by them" ($r = .52$–$.66$, $p < .01$), suggesting a link between bodily contact and perceived moral purity. No significant correlations were found for getting dressed, touching rubbish bins, or teeth cleaning.

Discussion

The findings of this study highlight clear cultural and religious influences on the manifestation of obsessive–compulsive disorder (OCD) symptoms among women who developed post-traumatic stress disorder (PTSD) following sexual violence. Kurdish refugee patients exhibited more frequent and severe compulsive washing behaviors than German patients, despite comparable levels of PTSD severity. These results suggest that cultural and religious frameworks significantly shape the expression of post-traumatic symptomatology.

CULTURAL CONTEXT AND INTERPRETATION

The observed differences in symptom expression between Kurdish and German patients can be understood within a broader cultural framework. In collectivistic societies such as the Kurdish, religion and spirituality are not merely private beliefs but fundamental organizing principles of community life. Religious practice defines moral order, social cohesion, and gender norms, and thus deeply influences coping strategies after trauma[42–44]. In such contexts, psychological suffering often manifests through culturally coded forms, rituals, somatic symptoms, or moral expressions, rather than through abstract emotional language.

Traumatic events that threaten moral and bodily integrity, such as rape, can produce profound cognitive dissonance in religious survivors. For many Kurdish women, cleanliness is symbolically linked to both physical and moral purity. The experience of sexual violence therefore generates an internalized sense of contamination, leading to repetitive cleansing acts aimed at restoring spiritual equilibrium[45,46]. These findings correspond to the *Macbeth effect*, which describes how individuals engage in physical purification to alleviate moral impurity[46]. However, within religious cultures where purification rituals are institutionalized, such behaviors gain spiritual legitimacy and can therefore escalate more easily into compulsions.

The comparatively lower levels of compulsive washing among German women may reflect a more secularized and individualistic cultural orientation, in which moral purification is less embedded in daily rituals. While both groups experienced similar trauma intensity, the differing symbolic frameworks resulted in distinct behavioral expressions. This underscores that OCD-like symptoms can serve as culturally meaningful responses to trauma, mediating the conflict between guilt, shame, and the need for control.

RELIGIOSITY AS A COPING AND RISK FACTOR

Religious faith can function simultaneously as a protective and risk factor in post-traumatic adaptation. In its adaptive form, religiosity provides a sense of coherence, purpose, and social belonging. For Kurdish refugees, faith represents a vital source of endurance and meaning-making, helping survivors reinterpret their suffering within a transcendent moral order[47]. However, when religion becomes intertwined with guilt and moral injury, it can foster maladaptive coping mechanisms.

The correlation between religiosity and washing compulsions found in this study illustrates this dual function. Ritual cleansing may initially serve to reduce anxiety and reassert moral order, yet when associated with intrusive guilt or perceived sinfulness, it reinforces avoidance and perpetuates distress. This aligns with findings that excessive religiosity can exacerbate OCD symptoms, particularly when beliefs emphasize moral perfectionism or fear of divine punishment[48].

The contrast between Kurdish and German participants demonstrates how religious coping strategies are shaped by both theological and sociocultural contexts. In Kurdish Islam, bodily purity is closely linked to spiritual worth; failure to perform purification rituals can be equated with moral transgression. Consequently, ritual washing becomes not only a hygiene act but also an existential necessity for re-establishing dignity and divine acceptance. In German culture, where secular and psychotherapeutic frameworks dominate, post-traumatic distress is more likely to be conceptualized in psychological rather than religious terms, leading to fewer ritualized compulsions.

The relationship between PTSD and OCD symptoms observed here supports existing models of trauma-related compulsivity. Prior research suggests that obsessive-compulsive symptoms may emerge as secondary phenomena in individuals struggling to manage intrusive trauma memories[49]. Compulsive behaviors, particularly those related to washing, serve as attempts to neutralize intrusive contamination cognitions. In the Kurdish cohort, this mechanism appears amplified by culturally sanctioned purification practices, indicating an overlap between psychopathology and culturally normative behavior.

These findings also contribute to transcultural psychiatry by illustrating how Western diagnostic categories may insufficiently capture the cultural meaning of symptoms. In collectivistic societies, the boundary between religion, morality, and mental health is porous. Compulsions can therefore embody a moral narrative rather than a strictly pathological one. For clinicians, distinguishing between culturally accepted rituals and pathological compulsions is critical. This distinction requires cultural competence and sensitivity to the patient's belief system[50].

Furthermore, the significant association between lower educational levels and greater compulsive severity among Kurdish women may indicate that limited access to psychoeducation and exposure to secular perspectives reinforce literal interpretations of religious doctrine. Education may thus act as a protective factor by fostering cognitive flexibility and reducing the reliance on ritualized coping strategies.

CLINICAL IMPLICATIONS

These insights emphasize the need for trauma treatment approaches that are both evidence-based and culturally adapted. Traditional cognitive-behavioral therapy (CBT) may not fully address the religious dimension of compulsive washing in refugee populations. Integrating religiously sensitive psychoeducation, such as reframing purification rituals as symbolic rather than moral imperatives, can help patients reinterpret their behaviors without undermining their faith.

Clinicians should also explore the moral injury underlying compulsive symptoms: feelings of unworthiness, shame, or fear of divine punishment. Addressing these cognitions through culturally attuned narrative therapy or acceptance-based interventions may reduce symptom persistence and facilitate reconciliation between spiritual and psychological recovery[51]. In clinical settings with diverse populations, interdisciplinary collaboration between psychotherapists and spiritual counselors could enhance outcomes.

LIMITATIONS AND FUTURE DIRECTIONS

While the present study provides valuable insights, several limitations must be acknowledged. The relatively small sample size and confinement to female inpatients in Germany limit the generalizability of the findings. Future research should examine whether similar patterns occur among male trauma survivors or within non-Muslim refugee groups, as well as in other cultural contexts where purification rituals hold central meaning[52,53].

Longitudinal studies are needed to clarify causal mechanisms, whether religious coping precedes or follows the onset of compulsive symptoms. Additionally, intervention studies should evaluate whether culturally adapted CBT approaches can effectively reduce compulsive washing without conflicting with religious values[54]. Finally, qualitative interviews exploring survivors' subjective meanings of cleansing and purity could complement quantitative data and enrich theoretical understanding.

Conclusion

In summary, the study demonstrates that cultural and religious factors play a crucial role in shaping the manifestation of obsessive–compulsive disorder (OCD) symptoms among women with rape-related post-traumatic stress disorder (PTSD). Compulsive washing behaviors among Kurdish patients can be understood as culturally mediated expressions of trauma-related guilt and moral injury[55].

Effective treatment must therefore incorporate an understanding of patients' religious beliefs and the symbolic meaning of purification rituals. Integrating culturally sensitive and trauma-focused therapeutic approaches may enhance the psychological healing of refugee women who have endured sexual violence[56,57].

Declarations

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

We confirm that all the research meets the ethical guidelines, including adherence to the legal requirements of the country in the study.

CONSENT FOR PUBLICATION

Written, informed consent was obtained from the patients for publication of this manuscript and any accompanying information or images.

COMPETING INTERESTS

The authors declare that they have no competing interests.

FUNDING

Not applicable.

ACKNOWLEDGEMENTS

Not applicable.

CONFLICT OF INTEREST:

None.

References

1. Kizilhan JI, Noll-Hussong M. Individual, collective, and transgenerational traumatization in the Yazidi. *BMC Med*.2017;15(1):198.
2. Fontenelle LF, et al. Towards a post-traumatic subtype of obsessive–compulsive disorder. *J Anxiety Disord*.2012;26(2):377–383.
3. Kizilhan JI, Steger F, Noll-Hussong M. Shame, dissociative seizures and their correlation among traumatized female Yazidi with experience of sexual violence. *Br J Psychiatry*. 2020;216(3):138–143.
4. Kessler RC, et al. Posttraumatic stress disorder in the National Comorbidity Survey. *Arch Gen Psychiatry*.1995;52(12):1048–1060.
5. Kilpatrick DG, et al. Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: results from the National Survey of Adolescents. *J Consult Clin Psychol*. 2003;71(4):692–700.
6. Clum GA, Calhoun KS, Kimerling R. Associations among symptoms of depression and PTSD and self-reported health in sexually assaulted women. *J Nerv Ment Dis*. 2000;188(10):671–678.
7. Pagotto LF, et al. The impact of posttraumatic symptoms and comorbid mental disorders on the health-related quality of life in treatment-seeking PTSD patients. *Compr Psychiatry*. 2015;58:68–73.
8. Coid J, et al. Abusive experiences and psychiatric morbidity in women primary care attenders. *Br J Psychiatry*.2003;183:332–341.
9. Darves-Bornoz JM. Rape-related psychotraumatic syndromes. *Eur J Obstet Gynecol Reprod Biol*. 1997;71(1):59–65.
10. Dworkin ER, et al. Sexual assault victimization and psychopathology: a review and meta-analysis. *Clin Psychol Rev*.2017;56:65–81.
11. Candea DM, Szentagotai-Tatar A. Shame-proneness, guilt-proneness and anxiety symptoms: a meta-analysis. *J Anxiety Disord*. 2018;58:78–106.
12. Hoffman J, et al. The relationship between moral injury appraisals, trauma exposure, and mental health in refugees. *Depress Anxiety*. 2018;35(11):1030–1039.
13. Fricke S, et al. Early interpersonal traumatization in obsessive–compulsive disorder: a pilot study. *Behav Ther*.2007;17(4):243–250.
14. Saunders BE, et al. Child sexual assault as a risk factor for mental disorders among women. *J Interpers Violence*.2016;7(2):189–204.
15. Cromer KR, Schmidt NB, Murphy DL. An investigation of traumatic life events and obsessive–compulsive disorder. *Behav Res Ther*. 2007;45(7):1683–1691.
16. Badour CL, et al. Specificity of fear and disgust experienced during traumatic interpersonal victimization in predicting posttraumatic stress and contamination-based obsessive–compulsive symptoms. *J Anxiety Disord*. 2012;26(5):590–598.
17. Boudreaux E, et al. Criminal victimization, PTSD, and comorbid psychopathology among a community sample of women. *J Trauma Stress*. 1998;11(4):665–678.
18. Pitman RK. Posttraumatic obsessive–compulsive disorder: a case study. *Compr Psychiatry*. 1993;34(2): 102–107.
19. Orsillo SM, et al. Current and lifetime psychiatric disorders among veterans with war zone-related PTSD. *J Nerv Ment Dis*. 1996;184(5):307–313.
20. Sasson Y, et al. Posttraumatic obsessive–compulsive disorder: a case series. *Psychiatry Res*. 2005;135(2):145–152.
21. Zhong CB, Liljenquist K. Washing away your sins: threatened morality and physical cleansing. *Science*.2006;313(5792):1451–1452.
22. Abu-Raiya H, Pargament KI. Empirically based psychology of Islam: summary and critique of the literature. *Ment Health Relig Cult*. 2011;14(2):93–115.
23. Berzengi A, et al. Role of Islamic appraisals, trauma-related appraisals, and religious coping in posttraumatic adjustment of Muslim trauma survivors. *Psychol Trauma*. 2017;9(2):189–197.
24. Agorastos A, Demiralay C, Huber CG. Influence of religious aspects and personal beliefs on psychological behavior: focus on anxiety disorders. *Psychol Res Behav Manag*. 2014;7:93–101.
25. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington, DC: American Psychiatric Publishing; 2013.
26. Özalp E, et al. Reliability and validity of the Turkish version of the Structured Clinical Interview for DSM-5. *Turk J Psychiatry*. 2008;19(1):5–12.
27. Foa EB, et al. The validation of a self-report measure of posttraumatic stress disorder: the Posttraumatic Diagnostic Scale. *Psychol Assess*.1997;9(4):445–451.
28. Dikmen-Yildiz P, Ayers S, Phillips L. Screening for birth-related PTSD: psychometric properties of the Turkish version of the PDS. *Eur J Psychotraumatol*. 2017;8(1):1306414.
29. Beck AT. An inventory for measuring depression. *Arch Gen Psychiatry*. 1961;4(6):561–571.
30. Hisli N. Beck Depresyon Envanterinin geçerliği [A study on the validity of Beck Depression Inventory]. *J Psychol*.1988;6:118–122.
31. Derogatis LR. *SCL-90-R: Administration, Scoring and Procedures Manual-I*. Baltimore, MD: Johns Hopkins Univ; 1977.
32. Dağ I. Reliability and validity of the Symptom Check List (SCL-90-R) for university students. *Turk J Psychiatry*.1991;2(1):5–12.
33. Goodman WK, et al. The Yale–Brown Obsessive Compulsive Scale I: development, use, and reliability. *Arch Gen Psychiatry*. 1989;46(11):1006–1011.
34. Goodman WK, et al. The Yale–Brown Obsessive Compulsive Scale II: validity. *Arch Gen Psychiatry*. 1989;46(11):1012–1016.
35. Tek C, et al. Yale–Brown Obsessive Compulsive Scale in Turkish: reliability and validity. *Acta Psychiatr Scand*.1995;91(6):410–413.
36. Plante TG, et al. The Santa Clara Strength of Religious Faith Questionnaire. *Pastoral Psychol*. 1995;17:471–479.
37. Akin A, Turan ME, Altundag Y. The validity and reliability of the Turkish version of the Santa Clara Strength of Religious Faith Questionnaire. *J Educ Instr Stud*. 2015;5(1):35–38.

38. Wittchen HU, et al. *Strukturiertes klinisches Interview für DSM-IV, Achse I (SKID)*. Göttingen: Hogrefe Verlag; 1997.
39. Foa EB. Cognitive behavioral therapy of obsessive–compulsive disorder. *Dialogues Clin Neurosci*. 2010;12(2):199–207.
40. Tek C, Ulug B. Religiosity and religious obsessions in obsessive–compulsive disorder. *Psychiatry Res*. 2001;104(2):99–108.
41. Nicolini H, et al. Influence of culture in obsessive–compulsive disorder and its treatment. *Curr Psychiatry Rev*.2017;13(4):285–292.
42. Inozu M, Karanci AN, Clark DA. Why are religious individuals more obsessional? The role of mental control beliefs and guilt in Muslims and Christians. *J Behav Ther Exp Psychiatry*. 2012;43(3):959–966.
43. Yorulmaz O, Gencoz T, Woody S. OCD cognitions and symptoms in different religious contexts. *J Anxiety Disord*.2009;23(3):401–406.
44. Lersner U, Kizilhan JI. *Kultursensitive Psychotherapie*. Göttingen: Hogrefe Verlag; 2017.
45. Engelbrecht A, Jobson L. Exploring trauma-associated appraisals in trauma survivors from collectivistic cultures. *SpringerPlus*. 2016;5(1):1565.
46. Mahmood HN, et al. PTSD and depression among Syrian refugees residing in the Kurdistan region of Iraq. *Confl Health*.2019;13:51.
47. Turbott J. The meaning and function of ritual in psychiatric disorder, religion, and everyday behaviour. *Aust N Z J Psychiatry*. 1997;31(6):835–843.
48. Basoglu M. A multivariate contextual analysis of torture and cruel, inhuman, and degrading treatments. *Am J Orthopsychiatry*. 2009;79(2):135–145.
49. Yang C, et al. Cross-cultural differences in perception and understanding of OCD in East Asian and Western cultures. *Int J Cult Ment Health*. 2018;11(4):616–625.
50. Adams TG, et al. The role of stress in the pathogenesis and maintenance of obsessive–compulsive disorder. *Chronic Stress*. 2018;2:1–10.
51. Gerdau I, Kizilhan JI, Noll-Hussong M. PTSD and related disorders among female Yazidi refugees following Islamic State attacks: a case series and mini-review. *Front Psychiatry*. 2017;8:282.
52. Schaal S, Elbert T. Ten years after the genocide: trauma confrontation and PTSD in Rwandan adolescents. *J Trauma Stress*. 2006;19(1):95–105.
53. Tekin A, et al. Prevalence and gender differences in symptomatology of PTSD and depression among Iraqi Yazidis displaced into Turkey. *Eur J Psychotraumatol*. 2016;7(1):28556.
54. Kizilhan JI. PTSD of rape after IS ("Islamic State") captivity. *Arch Womens Ment Health*. 2018;21(5):517–524.
55. Kizilhan JI. Trauma and pain in family-oriented societies. *Int J Environ Res Public Health*.2017;15(1):1–12.
56. Yang C, et al. Cross-cultural perspectives on trauma and mental health. *Int J Cult Ment Health*. 2019;12(2):231–242.
57. Lersner U, Kizilhan JI. *Kultursensible Psychotherapie und Trauma*. Stuttgart: Kohlhammer; 2020.

