

Research Article

Impact of Sexual Violation of ISIS Terror against Yazidi Women after Five Years

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OPEN ACCESS**Abstract**

Background: To explore effects of sexual violations on Yazidi women survivors who were in ISIS ("Islamic State") captivity.

Aim: This study focuses on the correlation between sexual violation and PTSD in a post-conflict region.

Method: Five years after ISIS had perpetrated a genocide against the Yazidi in Iraq, we interviewed a total of 268 Yazidi women - living either in a household or in a refugee camps - about sexual violation and posttraumatic stress disorder (PTSD) symptoms. Survivors were recruited into a retrospective, cross-sectional study. Interviews in Northern Iraq were conducted by trained personnel to assess the mental health status of raped women. Factors associated with PTSD were investigated with univariate logistic regression followed by multiple logistic regression analyses.

Outcomes: PTSD vulnerability was greater for sexually abused women who lived in the refugee camps than those living in a household.

Result: The entire sample had been exposed to extreme levels of violence and 37% had witnessed the murder of their own family members, being held captive and raped by ISIS terrorists for at least 6 months. 59% of the sample had PTSD. Compared to the women who lived in a household, the women who, at the time of the study, lived in the refugee camps were more susceptible to PTSD vulnerability; At the time of the study, PTSD vulnerability was also higher among those aged 24 to 28 during the outbreak of the genocide than those aged 18 to 23. Furthermore, a significant relationship was found between the number of traumatic experiences and subsequent stress responses.

Clinical Implications: The high prevalence of PTSD emphasizes the need for improved health services to address the intermediate and long-term consequences of wartime rape.

Strengths & Limitations: The use of self-report measures could be seen as a limitation. Self-report measures may result in potential biases arising from self-presentation concerns and/or retrospective reporting. Rates of exposures to potentially traumatic events should neither be generalized to all survivors of ISIS terror nor to all women of sexual violatons.

Conclusion: Wartime rapes have extensive immediate and long-term consequences on the mental health of women survivors of rapes.

Keywords

- Sexual violation
- PTSD
- Trauma
- War
- Terror
- Yazidi
- Women
- Religion

ABBREVIATIONS

DSM: Diagnostic Statistical Manual; ISIS: so called Islamic State in Iraq and Syria; NGO: Non Governmental Organization; PTSD: Posttraumatic Stress Disorder; SD: Standard Deviation

INTRODUCTION

In August 2014 the so-called Islamic State (ISIS) conquered large parts of Syria and Iraq. They carried out an extremely brutal attack on the population, especially on religious minorities such as the Yazidi. Many men were immediately executed; women and children were taken hostage. More than 3000 women were sold

as slaves in the markets of Mosul, Raqqa or in other locations which were controlled by ISIS. They were raped several times and, for a long period of time, they were tortured and had to work as servants for ISIS [1]. Some women were taken captive for five years. Until today, 2700 women have been missing since 2014 [2].

So far, around 3,000 young Yazidi women have managed to flee from captivity or have been released in return for a ransom payment. The severely traumatised young women now live in refugee camps near Duhok and Zakho. There are around 22 refugee camps, each with up to 18,000 inmates. About 6000 Yazidi

living in a household by another Yazidi who had already lived in the City of Dohuk and Zakho before ISIS launched its attack against the Yazidi in 2014. In general, the women can hardly get any real treatment in the refugee camps and in cities, where they are living now. They wake up at night, have nightmares, and are afraid that ISIS will come and take them again. They suffer frequent fainting fits or flashbacks when they relive their rape and torture. They are frightened, unsure, nervous, tense, have no hope, are embarrassed about their rape, and often entertain suicidal thoughts [3,4].

Studies related to sexual violence against women who have survived war situations have identified a number of mental disorders such as PTSD, anxiety disorders, depression, alcohol abuse as well as addiction problems, and suicide attempts [5-7]. Frequently, the clinical characteristics of a sexual traumatization only come to light during the course of psychotherapy. This is because those affected tend to conceal their traumata due to shame and feelings of guilt, but also because of the fear of being ostracized by their native community [8,2]. In addition to trauma, women report depression and physical pain accompanied by feelings of guilt, shame or worthlessness [9]. The severity of the post-traumatic symptoms seems to be the strongest predictor for the impact on the health-related quality of life among terror survivors [5].

Several studies have reported an association between the number and severity, such as sexualised violence, of traumatic experiences and symptoms [10-12], and there is evidence that the perceived direct threat to life [12] and the characteristics and frequency of traumatic experiences [9,13] are particularly important for the development of posttraumatic stress reactions. With respect to demographic variables, gender and sexual abuse are frequently considered risk factors for the development of PTSD. In connection to this, women are affected more frequently than men [14]. However, our own research indicates that this finding may be mainly a consequence of gender. Women are victims of sexual violence and other sexual assaults more often, especially in war zones [15]. Women have always been instrumentalised as a weapon of war and rape has always been used as a method of war [2,6]. Among other things, ISIS has also used rape as a method to convert non-Muslim women to Islam. For this reason, Yazidi women and women from other religious minorities were systematically raped on the basis of an ideology ISIS believed in [15].

This study was conducted approximately 5 years after the invasion of ISIS and its loss over the region in Iraq and Syria in 2017, with the aim of (1) investigating the nature and extent of traumatic events among Yazidi women currently aged between 18 and 28 years, (2) the rate of post-traumatic stress reactions, and (3) whether the living situation in household and refugee camps, age, gender, and the extent and nature of trauma are significantly related to posttraumatic stress reactions in this sample of survivors of sexual violations. Such a comparative study with the methods used, on survivors of Yazidi women and the influence of sexualised violence, in particular rape, housing and PTSD, has not yet been conducted.

MATERIAL AND METHODS

Ethical consideration

The Institute of Psychotherapy and Psychotraumatology at the University of Duhok in Iraq organised and implemented the examination, obtaining permission from the University Ethical Review Board and following ethical principles stated in the Declaration of Helsinki. We confirm that all the research meets the ethical guidelines, including adherence to the legal requirements of the country in the study. Written, informed consent was obtained from the patients for publication of this manuscript and any accompanying information or images.

Sample

Participants were women who live in Iraq and experienced sexual violence perpetrated by ISIS terrorists in Iraq and Syria in 2014. Nearly all of the participants had lost family members, relatives and neighbours.

All women who were in IS captivity were re-registered by the Kurdish Regional Government after the liberation, medically examined by the Health Directorate in Duhok. In case they had no shelter, the women were placed in the refugee camps. Through the Directorate of Health, the small health centres in the refugee camps, the author as the dean of the Institute of Psychotherapy and Psychotraumatology had contact with the women, as many of them were receiving psychosocial support. Women living in apartments had contact with the trauma centre in the city of Duhok, which also cooperates with the Institute of Psychotherapy and Psychotraumatology.

Through the students of the Institute for Psychotherapy and Psychotraumatology, who did an internship in the camps and treatment centers, the women were asked to participate in the study. All women had already reported their rape during the medical examination and wanted to talk about it with the researcher during the study.

At the time of the interview, the sample consisted of women aged between 18 and 28 years ($N = 268$; $M = 25.72$, $SD = 3.52$) who were interviewed. All participants in the study were women. 130 women lived in a household with other Yazidis in the cities of Dohuk and Zakho in a small group of 10 to 12 people. The women lived with their families, who previously had a house or apartment in the city of Duhok, Zakho and the surrounding area. Some of the women were taken in by their relatives and others were able to afford a house or flat with some family members after the escape and did not want to live in a refugee camp.

138 women lived in a big refugee camp in Khaparto and Sharia with more than 28 000 inmates. These women lived in small tents, each sleeping 8 to 12 people.

All women were Yazidis from the area of Sinjar in Northern Iraq and had been held captive by ISIS for at least 6 months between August 2014 and August 2015. About 96 women were born and grown up in a city with more than 10.000 inhabitants. 172 women were born and grown up in a village with not more than 2000 inhabitants. The educational level varies widely among participants with a range of 0 to 12 school years completed ($M = 6.8$, $SD = 2.61$).

The three major group variables (age, married before the genocide, and mother of children) were examined for possible associations with the demographic variables and education. Younger female ($M = 8.51, SD = 2.77$) had more years of schooling than older female ($M = 5.18, SD = 2.26$), $t(268) = -5.62, p < .01$. Participants from the city ($M = 8.74, SD = 2.21$) had attained higher education levels than those who had lived in a village ($M = 5.0, SD = 2.32$), $U = 291.5, p < .05$. No other significant associations among the demographic variables were found between the group consisting of the Yazidi survivors who lived in the refugee camps and those who lived in a household and Iraq.

The author contacted both the investigation group and the control group, communicating with licensed physicians and psychologists in the refugee camps that they knew from earlier joint projects. Before data were collected, a first visit to the participants was made, which pursued the following goals: the participants were given a description of the study and were informed about its purpose, to obtain informed consent. Moreover, they were informed about how the anonymised data was going to be used. All participants were examined by a licensed physician from the refugee camps within the 3 days before the interview. There were not any clinically relevant medical records or findings.

The data collection was carried out by a trained female professional psychologist (JK) from June 2019 to October 2019, with continuous supervision by JIK.

Measures

In addition to the measure methods mentioned below, we used reported tools to collect demographic data. Moreover, we incorporated questions which allowed us to obtain information about the kind and the extent of support the Yazidi women received at any point during the 4 years after their liberation from ISIS. For example, these questions were as follows: Who provided help? Did others help in emotional, social or material terms?

Demographic questionnaire

Information regarding age, sex, living situation, ethnicity, religion, and education was obtained on this self-report instrument. In addition to demographic data, this questionnaire contained questions about support received at any time during the 3 years since the genocide, e.g., who delivered the aid and what kind of support (emotional, social, material) the women received.

Event-Scale

For this study, the Event-Scale was taken by Dyregrov and colleagues (2000) and was specifically adapted to the situation in Northern Iraq. The Event-Scale consists of 15 items which aim at assessing the kind and quality of exposure to several different war events. The answers showed if the exposure took place before ISIS perpetrated genocide, while ISIS was committing their crimes or after ISIS had committed their criminal actions. More the answers showed whether the participants witnessed or experienced the situation personally [16]. It was possible for the participants to give multiple answers.

Composite International Diagnostic Interview

The Composite International Diagnostic Interview (CIDI) is a structured diagnostic interview based on the DSM-IV criteria. The PTSD portion of CIDI scale measures three primary groups of symptoms: intrusion, avoidance/numbing, and arousal. The women were asked about PTSD symptoms, all of which correspond to the DSM-IV criteria. The answers reflect whether the symptoms occurred directly after the trauma or within the last one year. The women were instructed to "keep in mind that the worst event that happened to you was being attacked and held captive by ISIS."

All questionnaires were translated into Kurdish and translated back into English, reviewed, analyzed and corrected. All questionnaires were used on the DSM V basis. The preservation of the original meaning was evaluated by four assessors. Questionnaires in Kurdish were read by female interviewers who were trained by the research team.

Data Analysis

The SPSS 22.0 program for Windows (2016) was used to compute the data collected. In order to compile graphs and tables SPSS 22.0 and Excel 2016 from Microsoft Office were used. Descriptive data was illustrated as mean values of the standard deviation, and categorical parameters as percentages. The comparison of both investigation groups with regards to symptoms of illness was calculated with χ^2 -tests, t-tests and a univariate two-factor analysis of variance.

RESULTS

Stressfull events

Table 1 showed whether that all participants (100%) have been victim of an attack or looting, 94% have witnessed a person being beaten or tortured, 89% lose any brothers and sisters and 88 were raped.

Psychological disorders

Table 2 shows that approximately five years after the captivity and sexual violation most women suffered from PTSD (58%), depression (55%), somatoform disorder (64%) and sexual dysfunctions (27%).

Prevalence of PTSD

As expected, 58.9 % of the women fulfill the criteria of PTSD (Table 2). Most of the women reported that they relive the event (73%) and that they avoid reminders of the event and feel emotionally numb (36%). The prevalence of PTSD (Table 2) in those with rape events amounted to 67% (95% CI=35.1%–75.9%), respectively).

Trauma exposure

The use of self-reporting instruments revealed that the participants experienced numerous traumatic events. Table 1 shows the percentage of positive responses to the PTSD questions. All participants had experienced physical and psychological forms of violence, had been exposed to threatening events, had been raped or had lost family members during the genocide. The

Table 1: Yazidi Women Exposure experienced of extreme situation during the IS attac and capitivity (N = 268).

Event	Ever (%)	Before the ISIS attack (%)	During the ISIS attack (%)	During the ISIS captivitiy (%)
1. Have you been injured with a weapon?	18.1	1.5	17.6	0.0
2. Have you been raped?	88.00	0.0	25.9	88.00
3. Have you been victim of an attack or looting?	100.00	0.0	100.00	37.4
4. Have you seen dead or mutilated bodies?	78.1	9.2	88.1	30.9
5. Have you witnessed a person being beaten or tortured?	94.5	1.4	82.1	93.9
6. Have you witnessed a person being injured with a weapon?	85.8	1.4	94.3	84.7
7. Have you witnessed a person being killed?	47.5	3.5	42.5	31.5
8. Have you witnessed a massacre?	46.4	1.5	32.9	10.4
9. Have you witnessed the murder of your family members?	37.2	1.2	33.7	12.1
10. Did you believe that you your self would die?	100.00	3.2	98.2	100.00
11. Did you have to hide?	5.2	0.0	5.2	0.0
12. Did you have to hide under dead bodies?	4.2	0.0	4.2	0.0
13. Did you lose your mother?	16.3	3.8	10.3	2.5
14. Did you lose your father?	31.0	1.9	27.2	3.9
15. Did you lose any brothers or sisters?	89.0	10.2	23.8	80.9

Table 2: Physical and psychological symptoms and the frequency of DSM-IV PTSD, a According to DSM-IV criteria, PTSD is present after exposure to a traumatic event when each of the five criteria listed in the table are present; each of the first three criteria is considered present when the subcriteria reach a specified number, b 95% CI=38.5–67.5.

The mean interval between the event and follow-up was 5.0 years (SD=0.4, range=2.4–4.8).

		Both group	Sexual violaton (rape)	No sexual violation (rape)
Health problems after rape	N	%	%	%
Physical:				
Dizziness	96	35.8	54.1	45.9
Stomach pain	110	41.1	56.4	43.4
Headache	179	66.8	51.1	58.9
Sweating	137	51.1	53.6	56.4
Palpitations	96	35.1	52.4	57.4
Muscle pain	132	49.2	50.9	49.1
Psychiatric disorders:				
Depression	148	55.2	62.4	37.4
Anxiety	92	38.1	53.7	46.3
Somatoform	172	64.2	60.2	39.8
Dissociation	72	25.7	71.4	28.6
Sexual dysfunctions	64	27.6	56.4	43.6
Posttraumatic stress disorder (PTSD)*	158	58.9	61.5	38.5
Suicidal ideas after IS capitivity	122	44.0	68.9	31.1
Suicidal attempts after IS capitivity in Iraq	39	14.5	58.2	41.8
Posttraumatic stress disorder (PTSD)				
Reexperiencing the event	196	73.1	82.3	17.7
Avoidance of reminders of the event and numbness of feelings	96	36.5	55.6	44.4
Hyperarousal	182	67.9	72.8	27.2
Duration of preceding symptoms 1 month or longer	210	78.3	85.7	14.3
Repercussions of the preceding symptoms on activities of daily living	195	72.7	83.1	16.9
Meets criteria for PTSD	158	58.9 b	158	58.9 b

majority of the women had been raped (88%), had seen dead or mutilated bodies (78%) or had been the victim of attack or looting (100%).

Many respondents had witnessed situations where people were killed (48%). A lot of participants witnessed the death of their own family member's (37%) or lost brothers and sisters (81%). Table 1 show that most of the traumatic events were experienced during the ISIS genocide and during the time when the participants were held captive. However, a very small number of women also reported that they experienced such events before after ISIS perpetrated the genocide. The mean total score on the Event-Scale for the whole sample was 11.8 of a possible 15 ($SD = 2.8$, $Mdn = 13$, range = 11–15).

The events experienced varied according to the participants' environment and situation at the time of the study (refugee camp vs. household), age (younger vs. older), and sexual violation. Women who were living in a refugee camp experienced more attacks or lootings ($\chi^2(1, N = 268) = 6.2, p < .05$), and in comparison to the women living in a household, more often, they reported that they had witnessed the killing of a person in comparison to women living in a household ($\chi^2(1, N = 268) = 6.1, p < .05$). In comparison to younger women (18–23), older women more frequently (24–38 years) reported that they had witnessed a massacre ($\chi^2(1, N=268) = 7.5, p < .01$). Older women were also more likely to believe that they would die ($\chi^2(1, N=268) = 11.4, p < .01$). Finally, more young women (18–23) were victims of sexual violation (raped) than older women than ($\chi^2(1, N = 268) = 9.8, p < .001$).

All 268 respondents had experienced traumatic events (criterion A of DSM-IV PTSD), and all reported that they reexperienced at least one symptom (criterion B).

At least 54% of the participants showed three avoidance/numbing symptoms (criterion C) and 52% showed at least three arousal symptoms (criterion D). A larger proportion of participants (58%) met the full DSM-IV criteria for PTSD. The mean number of PTSD symptoms endorsed was 11.8 ($SD = 4.5$, range = 11–18).

PTSD and living settings

Rate of PTSD diagnosis was higher among women living in a refugee camp in comparison to those who lived in a household in the city (66% vs. 52%), ($\chi^2(1, N = 268) = 10.2, p < .01$). Women

in the refugee camps showed an average of 12.01 ($SD = 3.12$) of the 17 DSM-V symptoms compared to 7.46 ($SD = 3.16$) symptoms for women in a household, $F(1,427) = 10.1, p < .01$. It has been shown (Table 3) that household status and the number of PTSD symptoms are negatively associated (point biserial $r = -.34, p < .01$).

Age

Forty eight of the participants between the ages of 18 and 23 years met criteria for a diagnosis of PTSD compared to 56% of the 24 to 28 years olds, ($\chi^2(1, N = 268) = 4.0, ns$). The older women group ($M = 11.71, SD = 3.14$) reported more PTSD symptoms than the younger group ($M = 7.88, SD = 3.43$), ($F(1,466) = 5.8, p < .05$). It has been shown, that the age was positively correlated with number of PTSD symptoms (Pearson $r = .54, p < .001$) and number of traumatic events (Pearson $r = .46, p < .001$).

Sexual violation

Almost all women who were raped as well as women who were not raped met criteria for a PTSD diagnosis (80% vs. 57%), ($\chi^2(1, N = 268) = 7.4, p < .01$). Raped women ($M = 13.86, SD = 4.70$) also reported more PTSD symptoms than women who were not raped ($M = 13.73, SD = 2.91$), ($F(1,466) = 8.2, p < .01$). A correlation of sexual violation and number of PTSD symptoms supported this finding (point biserial $r = -.52, p < .001$).

Experienced trauma

There is a positive correlation between the total number of trauma events experienced and PTSD symptoms (Pearson $r = .62, p < .001$). With regards to traumatic events, there was a particularly high correlation among the participants who had witnessed the murder of their parents (point biserial $r = .46, p < .001$) or who believed they were dying themselves (point biserial $r = .42, p < .001$).

In other words, it could be shown that women who witnessed the killing of their parents suffered most from PTSD symptoms in comparison to those who had not experienced the murder of their parents ($U = 302.0, p < .001$). Those who witnessed the murder of their parents were more likely to meet the criteria for PTSD diagnosis, ($\chi^2(1, N=68) = 5.32, p < .05$). This was also found for the women who thought they were dying themselves ($U = 64.5, p < .001$); they were more likely to suffer from PTSD in comparison to those who did not report these events ($\chi^2(1, N=68) = 7.16, p < .01$).

Table 3: Intercorrelations among the Risk Factors age, sexual violaton, and household status; number of Traumas; and number of Posttraumatic Stress Disorder Symptoms ($N = 268$).

	Age	Sexual Violation (rape)	Household Status	Number of Traumas	Number of posttraumatic stress disorder symptoms
Age	—	-.01 ^{a***}	-.05 ^a	.54 ^{b***}	.46 ^{b***}
Sexuall violation (rape)		—	-.04 ^c	-.01 ^{a***}	-.05 ^{a***}
Household status			—	.09 ^a	-.32 ^{a***}
Number of traumas				—	.44 ^{b***}
Number of posttraumatic stress disorder symptoms					—

Note: ^aPoint biserial. ^bPearson 'phi'. ^c $p < .05$. ^{**} $p < .01$. ^{***} $p < .001$.

50 % of younger women (up to 23 years of age) had a diagnosis of PTSD and believed they were dying. In contrast to this, current PTSD was not diagnosed when the feeling of having to die any second had never been experienced. The correlation matrix shown in Table 3 summarizes the intercorrelations of the risk factors age, gender, and household status; number of traumas; and number of PTSD symptoms.

All of the following factors, such as sexual violation, living status, and number of experienced traumatic events, had significant effects on the probability of PTSD diagnosis, ($B = -1.8$, $SE = .64$, $p < .01$, $B = -1.6$, $SE = .65$, $p < .05$, $B = .37$, $SE = .14$, $p < .01$). Those women who experienced sexual violence and those women who lived in a refugee camp met the criteria for a PTSD diagnosis more frequently than those women had not experienced sexual violence and those women who lived in a household. The total number of experienced sexual violence (sold and raped many times during the captivity) was positively associated with a PTSD diagnosis. The effect of age on the PTSD diagnosis did not reach significance ($B = .71$, $SE = .60$. R^2 of Nagelkerkes was .39).

DISCUSSION

This study aimed at further examining the impact of sexual violence and PTSD on a sample of Yazidi women who had been raped while being held captive by ISIS. The study was conducted 5 years after ISIS had perpetrated a genocide against the Yazidi people. In general, findings indicated that most Yazidi women were exposed to multiple serious traumatic events and displayed high rates of PTSD and posttraumatic stress symptoms.

In addition to that, more posttraumatic stress symptoms were reported by women living in refugee camps compared to those women living in a household. The women who experienced sexual violence suffered a high rate of trauma exposure 5 years after of the genocide had taken place.

A number of studies have investigated posttraumatic stress reactions caused by sexual violence in wartime and found PTSD rates ranging from 11% [17] to 52% [18]. In this study, 58% of the Yazidi women at the time of the interview, i.e., 5 years after the genocide and after the sexual violence (here rape), met full DSM-IV criteria for PTSD. However, all survivors of the genocide reported notable levels of posttraumatic stress responses, with at least 3 of the 17 DSM-IV symptoms and an average of approximately 8 symptoms present during the 3-month period before the interview was conducted. Female survivors of the ISIS genocide most often report disturbing thoughts or imagery about the traumatic event (88%). Some avoid thinking or talking about the traumatic events (36%). In a random sample of women from Croatia and Bosnia and Herzegovina who had been exposed to sexual violence and some of whom had been held captive, 14.0% were diagnosed with PTSD and 76.0% were diagnosed with depression [19]. One explanation for the higher incidence of PTSD among the Yazidi women could be the influence of the collective, historical traumatic events entrenched in their society. Compared to individuals with no historical trauma who have had the same experiences, the descendants of individuals who have experienced collective traumata show more PTSD symptoms and a generally higher risk of PTSD [20]. They identify emotionally with the traumatic events of their ancestors and report symptoms of depression such as sadness, shame, and anger, shyness in

taking any action, stress and low self-confidence [21].

The longer time period in which the Yazidi women in this study were held captive and coinciding extensive sexual exploitation of these women can be considered an additional explanation for the higher prevalence of PTSD [22] (Hossain et al. 2017). Sexual exploitation can go hand in hand with severe alienation, humiliation, hopelessness, and loss of control and this, in turn, could explain the link to PTSD. However, with regards to the length of captivity, in many studies there was no link between the length of captivity and trauma [19,23].

The living situation can also play an important role for the women who suffered PTSD even five years after they had experienced genocide and sexual violence. Women living in a refugee camps at the time of the interview show more PTSD symptoms and suffered from them more extensively. It should be noted that there was no significant difference in traumatic exposure between Yazidi women in the refugee camps and women in a household.

One reason for this can be the following. Unlike the living situation in a refugee camp, living situations in a household do not include triggers which cause the women to feel exposed. Moreover, participants who live with their family in a household receive support by feeling accepted by their family members, by experience everyday structure, for example through grocery shopping and by being in contact with people without war experience like neighbours. This and other examples of a supportive psychosocial environment may have a healing effect on the trauma reaction. In the household, family members and even neighbours, or people whom the participants regularly see on the market or friends may possibly take a parenting role and give the women a feeling of warmth and protection. Sufficient psychosocial support in a normal environment is an essential precondition for them and their ability of distancing themselves from traumatic events, for not being reminded of the trauma every day and for a better stabilization and reintegration into their community.

Among scholars and researchers there is no a consensus about the interplay between risk factors for PTSD, sexual violence and age. In some studies, it is argued that younger women who experienced sexual violence in wartime is exposed to a greater risk of developing posttraumatic stress reactions [24,25]. Other studies found greater PTSD vulnerability among older women [14,26,27].

Our study found a higher level of PTSD in correlation with the responses of higher aged Yazidi women (24-28) to sexual violence. It seems possible that younger women may have internalized the patriarchal elements, such as the culture and traditional concepts of "honour" and "dishonoured" less extensively in comparison to the 24-28-year old women [26-28].

This study revealed a significant interplay between sexual violence perpetrated during wartime and the quality of traumata by emphasizing the connection of the accumulative number of war experiences and the amount of PTSD symptoms. In this way, this study reflects the results of previous studies [19,22,23,28] which have pointed out the connection between sexual violence in wartime and posttraumatic stress reactions.

Some limitations in this study must be addressed. First, each woman interviewed experienced some form of support provided by non-governmental institutions and all of the women survived terror perpetrated by ISIS. Likewise, the current sample showed a high level of homogeneity. Consequently, the Trauma related to living in a war zone and violent attack in 2014 by ISIS could not be compared, as they were experienced by all the women participating.

In this way, the sample consists of a very specific risk group of women only without randomization. Moreover, the extent to which the survivors of ISIS terrors and women who have experienced sexual violence are exposed to traumatic events should not be generalized from the findings in this study. In other words, the results cannot be generalized to other population groups or minority groups or even Yazidi women living under different circumstances.

Five years after the genocide against the Yazidi, many survivors have been significantly distressed and have received little or no psychosocial and psychotherapeutic support. All survivors saw social workers at least five to ten times, after they had been freed or released from captivity, and participated in the interviews. Self-report measures may result in potential biases arising from self-presentation concerns and/or retrospective reporting. Future studies may also include women with same experiences living now in western countries.

CONCLUSIONS

Despite some limitations, this study significantly contributes to the further understanding of the psychiatric health of people who are affected by systematic violence and may develop psychological disorders as a consequence, e.g. the Yazidi women in this study.

Cultural and religious beliefs shape the perception of illness and health, the mentality towards sexual violence and gender in patriarchal society's. This perception and mentality, in turn, significantly influence how traumatic experiences are perceived in integrated in an individual's mental health situation. Accordingly, it is important to gain knowledge about distinct psychosocial vulnerabilities of such groups. It is crucial to generate knowledge that enables a better understanding of the impact of sexual violence and post-war circumstances on the psychological well-being. A society and its approach to phenomena such as sexuality, violence and transgenerational stress significantly influences the degree to which traumata can be treated psychotherapeutically. High ethical expectations, limitations and adopted approaches to concepts like 'honor' and 'the violation of 'honor' can cause an individual to worry extensively to be afraid of being ostracized by their community and its collective. In this context, the emotion 'shame' plays an essential role. Individuals who are part of a "shame culture" are not primarily worried about the events themselves or having broken social rules. Instead, they worry most about the associated humiliation experienced through ostracism in front of the other members of their community. For scenarios previously described alternative treatment approaches are needed. These approaches must be characterized by an interdisciplinary and culturally aware work ethic which causes psychiatrist and psychotherapist to work together with

other professionals who have ample expertise to consider the patient's cultural environment and to understand its impact on psychological processes in the patient's mind.

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.

Authors' contributions

JK examined the patients and analyzed the clinical and psychometric data in Iraq and analyze the clinical and psychometric data. The author read and approved the final manuscript.

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