



Clinical Practice & Epidemiology in Mental Health

Content list available at: <https://clinical-practice-and-epidemiology-in-mental-health.com>



RESEARCH ARTICLE

Efficiency of Intervention Counseling Program on the Enhanced Psychological Well-being and Reduced Post-traumatic Stress Disorder Symptoms Among Syrian Women Refugee Survivors

Ahmad Sa'ad Saleh Alsheikh Ali^{1,*} 

¹Department of Psychology, The University of Jordan, Amman, Jordan

Abstract:

Background:

The number of individuals displaced from their original countries due to civil wars, hunger, disasters, and international wars is increasing worldwide day by day. These refugees are more vulnerable to Post-Traumatic Stress Disorder (PTSD).

Objective:

The present study aimed to examine the effectiveness of the intervention program in improving the well-being and reducing Post-Traumatic Stress Disorder (PTSD) among a sample of Syrian refugee women in Jordan who had been displaced due to civil wars in Syria.

Methods:

The study recruited 40 Syrian refugee females in Jordan who were psychologically challenged, with high PTSD symptoms (assessed by PCL) and a psychological well-being impairment (assessed by PWD). The culture of Jordanian society discriminates and affects the Syrian refugee women, rendering them vulnerable to PTSD. Quasi-experimental design was used, wherein the participants were randomly distributed in experimental and control groups (n=20/group). The control group members did not receive any services related to psychological support or psychiatric medications, while the experimental group underwent a counseling program.

Results:

The present study demonstrated that the intervention program improves the well-being and reduces PTSD among the Syrian refugee women who constituted the experimental group. The intervention program and the PTSD manifestation were not affected by age. The present study recommended that the program be applied to the refugees in Jordan to improve the well-being of the women in the residential areas.

Conclusion:

Furthermore, an intervention on the Jordanian cultural impact on the refugee camps was also essential if the condition for the female refugees worsened. Lastly, the effect of Jordanian culture on Syrian refugees should be investigated since the literature presented a negative impact.

Keywords: Intervention program, Well-Being, PTSD, Refugees, Trauma, Civil war.

Article History

Received: February 6, 2020

Revised: May 1, 2020

Accepted: June 11, 2020

1. INTRODUCTION

Individuals displaced from their original countries due to civil wars, hunger, disasters, and international wars are refugees [1]. The number of refugees is increasing worldwide day by day.

Although the civil war began in Syria in 2011, it was officially declared by the UN on June 12, 2012 [2, 3]. Thus, millions of people sought refuge in neighboring nations such as Jordan. An individual is regarded as a Syrian refugee in Jordan if he/she arrived after March 15, 2011, due to the effects of the wars. Moreover, any Syrian citizen who had been in Jordan before March 15, 2011, but was unable to return due to the civil war is also regarded as a Syrian refugee [4]. According to the United Nations High Commissioner for Refugees

* Address correspondence to this author at the Department of Psychology, The University of Jordan, Amman, Jordan, E-mail: a.alsheikh@ju.edu.jo

(UNHCR), 97% of such individuals have registered as refugees [1].

Strikingly, the demographic characteristics of the Syrian refugees' households in Jordan are alarming [5]. The average population of the families is young, with 45% aged < 15 years. The population constitutes more women than men aged > 25 years. About 22% of the households are headed by women, and 16% of all the households are single-parented [4], thereby deeming that the majority of the refugees are women and children.

The unfavorable conditions for the refugees make the women, who are subjected to sexual harassment, rape, forced marriages, early marriages, and constant divorce in Jordan due to the gender-insensitive culture, vulnerable [6]. The Jordanian culture is based on the traditional Arabic culture as well as Islamic laws, which makes the society patriarchal [7]. Additionally, Jordanian society doubles as a patrilineal society [8].

Meriwether (2018) also reported that in Jordan, the Syrian refugee women are affected by the division of labor; the women perform the household duties, primarily caring for the children, while the male is the breadwinner [6, 9, 10]. In case the Syrian women work outside, they are closely monitored by their male relatives [11]. These cultural practices are complicated for women refugees who are single parents in the camps. Additionally, assigning household duties to refugee women ensures that they are unable to provide for themselves, thereby leaving them at the mercy of men, who in turn, abuse them in marriages. Therefore, the culture in Jordan makes refugee women vulnerable to post-traumatic stress disorder (PTSD) [6].

Marriages for Syrian refugee women living in Irbid City are determined by Islamic laws and Arabic traditions [12]. Men are allowed to marry up to four wives, while women are expected to remain obedient to their husbands [13]. The Syrian refugee women can be married off by their fathers at the young age of 15 years [14, 15]. Upon marriage, a refugee woman becomes the property of the husband, who dictates every aspect of her life [16]. Additionally, tradition allows men to punish their wives as they please [12]. Also, the traditional Jordanian laws prohibit women from shouting or screaming for help, a practice that has worsened the situation for the Syrian refugee women living in Jordan [17].

Divorce is accepted but decided by the man and usually relies on the obedience index of the woman. Barlas (2019) argued that after divorce, the children are under the care of the father, while the woman is permitted to take care of them [13]. Furthermore, divorced refugee women are outcast in the Jordanian society [9]. Therefore, refugee women prefer to remain in abusive marriages either due to children or to protect their dignity in society. Thus, problems accrued from forced and abusive marriages cause mental challenges to the Syrian refugee women living in the Jordan society, which might later develop into PTSD.

A large number of refugees suffer from mental health disorders, such as PTSD, anxiety, and depression, as compared to the general population worldwide. However, it is prevalent

in women due to war experiences and trauma before the migration. Moreover, women have PTSD due to post-migration stressors such as separation from families as well as the pressure of settling in a new country [18]. The situation sometimes becomes challenging during war experiences, which include torture, hostage, death of loved ones, sexual harassment, and physical violence [19]. Although the symptoms may last for months or years, exemplary self-care and time can heal the person [20]. Women are more attached to their children than men, and hence, they usually develop stress firstly due to the experiences that the children have to endure and secondly due to their own suffering.

The symptoms of PTSD may be displayed within a month in a similar event that might serve as the trigger, or the effects could be felt after several years. The symptoms, including intrusion, hyper-arousal, and avoidance, among women living in refugee camps, are distinct as the groups consist of a heterogeneous population. In some cases, irritability, fatigue, restlessness, and sleeping disorders are also associated with PTSD. These symptoms could affect the daily operation of an individual, such as relationships, work situations, and other social-related issues [19]. These women overreact, display aggressive mood and attitude swings, lose hope in the future, as well as, show a lack of interest in people and relationships. However, only limited studies are available on the prevention and intervention measures for PTSD. Therefore, the present study aimed to find the effectiveness of the intervention counseling program in enhancing the psychological well-being and reducing the PTSD symptoms among Syrian refugee women survivors. The hypotheses focusing on the mental health aspect were as follows:

- The well-being of the Syrian refugee women in the experimental group improves as compared to the control group after implementing the counseling program.
- There is no correlation between the overall well-being or sub-domains due to the counseling program and the participant's age.
- The PTSD score in the experimental group decreases as compared to the control group after implementing the counseling program.
- There is no correlation between the level of PTSD due to the counseling program and the participant's age.

2.. METHODS

The present study followed the experimental approach by choosing a quasi-experimental design because the purpose the study aspires to screen the individuals who receive the highest scores in PTSD as measured by the study tool (PCL), in addition to those who experience deficiencies in mental health levels as measured by the study tool (PWD). This procedure prevents the possibility of random selection from members of the study community. Quasi-experimental design is usually chosen in such experimental conditions.

2.1. Participants

The present study recruited 40 Syrian refugee women in Jordan, aged between 30 and 50 years and identified as

psychologically challenged. During the identification process in the in-home assessment, a screening criterion was applied randomly to the women residing in Irbid City to include the appropriate participants for the study. The cross-cutting tool by the American Psychiatric Association (2013) was used in the screening, which identified 56 women with the highest scores for psychological challenges [21]. However, after applying Ryff's psychological well-being scales (PWB) and PTSD checklist (PCL), a total of 40 women, who scored the maximum in both instruments, comprised the final cohort and were randomly and equally assigned to the experimental and control groups [22 - 24]. During the period of the study, the control group did not receive any psychological support or psychiatric medications, while the experimental group underwent a counseling program.

2.2. Design and Tools

The PWB was used to measure the specific domains of psychological functioning, which were distributed into six dimensions: autonomy, positive relationships with others, environmental mastery, personal growth, the goal in life, and self-acceptance [22 - 24]. A quasi-experimental design was used with experimental and control group. The experimental group underwent counseling sessions, while the control did not receive any psychological support or psychiatric medications for comparative analysis. The PCL-Civilian version for Diagnostic and Statistical Manual of Mental Disorder 4th Edition (DSM-IV) developed by Weathers & Litz (1994) consisted of 17 self-report items [25]. These items were aligned with the PTSD diagnostic criteria in DSM-VI [21]. Moreover, validity and reliability values indicated that the PTSD checklist (PCL) was suitable and reliable for the study based on its characteristics.

The counseling program for this study was developed based on the analysis of the survival of Syrian women. Three focus group meetings were conducted to obtain a general understanding of the main challenges faced by the participants in daily life while coping as refugees with PTSD. The program consisted of four primary domains, two sessions each. Both sessions targeted each domain and focused on sharing the stories between the participants, using psycho-education techniques to deal with the feelings related to each domain, and finding strategies that would help in coping with the challenges. The four basic domains were alienation, loss and grief, hope and hopelessness, and psychological problems. The program was implemented for 1.5 months, two sessions per week. However, two additional sessions were conducted for the opening and closing, respectively. Informed consent was obtained from the participants in the opening session, as well as for the pre-test, after conveying the regulations for the whole program. The closing session entailed a summary and post-test application. The counseling program was reviewed by experts and academicians in the field of Counseling and Clinical Psychology prior to implementation. The consulted parties modified both the content and procedures to suit the study.

2.3. Counseling Program Development

The group counseling program was designed based on a

number research and literature efforts. Yalom (2005) has extracted number of fundamentals for group counseling which was adopted on the development of this program [26]. He has focused on the importance of group processes in the hope installation and socialization techniques. Moreover, feeling of commonality and belonging experiences was employed based on Jacobs, Masson and Harvill (2009) explanations [27].

After developing the first draft of the counseling program, it was shared with both professors in the field of counseling and clinical psychology and professionals who are working with traumatic refugees. This procedure aimed at obtaining their feedback about the program, some modifications were added to the program based on their feedback.

2.4. Procedure

The study targeted one of the local associations in Irbid City in Jordan that were dedicated to supporting the Syrian refugees via different psychosocial services. Permission was obtained from the Faculty of Arts Research Review Committee of The University of Jordan, and interested parties were informed before the program was conducted. The participants signed informed consent at the beginning of the study. The participation was voluntary, and the participants had the right to withdraw from the program at any stage of the cycle. Notably, the program was implemented by a clinical psychologist who was a licensed psychotherapist.

3. RESULTS

The efficiency of the intervention counseling program that improved mental health and reduced the PTSD symptoms among refugee Syrian women survivors was assessed. A total of 40 Syrian refugee women living in Irbid city in Jordan were recruited for the current study. The means and standard deviation for the overall well-being and sub-domains were calculated for both experimental and control groups (Table 1).

The means among the experimental group increased in the post-test as compared to the control group. To test if this difference was statistically significant, a two-way MANOVA was conducted (Table 2).

Additionally, the interactive means and standard deviation for the overall well-being and sub-domains were calculated for the counseling program and age (≤ 24 or ≥ 24 years) in both groups (Table 2).

The means showed a difference between the experimental and control groups for both age groups. To test if this difference was statistically significant, a two-way MANOVA was conducted (Table 3). The F-values for the counseling program of the overall well-being and the sub-domain are statistically significant at ≤ 0.05 with respect to the post-test for both experimental and control groups, respectively. The means showed that the overall well-being and sub-domains improved after the experimental group underwent the counseling program. Thus, this result supported the acceptance of the first hypothesis that the well-being of Syrian refugee women in the experimental group would improve as compared to the control group after implementing the counseling program.

Table 1. Means and standard deviation of the study groups in the Well-being scale domains.

| Dependent variable | Groups | Pre-test | | | Post-test | | |
|-----------------------|------------|----------|--------|----------------|-----------|--------|----------------|
| | | N | Mean | Std. Deviation | N | Mean | Std. Deviation |
| Autonomy | Control | 20 | 18.95 | 3.17 | 20 | 20.50 | 3.07 |
| | Experiment | 20 | 21.30 | 3.31 | 20 | 29.05 | 4.70 |
| Environmental mastery | Control | 20 | 20.65 | 4.06 | 20 | 19.60 | 3.60 |
| | Experiment | 20 | 19.85 | 3.39 | 20 | 32.15 | 5.05 |
| Personal Growth | Control | 20 | 19.80 | 3.56 | 20 | 21.05 | 3.36 |
| | Experiment | 20 | 20.55 | 2.84 | 20 | 28.25 | 3.64 |
| Positive Relations | Control | 20 | 20.10 | 3.14 | 20 | 20.65 | 3.13 |
| | Experiment | 20 | 20.45 | 3.75 | 20 | 28.35 | 3.92 |
| Purpose in life | Control | 20 | 19.65 | 3.54 | 20 | 20.45 | 3.62 |
| | Experiment | 20 | 20.80 | 3.99 | 20 | 28.40 | 4.31 |
| Self-acceptance | Control | 20 | 20.65 | 3.44 | 20 | 20.60 | 3.47 |
| | Experiment | 20 | 21.00 | 3.92 | 20 | 29.80 | 4.07 |
| Overall well-being | Control | 20 | 119.80 | 10.80 | 20 | 122.85 | 10.38 |
| | Experiment | 20 | 124.05 | 9.35 | 20 | 176.00 | 13.29 |

Table 2. Means and standard deviation of the well-being domains due to the interaction between Intervention and age.

| | Age (years) | Control group | | | Experimental group | | |
|-----------------------|-------------|---------------|----------------|----|--------------------|----------------|----|
| | | Mean | Std. Deviation | N | Mean | Std. Deviation | N |
| Autonomy | ≤24 | 20.60 | 3.27 | 10 | 28.62 | 5.19 | 13 |
| | ≥24 | 20.40 | 3.03 | 10 | 29.86 | 3.85 | 7 |
| Environmental mastery | ≤24 | 17.20 | 2.10 | 10 | 30.46 | 5.44 | 13 |
| | ≥24 | 22.00 | 3.20 | 10 | 35.29 | 1.98 | 7 |
| Personal Growth | ≤24 | 21.20 | 2.94 | 10 | 27.46 | 2.60 | 13 |
| | ≥24 | 20.90 | 3.90 | 10 | 29.71 | 4.96 | 7 |
| Positive Relations | ≤24 | 19.30 | 2.87 | 10 | 28.31 | 3.47 | 13 |
| | ≥24 | 22.00 | 2.91 | 10 | 28.43 | 4.96 | 7 |
| Purpose in life | ≤24 | 19.10 | 4.01 | 10 | 26.62 | 3.01 | 13 |
| | ≥24 | 21.80 | 2.74 | 10 | 31.71 | 4.57 | 7 |
| Self-acceptance | ≤24 | 19.10 | 3.03 | 10 | 28.31 | 3.47 | 13 |
| | ≥24 | 22.10 | 3.35 | 10 | 32.57 | 3.82 | 7 |
| Overall well-being | ≤24 | 116.50 | 7.96 | 10 | 169.77 | 9.44 | 13 |
| | ≥24 | 129.20 | 8.64 | 10 | 187.57 | 11.84 | 7 |

Table 3. Two-way MANOVA analysis for well-being due to intervention, age, and interaction.

| - | Sources | Type III sum of squares | df | Mean square | F | Significance |
|-----------------------|--------------------------------|-------------------------|----|-------------|--------|--------------|
| Autonomy | Pre-test autonomy | 0.02 | 1 | 0.02 | 0.00 | 0.97 |
| | Group | 621.77 | 1 | 621.77 | 36.84 | 0.00 |
| | Age | 2.55 | 1 | 2.55 | 0.15 | 0.70 |
| | Group × Age | 4.70 | 1 | 4.70 | 0.28 | 0.60 |
| | Error | 590.71 | 35 | 16.88 | | |
| | Corrected total | 1328.98 | 39 | | | |
| Environmental mastery | Pre-test environmental mastery | 22.00 | 1 | 22.00 | 1.58 | 0.22 |
| | Group | 1604.37 | 1 | 1604.37 | 115.01 | 0.00 |
| | Age | 229.45 | 1 | 229.45 | 16.45 | 0.00 |
| | Group × Age | 0.70 | 1 | 0.70 | 0.05 | 0.82 |
| | Error | 488.26 | 35 | 13.95 | - | - |
| | Corrected total | 2306.38 | 39 | - | - | - |

(Table 3) cont.....

| - | Sources | Type III sum of squares | df | Mean square | F | Significance |
|--------------------|-----------------------------|-------------------------|----|-------------|--------|--------------|
| Personal growth | Pre-test personal growth | 21.23 | 1 | 21.23 | 1.76 | 0.19 |
| | Group | 556.80 | 1 | 556.80 | 46.19 | 0.00 |
| | Age | 4.30 | 1 | 4.30 | 0.36 | 0.55 |
| | Group × Age | 16.49 | 1 | 16.49 | 1.37 | 0.25 |
| | Error | 421.93 | 35 | 12.06 | - | - |
| | Corrected total | 985.10 | 39 | - | - | - |
| Positive relations | Pre-test positive relations | 6.20 | 1 | 6.20 | 0.50 | 0.49 |
| | Group | 572.25 | 1 | 572.25 | 45.90 | 0.00 |
| | Age | 18.91 | 1 | 18.91 | 1.52 | 0.23 |
| | Group × Age | 17.52 | 1 | 17.52 | 1.41 | 0.24 |
| | Error | 436.38 | 35 | 12.47 | - | - |
| | Corrected total | 1072.00 | 39 | - | - | - |
| Purpose in life | Pre-test purpose in life | 5.79 | 1 | 5.79 | 0.46 | 0.50 |
| | GROUP | 725.32 | 1 | 725.32 | 57.54 | 0.00 |
| | Age | 149.71 | 1 | 149.71 | 11.88 | 0.00 |
| | Group × Age | 8.64 | 1 | 8.64 | 0.69 | 0.41 |
| | Error | 441.21 | 35 | 12.61 | - | - |
| | Corrected total | 1233.78 | 39 | - | - | - |
| Self-acceptance | Pre-test self-acceptance | 2.97 | 1 | 2.97 | 0.25 | 0.62 |
| | Group | 912.71 | 1 | 912.71 | 77.29 | 0.00 |
| | Age | 126.29 | 1 | 126.29 | 10.69 | 0.00 |
| | Group × Age | 3.09 | 1 | 3.09 | 0.26 | 0.61 |
| | Error | 413.32 | 35 | 11.81 | - | - |
| | Corrected total | 1390.40 | 39 | - | - | - |
| Overall well-being | Pre-test overall well-being | 23.13 | 1 | 23.13 | 0.26 | 0.61 |
| | Group | 28782.00 | 1 | 28782.00 | 321.74 | 0.00 |
| | Age | 2230.19 | 1 | 2230.19 | 24.93 | 0.00 |
| | Group × Age | 57.98 | 1 | 57.98 | 0.65 | 0.43 |
| | Error | 3130.99 | 35 | 89.46 | - | - |
| | Corrected total | 33651.78 | 39 | - | - | - |

Table 4 shows that the F-values for the interaction between the program and age for the overall well-being and the sub-domains are statistically significant at 0.05. This result supported the second hypothesis that there is no correlation between the overall well-being and sub-domains due to the counseling program and the participant's age. Table 5 shows that the PTSD on the post-test in the experimental groups was increased as compared to the control group; however, the significant difference was estimated by two-way MANOVA.

Additionally, the means of PTSD on the post-test in the experiential group for ≥ 24 years age group also differed from the ≤ 24 years age groups (Table 5). Thus, the interaction and the difference between the groups and ages were estimated by

two-way MANOVA.

Table 5 shows that the F-value for the counseling program of the overall well-being is statistically significant at ≤ 0.05 based on the post-test for both experimental and control groups. This result supports the third hypothesis that the PTSD score in Syrian refugee women in the experimental group decreases as compared to the control group after implementing the counseling program. Furthermore, the F-value for the interaction between the program and the age with respect to the PTSD scale was also statistically significant at 0.05 (Table 5). This result accepted the fourth hypothesis that there is no correlation between the level of PTSD due to the counseling program and the participant's age.

Table 4. Means and standard deviation of the groups on the PTSD scale and the interaction between intervention and age.

| Group | Pre-PTSD | | | Post-PTSD | | | ≤ 24 years | | | ≥ 24 years | | |
|--------------|----------|-------|----------------|-----------|-------|----------------|-----------------|-------|----------------|-----------------|-------|----------------|
| | N | Mean | Std. Deviation | N | Mean | Std. Deviation | N | Mean | Std. Deviation | N | Mean | Std. Deviation |
| Experimental | 20 | 57.65 | 11.19 | 20 | 41.55 | 7.11 | 13 | 58.62 | 7.92 | 7 | 56.86 | 9.12 |
| Control | 20 | 59.45 | 8.01 | 20 | 58 | 8.16 | 10 | 42 | 7.15 | 10 | 41.1 | 7.43 |

Table 5. Two-way MANOVA analysis for PTSD due to intervention, age, and anteraction.

| Source | Type III sum of squares | df | Mean square | F | Sig. |
|-----------------|-------------------------|----|-------------|------|------|
| Pre-test PTSD | 26.99 | 1 | 26.99 | 0.43 | 0.51 |
| Group | 417.11 | 1 | 417.11 | 6.69 | 0.01 |
| Age | 0.04 | 1 | 0.04 | 0.00 | 0.98 |
| Group × Age | 0.35 | 1 | 0.35 | 0.01 | 0.94 |
| Error | 2181.84 | 35 | 62.34 | | |
| Corrected total | 4932.98 | 39 | | | |

4. DISCUSSION

The PTSD symptoms are classified into four categories: avoidance, adverse changes in the mood and thinking, intrusion memories, and changes in the emotional as well as physical reactions. The nature of symptoms differs among individuals and is subject to time [28]. Thus, we determined the efficiency of the counseling program, whether it would alleviate the PTSD symptoms among the female refugee survivors.

The data analysis (Tables 1 and 2) revealed that the well-being aspects of the Syrian refugee women in the experimental group improved as compared to the control group after implementing the counseling program. Interestingly, the control group recorded nearly similar means in both pre- and post-test, while it was improved in all the domains in the experimental group. Nonetheless, the participants improved maximally in adjusting to the environment as compared to other domains. According to a study by Writers (2019), the environment construes the necessary awareness in an individual, thus becoming the most comfortable skill acquired by a person with a psychological disorder [29]. Other domains such as personal growth, autonomy, self- acceptance, positive relationships, and purpose in life are controlled by the hippocampus, amygdala, hypothalamus, and limbic cortex. During traumatic experiences, the amygdala stimulates the hypothalamus to produce the adrenaline hormone that influences the thinking, mood attitude, and physical response. PTSD causes this biological process to be systematic, thereby occurring frequently and with minimum stimulation. Although the other domains develop slower than environmental mastery, significant improvements are detected in all domains, confirming the first hypothesis.

The present study showed that age neither affects the counseling program nor the PTSD. The F-value of 0.01 (Table 4) indicated that both age groups respond similarly to the intervention program. These findings were contradictory to those described in the study by Ditlevsen and Elklit (2010), which stated that age is a factor that determines the intervention program and the manifestation of PTSD among trauma victims [30]. However, the result was in agreement with another study, which showed that PTSD could occur at any age. The study argued that even children experience PTSD depending on their experiences [31].

The Syrian refugee women's PTSD scores in the experimental group decreased as compared to the control group after the implementation of the counseling program (Table 5). The score in the experimental group improved because the program worked by minimizing the psychological impact of

their trauma, teaching them to enhance their personality traits, such as personal growth, self- acceptance, relation with others, and purpose in life. Also, resilience has been observed to cushion the stressors and assist towards a favorable outcome [32].

The survivors among the Syrian refugee women endure the impacts of traumatic memory. They experience distressing memories, which are recurrent and unwanted about the traumatic situation. The memory sometimes occurs in the form of flashbacks, making them relive the traumatic event as a fresh situation [33]. Occasionally, the intrusive memories manifest in the form of nightmares. These memories trigger emotional distress, which is occasionally coupled with physical violence against the person/object that is reminiscent of the traumatic event. The Syrian refugee women have had bitter experiences in both Syria and the camps, thus fueling the symptoms of intrusive memories [19].

Moreover, the avoidance symptoms include avoiding either thinking or talking about the traumatic situation and avoiding people and activities that remind about the traumatic event [20].

Therefore, the nature of symptoms experienced by the female refugees varies within the Irbid City due to the varied length of stay in the camps. McFarlane (2010) suggested that these women have a negative mood and thinking similar to that of a traumatized person [34]. The other prevalent condition is the feeling of hopelessness about the future. Some may also experience memory lapses, which would include not able to recall the significant aspects of the traumatic moment. Moreover, the refugee women in Irbid City feel detached from their family members and friends, thereby developing difficulty in maintaining relationships characterized by emotional numbness as well as lack of positive emotions [33]. The long-term effect of this condition has been realized to be affecting a large number of Syrian refugee women married in Irbid City.

These women show signs of overreaction and lack of tolerance due to lack of sleep and concentration and overwhelming feeling of guilt or shame; this coupled with irritability results in aggressive behaviors [33]. The negative emotions of guilt and shame are strongly correlated with maladaptive coping [35]. Such individuals feel easily threatened and are always vigilant that entail self-destructive behaviors, such as excessive use of drugs and driving extremely fast. Therefore, it can be deduced that the PTSD symptoms vary among the victims [31].

Intriguingly, the pre-migration stressors among the women

in Jordan refugee camps include the loss of loved ones, family separation, loss of freedom, and challenging economic situations [28]. Before the war, some of the refugees had honorable jobs and compassionate families. These women were affected maximally during the pre-migration moments due to the abduction as well as the death of children. Females are more attached to children than males. LaFrance (2015) argued that during the gestation period, there are several activities within a woman's brain sections, such as in the prefrontal cortex, parietal lobe, and the midbrain, which are responsible for social interaction, empathy, and anxiety [36]. The hormonal changes also develop protectiveness and overwhelming maternal love, which is controlled by the brain. Therefore, refugee women experience PTSD more than men under the same conditions.

However, another study showed that refugees who have experienced severe trauma are unlikely to develop PTSD. The researchers used two samples of participants constituting 50% refugees and 50% non-refugees. There is a need for immediate steps to provide protection to refugees to help recover psychological suffering arising from trauma and stress [37]. These findings stated that when the trauma is severe, it causes the suppression of the memories of the traumatic event. This phenomenon could be attributed to the dysfunctional gamma frequencies within the brain [38, 39].

However, the findings have certain limitations. The mental disorder comorbidities, such as anxiety or depression, which could significantly influence the PTSD and well-being in participants, were not assessed. The specific domains of psychological functioning were not rated by a clinician. Also, DSM-IV was used instead of DSM-V.

CONCLUSION

The intervention program was designed for the Syrian refugee women living in Jordan. The experimental group showed an improved general score in the well-being as well as in the designated sub-domains (autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance). However, it was found that age does not affect the implementation of the program. The experimental group comprised of the PTSD sample selected scientifically from among the Syrian refugee women, thus making this program applicable. It could be concluded that the PTSD experienced by Syrian refugee women is triggered by the cultural practice of the Jordanian society that allows abusive marriages and discourages divorce while victimizing women even in the rape situations. The society is both patriarchal and gender insensitive. Therefore, additional studies on the Jordanian culture and its impact on the refugees, especially women living in Jordan, are imperative. The women should be sensitized to advocate for their rights within the refugee camps and avoid early marriages. The women should be taught remedies to fight rape, such as screaming that is discouraged by the Jordanian culture. Lastly, the current program was effective in the intervention of PTSD among the Syrian refugee women living in Irbid City and can be applied to help the majority who are suffering within the different cities of Jordan.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical approval was obtained from the University of Jordan, Jordan by the head of IRB in Psychology department Prof. Muhammad bani Yunis (Reference No. 1/2019/784).

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All human research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

The author confirms that all participants have given written consent to the inclusion of material pertaining to them, that they acknowledge that they cannot be identified *via* the paper, and the author has fully anonymized them.

AVAILABILITY OF DATA AND MATERIALS

The data that supports the finding of this study are only available from the corresponding author [A.S.A] on request.

FUNDING

None

CONFLICT OF INTEREST

The author declares no conflict of interest, financial or otherwise.

ACKNOWLEDGEMENTS

Declared none.

REFERENCES

- [1] Bakker E, De Bont R. Belgian and Dutch jihadist foreign fighters (2012-2015): Characteristics, motivations, and roles in the War in Syria and Iraq. *Small Wars Insurgencies* 2016; 27: 837-57. [<http://dx.doi.org/10.1080/09592318.2016.1209806>]
- [2] Julie M. Why Is There a Civil War in Syria?. *History Stories* 2019.
- [3] Ashford J. How did the Syrian Civil War start?. *The Week* 2019.
- [4] ReliefWeb. The living conditions of Syrian refugees in Jordan: results from the 2017-2018 survey of Syrian refugees inside and outside camps – Jordan. 2019.
- [5] UN High Commissioner for Refugees. Vulnerability assessment framework, Population study. 2019.
- [6] Meriwether ML. A social history of women and gender in the modern Middle East. Taylor & Francis Group 2018. [<http://dx.doi.org/10.4324/9780429502606>]
- [7] Jordan P. Landscape and culture in Northern Eurasia. Routledge 2016. [<http://dx.doi.org/10.4324/9781315425658>]
- [8] Schmidt D. Culture of Jordan-history, people, traditions, women, beliefs, food, customs, family, social. *Countries and Their Cultures* 2019.
- [9] Equal Times. Jordanian women are fighting for labour rights. 2018.
- [10] Nag O. The culture of Jordan. *WorldAtlas* 2019.
- [11] Freedom House. Why Is Jordan Backsliding on Gender Equality?. 2016.
- [12] Terhaal Culture and customs. 2019.
- [13] Barlas A. Believing women in Islam: Unread patriarchal interpretations of the Qur'an. University of Texas Press 2019.
- [14] Jordan RA, Kalchik SJ, Eds. Women's folklore, women's culture. University of Pennsylvania Press 2015.
- [15] The Embassy of the Hashemite Kingdom of Jordan Cult Relig 2019.
- [16] Magstad MK. Why do so few women work (for pay) in Jordan?.

- Public Radio International 2019.
- [17] Bryant RA, Edwards B, Creamer M, *et al.* The effect of post-traumatic stress disorder on refugees' parenting and their children's mental health: A cohort study. *Lancet Public Health* 2018; 3(5): e249-58. [http://dx.doi.org/10.1016/S2468-2667(18)30051-3] [PMID: 29731158]
- [18] Hassan G, Ventevogel P, Jefee-Bahloul H, Barkil-Oteo A, Kirmayer LJ. Mental health and psychosocial wellbeing of Syrians affected by armed conflict. *Epidemiol Psychiatr Sci* 2016; 25(2): 129-41. [http://dx.doi.org/10.1017/S2045796016000044] [PMID: 26829998]
- [19] Alpak G, Unal A, Bulbul F, *et al.* Post-traumatic stress disorder among Syrian refugees in Turkey: A cross-sectional study. *Int J Psychiatry Clin Pract* 2015; 19(1): 45-50. [http://dx.doi.org/10.3109/13651501.2014.961930] [PMID: 25195765]
- [20] Acarturk C, Cetinkaya M, Senay I, Gulen B, Aker T, Hinton D. Prevalence and predictors of posttraumatic stress and depression symptoms among Syrian refugees in a refugee camp. *J Nerv Ment Dis* 2018; 206(1): 40-5. [http://dx.doi.org/10.1097/NMD.0000000000000693] [PMID: 28632513]
- [21] Cook TD, Campbell DT. *Quasi-experimentation: Design and analysis issues for field settings.* Chicago: Rand-McNally 1979.
- [22] American Psychiatric Association. *DSM-5 self-rated level 1 cross-cutting symptom measure-adult.* 2013.
- [23] Ryff CD, Almeida DM, Ayanian JS, *et al.* Midlife in the United States (MIDUS 2), 2004-2006. *Ann Arbor, MI: Inter-university Consortium for Political and Social Research* 2017. [distributor]
- [24] Ryff CD. Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *J Pers Soc Psychol* 1989; 57: 1069-81. [http://dx.doi.org/10.1037/0022-3514.57.6.1069]
- [25] Ryff CD, Keyes CL. The structure of psychological well-being revisited. *J Pers Soc Psychol* 1995; 69(4): 719-27. [http://dx.doi.org/10.1037/0022-3514.69.4.719] [PMID: 7473027]
- [26] Weathers FW, Litz BT. Psychometric properties of the clinician-administered PTSD scale, CAPS-1. *PTSD Res Quark* 1994; 5: 6-8.
- [27] Yalom G. *Theory and practice of group psychotherapy.* 5th ed. New York: Basic Books 2005.
- [28] Jacobs EE, Mason RL, Harvill RL. *Group counseling: practice and skills.* Belmont, CA: Thomson Brooks/Cole 2009.
- [29] Ibrahim H, Hassan CQ. Post-traumatic stress disorder symptoms were resulting from torture and other traumatic events among Syrian Kurdish refugees in the Kurdistan Region, Iraq. *Front Psychol* 2017; 8: 241. [http://dx.doi.org/10.3389/fpsyg.2017.00241] [PMID: 28265252]
- [30] Writers S. College students with PTSD, support & coping techniques for a positive education experience. 2019.
- [31] Ditlevsen DN, Elklit A. The combined effect of gender and age on post traumatic stress disorder: do men and women show differences in the lifespan distribution of the disorder? *Ann Gen Psychiatry* 2010; 9: 32. [http://dx.doi.org/10.1186/1744-859X-9-32] [PMID: 20663164]
- [32] Gaskell (UK) N Post-traumatic stress disorder: the management of PTSD in adults and children in primary and secondary care National Collaborating Centre for Mental Health. London, Leicester: Gaskell & the British Psychological Society 2005.
- [33] Stratta Paolo. Resilience and coping in trauma spectrum symptoms prediction: A structural equation modeling approach. *Pers Individ Dif* 2015; 77: 55-61. [http://dx.doi.org/10.1016/j.paid.2014.12.035]
- [34] Pooley AE, Benjamin RC, Sreedhar S, *et al.* Sex differences in the traumatic stress response: PTSD symptoms in women recapitulated in female rats. *Biol Sex Differ* 2018; 9(1): 31. [http://dx.doi.org/10.1186/s13293-018-0191-9] [PMID: 29976248]
- [35] McFarlane AC. The long-term costs of traumatic stress: Intertwined physical and psychological consequences. *World Psychiatry* 2010; 9(1): 3-10. [http://dx.doi.org/10.1002/j.2051-5545.2010.tb00254.x] [PMID: 20148146]
- [36] Carmassi C, Bertelloni CA, Gesi C, *et al.* New DSM-5 PTSD guilt and shame symptoms among Italian earthquake survivors: Impact on maladaptive behaviors. *Psychiatry Res* 2017; 251: 142-7. [http://dx.doi.org/10.1016/j.psychres.2016.11.026] [PMID: 28199913]
- [37] LaFrance A. What happens to a woman's brain when she becomes a mother? *Atlantic* 2015.
- [38] Carta MG, Oumar FW, Moro MF, *et al.* Trauma- and stressor related disorders in the tuareg refugees of a cAMP in burkina faso. *Clin Pract Epidemiol Ment Health* 2013; 9: 189-95. [http://dx.doi.org/10.2174/1745017901309010189] [PMID: 24285982]
- [39] ScienceDaily. Severely traumatized refugees may not necessarily develop PTSD. University of Birmingham 2018.