

Alexithymia and Perceived Social Support Among a Sample of Syrian Refugee Students in Jordan

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Abstract

The current study investigates the prevalence of Alexithymia, its association with gender, and the relationship between Alexithymia and perceived social support among a convenient sample of Syrian refugee students living in Jordan. The participants consisted of 169 Syrian refugee students, with 74 (43.8%) males; and 95 (56.2%) females. Toronto Alexithymia Scale (TAS-20) and the Multidimensional Scale of Perceived Social Support (MSPSS) were used to collect study data.

Results revealed that the prevalence of Alexithymia in Syrian refugee students is (29.0%), with 13.6% in boys, and 15.4% in girls. Chi-square tests showed no gender differences with regard to Alexithymic category group. Additionally, results indicated a statistically significant ($p < 0.001$), variant negative relationship by gender between scales of Alexithymia (TAS-20) and Perceived social support (MSPSS), in males, higher - Alexithymia correlated significantly with less Perceived Social Support, specifically, Sub-scale of family (FA) and significant others (SO) social support showed the highest correlation, while in females, Sub-scale of friend (FR) social support showed the highest correlation. Moreover, stepwise multiple regression analyses showed that sub-scale 1 of Family (FA) Social Support was the only predictor of Alexithymia and accounted for a proportion of unique variance 42.8 % in males' Alexithymia, while in females, sub-scale 2 of Friends (FR) Social Support (MSPSS) was the unique predictor of Alexithymia and accounted for 19.4% of the variance in (TAS-20). This study highlights the significance of maternal, paternal and peers support as a possible risk factor for the development of Alexithymia among Syrian refugee male and female adolescents.

Keywords: Alexithymia; Perceived Social Support; Syrian Refugee Students in Jordan; Gender Differences; Cross-Sectional Descriptive Method.

Introduction

Jordan has the second highest refugee-per-capita ratio in the world. As of April 2019, in addition to the large numbers of families distributed throughout Jordanian cities, more than 660,393 Syrian nationals were officially registered as refugees in Jordan, and about 50.3% of the Syrian population in Jordan is aged 0-17 years old, with about 13.8% between 12-17 years old, making Syrian adolescents integral significant demographic group par-within the community (UNCHR, 2019). Up to now, more than 125,000 Syrian refugee children were enrolled in Ministry of Education (MoE) schools (Queen Rania Foundation QRF, 2017), and approximately one out of 10 students in Jordanian schools is Syrian, despite momentous efforts by "host-country governments, civil society, NGOs and UN organizations" to ensure not only that all have access to education but that all are enrolled (Khurma, 2013).

Most of the Syrian individuals and families who refuge to Jordan were forced to escape the scourge of war. Exceedingly, Syrian refugee children and adolescents suffer from the effects of war-related painful events and experience, involving witnessing violent and killing scenes, atrocities and abuses, loss of parents, reliving the memories of the war, and hardships, and the complicated processes related to adjusting to strange community, leaving their schools and friends, and difficult living conditions. Also, harsh abrupt changes in family structure, school, and lifestyle (Acost & Chica, 2018), and basically, the deterioration of the family functioning with its inability to provide kids with basic needs namely, for example, food, shelter, and safety, healthy attachment bonds, and social support, these defects leading to children left behind with tremendous and different losses.

Moreover, research findings show consistently that as the number of risk factors accumulates for adolescents, the likelihood that they will develop psychological disturbance dramatically increases (Garmezy & Masten, 1994). In particular, compared to adolescents living in camp settings as Za'atari ($N=121,280$), those Syrian refugee adolescents

living with their families in non-camp settings ($N=539,113$) have more emotional distress, anxiety, and misery, feel less supported, less safe, and have more perceived discrimination (UNCHR, 2019). In fact, recent life events are important for the present physical and mental health status of refugees and interact with previous traumatic experiences to affect the well-being of these population. Accordingly, it is not surprising that researchers tried to design special war-related assessment tools and interventions for children, adolescents and families, and to primarily, investigate and diagnose these mental health disorders specific needs among these age groups, in order to inform counseling and support services (Miller & Rasco, 2004).

PTSD, anxiety, and depression, lack of social support and recently deficits in emotional self-awareness, referred to as Alexithymia, were from the distinct difficulties faced by war refugees in asylum. For instance, some authors found that Alexithymia, especially its sub-Factor I, difficulty in identifying feelings (DIF) was associated with a high prevalence of dysphoric affects as it is a state of unease, anxiety, and misery which is very common among refugees (Sondergaard, 2002). The main purpose of the present study was to examine how alexithymia, impact support transactions in family, friends, and important others relationships, and vice-versa, among a convenient sample of Syrian refugee male and female students living in Jordan.

Alexithymia

Alexithymia which was originally conceptualized by Nemiah, Freyberger and Sifneos (1976), had "stemmed from psychoanalytic thought; it literally means "no words for emotions" (Vanheule et al. 2007, p. 109). Thus, Alexithymia can be understood as a defense against dysphoric (generalized dissatisfaction with life), the affects that are common in refugees (Sondergaard, 2002). Alexithymia describes a personality trait characterized by an inability to process and recognize one's own emotions. Usually, persons with Alexithymia show marked difficulty in identifying their feelings, in finding appropriate words to

describe them, and in distinguishing feelings from bodily sensations of arousal. Moreover, Alexithymic persons had a thinking style that focused on external events, together with a striking avoidance of a focus on inner experiences (Bagby, Parker, & Taylor, 1994). More specifically, Alexithymia encompasses a cluster of three cognitive traits and factors including difficulty identifying feelings (DIF), difficulty describing feelings to others (DES), and externally oriented thinking (EOT). This original view of Alexithymia has been the most influential in contemporary theory and research (Taylor, Bagby, & Parker, 1997). These characteristics are thought to reflect deficits in the cognitive processing and emotional regulation and to contribute to the onset or maintenance of several medical and psychiatric disorders.

It is thought that deficits in emotional self-awareness in terms of Alexithymia, can disrupt social support in interpersonal relationships, suggesting that alexithymic individuals have difficulty with many different aspects of everyday support exchanges (Wells, Rehman, & Sutherland, 2016). Interpretive problems regarding alexithymia include its overlap with other traits, whether it is secondary to illness or trauma, the possibility of subtypes, and low correlations among multiple measures (Lumley, Neely, & Burger, 2007). This knowledge appears to suggest that individuals who have experienced the events of war and asylum as refugees are more likely to demonstrate traits of Alexithymia, and lack of social support. In characterizing Alexithymic persons in detail, Zaidi, Arshad, & Yaqoob (2015) argue that "Individuals with Alexithymia might on later indication increase an indistinct sense that they were in the grasp of a tough emotion like in tears, sorrow or regretful anger, but are more often than not they are at a loss when irritating to piece together what caused such emotions to apparent, i.e. they cannot picture what motivated the mood in them. At most, they might have a painful sense of the sudden changing within their body, augmented heart rate, or their withdrawn from others, and when they pushed to provide an explanation of their feelings, an Alexithymic person will have no vocabulary to present, might mishandle with an artificial response or simply transform the subject" (p.99). We suggest also that some of these words describing Alexithymic persons appeared applicable and might be similar somehow to the symptoms resulting from the harsh effects imposed on those refugees who suffered from different traumatic events.

Social support has been conceptualized in the psychological literature in a number of ways, but the majority of characterizations contend that social support involves behaviors that demonstrate care and concern for another person's needs (e. g., Pasch & Bradbury, 1998). It has been also conceptualized as one's perception of supportive relationships, and as the presence and number of interpersonal ties (social network). Also, it is a multidimensional construct, which contains three different sources of support (i.e., family, friends, and significant others) (Zimet et al., 1988). Across different samples measuring perceived social support, there are consistent, well-replicated findings that individuals who report higher levels of Alexithymia are less likely to feel supported by those in their social environment (e.g. Lumley et al. 1996; Wells et al., 2016). Investigations of Alexithymia in the context of social support have found that Alexithymia is associated with a variety of interpersonal difficulties including discomfort with closeness, specifically, in a sample (n=157) of students, Vanheule et al. (2007) found that two interpersonal problems were significantly and reliably related to Alexithymia: Cold/Distant and Nonassertive social functioning. Though Alexithymia among refugees adolescents has overlapping characteristics with these and several other personality traits and psychological disorders, including emotionality, and PTSD that were found to be related strongly to Alexithymia among refugees adolescents, for instance, Sondergaard, & Theorell (2004) studied

Alexithymia, emotions and PTSD in a group (n=86) of refugee subjects: 33 non-PTSD and 22 PTSD subjects. Results showed that subjects with PTSD had higher scores on the TAS-20, but on the subscale level, this was significant only with regard to Factor I, difficulties identifying feelings.

The Prevalence of Alexithymia in Adolescents

The prevalence of Alexithymia in adolescents has been varied highly among studies conducting in different countries, and the total average range from 7.3%-56%, suggesting methodological problems in assessment tools to reach a consistent percentage. Though it has been reported that Alexithymia has a developmental aspect, since teenagers faced more difficulty in identifying and describing their feelings than do adults (Moriguchi et al., 2007). The prevalence of Alexithymia among a sample of 3556 Italian students with mean age (14.5) and range (11 - 18) years, was 18%, decreasing with age (Gatta et al. 2014). Research also indicates that percentage of 24.1% of Spanish young people have high levels of alexithymia (Galvan, 2014). The prevalence of Alexithymia has been shown also to range from 13 to 19% in a sample of Italian high school students (Scimeca et al. 2014). Overall prevalence of alexithymia among adolescents in South Korea ranging from 13 to 19% (Lee et al. 2010), and from 7.3% to 29.9% among Canadian teenagers (Hebert et al. 2018). Recently, Janiec et al. (2019) found that the prevalence of alexithymia was (56%, n=635) in Polish students. Moreover, considering gender based-differences in the prevalence of Alexithymia in Finnish adolescents, it has been found that 10% in girls and 7% in boys, but with a higher average value in males compared to females (Joukamaa et al. 2007).

Gender Differences in Alexithymia

There has not been a consensus on gender difference for alexithymia (e.g., Mason et al. 2005; Salminen et al. 1999). For instance, many different studies have found that men score significantly higher than women in the TAS-20 used to assess Alexithymia. Salminen et al. (1999) in a sample of 1285 subjects representing the general population of Finland found that males were alexithymic almost twice (17%) as often as females (10%); and Zaidi et al. (2015) concluded that men experience higher levels of Alexithymia compared to women. However, Ronald et al. (2009) found small differences in Alexithymia mean between women and men, with men exhibiting higher levels.

Contrary to these studies, many studies (i. e., Haviland et al. 1994; Pandey et al. 1996; Pascual et al. 2002) have found that females compared to males score significantly higher in the Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994). Pascual et al. (2002) found that females have higher rates of Alexithymia than males in a study comprised of 762 Spanish adolescents. Mason et al. (2005) found same results in a sample of 181 male and 190 female British students. Also, Merino, Godas, & Pombo (2002), and recently, Karbasdehi, Abolghasemi and Karbasdehi (2018) found that females were significantly more Alexithymic compared with males.

However, other few studies (i. e., Janiec et al., 2019; Joukamaa, Sohlman, & Lehtinen, 1995; Loas et al, 2001; Moriguchi et al., 2007; Simon & Nath, 2004) showed no gender differences in Alexithymia using the Toronto Alexithymia Scale (TAS-20). Janiec et al. (2019), found that there were no significant correlations between Alexithymia and gender in Polish students. Specifically, Simon and Nath (2004) failed to find any statistically significant differences between the frequency with which men and women experience emotions in general.

Alexithymia and Perceived Social Support

Past research shows that there is a substantial body of evidence demonstrating the negative association between Alexithymia and

social support, both in adolescents and adults (Karukivi & Saarijarvi, 2014). Lumley et al. (1996) conclude that Alexithymia is associated with emotional comprehension and expression deficits, which may have implications for social functioning with family, friends and significant others. Deficits in identifying and communicating feelings-the sub-construct of Alexithymia was related to less perceived support, fewer close relationships, and less social skill; the social skills deficit accounted fully for the association between Alexithymia and a smaller social network (Karukivi et al., 2011). It is important to note that classical review of buffering hypothesis of Cohen and Wills (1985) presented evidence-based interpretation to how social support may prevent or reduce and alleviate the stress evaluations impact regarding its influences on physiological responses related to emotion arousals linking to stressful events. The review concludes that the buffering effect of social support when it was assessed by one's perceptions of the existence of interpersonal resources that provide him with support in consistent manner with need raised by stressful events, which ultimately, make these interpersonal resources affect positively persons' well-being

In light of the above current literature that points to the Alexithymia, as being associated with social support, and the noticed paucity of research examining the prevalence of Alexithymia, its association with the Perceived Social Support, and gender differences, in samples of Syrian refugee students, this study tried to build on and extended past work on Alexithymia, and social support by finding out if these results could be replicated in refugee adolescents living in Jordan, in particular, considering those young refugees to be suffered from many harmful events, painful experiences and disruption in their social support resources that could lead to trigger Alexithymia. Accordingly, the purpose of the present study is to explore the prevalence of Alexithymia, the relationship between Alexithymia and perceived social support, and gender differences in Alexithymia as a categorical variable, in refugee adolescents living in Jordan. This could help to provide references for prevention strategies and counseling intervention on Alexithymia in the context of social support deficits among refugee adolescents.

Study Questions

Question 1: What is the prevalence of Alexithymia in Syrian refugee students living in Jordan?

Question 2: Are there statistically significant gender differences in the three categories of severity of Alexithymia (high, medium and low)?

Question 3: Are there statistically significant correlations between Alexithymia, and its sub-dimensions, and perceived social support, and its sub-dimensions, among Syrian refugee students?

Method and Materials

We used a cross-sectional descriptive method in order to describe the prevalence of Alexithymia, the relationship between Alexithymia and perceived social support, and gender differences in Alexithymia as a categorical variable, among a convenient sample of Syrian refugee students living in Jordan.

Study Population and Sampling

The current study population consisted of all Syrian refugee male and female students enrolled in the public schools that introduced an afternoon school schedule system at the Education Directorate of Ajloun Region, Jordan, in the first semester of the school year 2018/2019. In fact, there are 6,855 (10% from total Syrian refugees living in Jordan) Syrian refugees who settle in Ajloun Governorate

Northwestern Jordan. The total number of Syrian refugee students is (n=1,718), consisting of (n=790) male and (n=928) female students distributed across sixty-one schools according to the official records (The Education Directorate of Ajloun Region, Jordan, 2019). All of these schools (n=61) were either for males (n=24), or females (n=24), except 13 schools, of them, 12 were mixed-gender schools and 1 private school. Due to the highly changed number of students in these schools (range=1-321) students, therefore, it was not possible to employ the random method in choosing study sample, so we employed the convenient sampling one. Accordingly, we selected one of these mixed gender schools that was containing (n=183), male and female students. Only 169 (response rate=92.3%) and their parents agreed to participate in the study and responded to the study questionnaires, and of them, 74 were male and 95 were female.

Procedures and Research Design

All students who provided parents and their written consent were screened using a paper and pencil, self-report method for Alexithymia and social support scales, as study base data. The participants were informed that the participation was voluntary and confidential. Each participant was assured that he/she was entitled to withdraw from participation whenever he/she wished. All these procedures were conducted in line with the ethical principles of the profession of psychological counseling and research involving human elements cited in Declaration of Helsinki (World Medical Association (WIMA), 2013). Research protocol was ethically approved by the locally appointed responsible authorities for the targeted mixed gender school located in Ajloun city, Northwestern Jordan. Each participant completed a packet of questionnaires with demographic information included during one of several scheduled times in the school day. In addition to the demographic information form, the following two measures were administered: (1) Toronto Alexithymia Scale (TAS-20), and (2) the Multidimensional Scale of Perceived Social Support (MSPSS).

Measures

Demographic Information Form: This form includes questions about the targeted demographic variables of the Syrian refugee students: Age; Gender (Male =1; Female=2), School Level (Basic=1; Secondary=2), and Family size: 1. Small= ranges from 1-<5; 2. Medium sized family = ranges from 5-<7; 3. Large= ≥ 7 .

Toronto Alexithymia Scale (TAS-20): The Arabic adapted version of TAS-20 (Dawoud, 2016) was used in this study. The TAS-20 scale that was originally developed by Bagby, Taylor and Parker (1994), is a multidimensional self-administered measure of Alexithymia and consists of three subscales: Difficulty identifying feelings (DIF), Difficulty describing feelings (DES) and externally oriented thinking (EOT). It has been widely used to assess Alexithymia in different languages and cultures, including Arabic among samples of young adults from Jordan (Dawoud, 2016), and other 3 Arabic-speaking countries (Algeria, Gaza, and Oman) (El-Abiddine et al. 2017). Seven 7 items (items: 1, 3, 6, 7, 9, 13, and 14), content The Identification subscale (DIF) and assesses the participant's abilities to recognize their emotions (e.g., "I am often confused about what emotion I am feeling"). Five 5 items (items 2, 4, 11, 12, and 17) comprise the description subscale (DES), which measures how well the participants convey or describe their emotions to others (e.g., "I find it hard to describe how I feel to people"). The remaining 8 items (5, 8, 10, 15, 16, 18, 19, and 20) assess externally oriented thinking (EOT), or a cognitive style that is reality-based and concrete and is defined as an extroverted cognitive structure, weakness of introverted thinking and imagination (e.g., "I prefer to analyze problems rather than just describe them"). Items

are answered using a 5-point scale ranged from (1) strongly disagree" to (5) "strongly agree". The total score on the scale ranges between (20-100) degree, and the highest degree indicates a high level of Alexithymic features. The scale in its original form has an appropriate level of Internal consistency, and test-retest reliability indicators that exceed ($r=0.80$) for the total score, alpha was 0.85, 0.82 and 0.75 for (ID), (DES) and (EOT) subscales, respectively (Bagby et al., 1994). For the Arabic Jordanian version, Dawoud (2016) reported good reliability and validity of TAS-20, with a Cronbach's Alpha of ($\alpha=.83, .78, .76, .73$), for the total scale and three subscales, and test-retest reliability of ($r=.80, .75, .77, .70$), respectively. In her sample of Jordanian students, Dawoud (2016) classified the total scores of TAS-20 in three levels: low (20-47), Moderate (48-75), and high (76-100). In the current study, Alpha coefficients were, .924, .817, .780, and .843, respectively. Test-retest reliability for the total scale was .86. In our study, Alexithymia severity is classified as low (TAS-20 score < 66.03), moderate (from 66.03 TAS-20 score < 74.04), or high alexithymia levels (TAS-20 score ≥ 74.04). According to this classification, the distributions pertaining to the alexithymia level in our sample of Syrian refugee students were 20.1% low, 50.9% moderate, and 29.0% high.

Multidimensional Scale of Perceived Social Support (MSPSS): We used the Arabic adapted version (Alaedein, 2010) of MSPSS which was developed originally by Zimet, Dahlem, Zimet and Farley (1988) was designed to measure perceptions of support from 3 sources: Family, Friends, and a Significant Other. The MSPSS which is a self-administered measure of perceived social support includes 12 items, with 4 items for each subscale measuring: (1) Family (FA) (4) items no: 3, 4, 8, and 11 (e.g., there is a special person who is around when I am in need), (2) Friends (FR) (4) items no: 6, 7, 9, and 12 (e.g., My family really tries to help me), and (3) Significant other (SO) (4) items no: 1, 2, 5, and

10 (e.g., My friends really try to help me). The MSPSS was scored on a 6 point Likert scale ranging from (1) strongly disagree to (6) strongly agree. The total score on the scale ranges between (12-72), higher scores indicating higher perceived social support. Alpha coefficients for the MSPSS have been reported at ($\alpha=.87, 0.85$, and 0.91 , for family, friends and significant other, respectively, with a test- retest reliability of .78. for the total scale (Zimet et al., 1988). The Arabic adapted version (Alaedein, 2010) of MSPSS had good reliability and validity for the scale, with alpha coefficients for the total scale and the three subscales were ($\alpha=.87, .79, .86, .83$), and test-retest reliability ($r=.77, .75, .78, .79$), respectively. In the current study, Alpha coefficients were .87, .83, .81 and .83, respectively. Test-retest reliability for the total scale was .87.

Data Analysis

Descriptive statistics were used to generate means, standard deviations, and frequencies for a list of variables. In addition, research hypotheses were tested by employing correlations, ANOVAs, and step-wise multiple regression. Furthermore, for the best Type I error control (Preacher, Rucker, & Hayes, 2007), continuous independent and dependent variables were assessed for homogeneity of variance and normality values. Results indicated values of skewness and kurtosis in acceptable ranges that do not exceed the value of (1.00) (Tabachnick & Fidel, 2001) (see Table 2). Data were analyzed using Statistical Package for Social Sciences (SPSS version 12.0, 2006).

Results

Description of demographics: Table 1 shows that the study sample consisted of 169 Syrian refugee adolescents living in Jordan, and were enrolled in public schools. All of the participants came from intact families living with their biological parents. Over half of the

Table 1. Total, Gender Groups' Demographic and Alexithymia Categories s (n=169)

Variable	Category	Male	Female	Total	(χ^2)
Gender		74(43.8%)	95(56.2%)	196 (100%)	
Age Group (year)	10-12	14(18.9%)	18 (18.90%)	32 (18.9%)	.893
	13-15	29 (39.2%)	31 (32.6%)	60 (35.5%)	
	16-17	31 (41.9%)	46 (48.4%)	77 (45.6%)	
Age (year) mean (SD)	10-17	14.50 (1.9)	14.53 (1.8%)	14.52 (1.90)	---
Education Level	Basic	43(58.1%)	49(51.6%)	92 (54.4%)	.715
	Secondary	31(41.9%)	46 (48.4%)	77 (45.6%)	
Family Size	Small(1-< 5)	14 (18.9%)	20(21.1%)	34(20.1%)	.239
	Medium-(5-7)	31 (41.9%)	41 (43.2%)	72 (42.6%)	
	Large (>7)	29 (39.2%)	34 (35.8%)	63(37.3%)	
*Alexithymia Severity Categories	High (N (%))	23 _a (13.6)	26 _a (15.4)	49 (29%)	30.89**
	Medium(N (%))	23 (13.6)	63 (37.3)	86 (50.9%)	
	Low (N (%))	28(16.6)	6 (3.6)	34 (20.1%)	

*For each pair of columns, the column proportions (for each row) are compared using a z test; Each similar subscript letter denotes a subset of Gender Type categories whose column proportions do not differ significantly from each other at the .05 level. If a pair of values is significantly different, the values have different subscript letters (a, b) assigned to them. ** $p < .001$.

Table 2: Results of descriptive statistics for overall study sample (n = 169), homogeneity of variance and normality values on study measures

Scale	Mean	SD	Range	Skewness	Kurtosis	alpha (α)
1. TOT- TAS-20	67.48	10.94	43.01	-.908	.561	0.92
2. TAS-20 Factor 1. DIF	21.29	3.52	15.09	-.907	.659	0.81
3. TAS-20 Factor 2. DDF	14.63	2.98	12.04	-.974	.756	0.78
4. TAS-20 Factor 3. EOT	24.79	4.37	17.03	-.983	.990	0.84
5. TOT-MSPSS	35.05	15.29	50.07	.506	-.975	0.94
6. Factor 1. FA	9.81	4.31	15.21	.469	-.950	0.84
7. Factor 2. FR	10.06	4.52	15.21	-.987	.293	0.83
8. Factor 3. SO	9.57	4.44	15.21	.584	-.807	0.81

1. Toronto Alexithymia Scale (TAS-20) (20-100); 2. DIF =Difficulty describing feelings, (7-35); 3. DDF = Difficulty identifying feelings (5-25); 4. EOT = Externally-oriented thinking(8-40); 5. Multidimensional Scale of Perceived Social Support (MSPSS) (20-100); 6. FA =Family, (4-24); 7. FR = Friends (4-24); 8. SO= Significant Others (4-24).

participants were female (n=95; 56.2%); and (n=74; 43.8%) males. Age of the participants ranged between 10-17 years (M= 14.52, SD= 1.90). More than half of the participants (54.4%) were in basic education level (males: 58.1%; females: 51.6%); and almost half of the participants (45.6%) were in secondary education level (males: 41.9%; females: 48.4%). The highest proportion (42.6%) of the participants reported were living in the medium-sized family category (males: 41.9%; females: 43.2%), compared to (37.3%) living in large family (males: 39.2%; females: 35.8%). Only 20.1% were living in small-sized family (males: 18.9%; females: 21.1%). Also, results of Chi-square (χ^2) did not indicate significant gender differences ($\alpha < 0.05$) in demographic variables (Table 1).

Study Questions

Question 1: “What is the prevalence of Alexithymia in Syrian refugee students living in Jordan?”, Table 1 shows that the prevalence of Alexithymia in refugee students in the total sample is (n=49(29.0%). This result is in consistency with other researchers; for instance, it is confirming the observation of Hebert et al. (2018) that overall prevalence of Alexithymia among adolescents ranged from 7.3% to 29.9%.

Question 2: “Are there statistically significant gender differences in the three categories of severity of Alexithymia (high, medium and low)? Table 1 also shows that females reported the largest numbers and percentages in the two categories of high and medium Alexithymic (n=26 (15.4%); 63 (37.3%), respectively, while males scored the largest number (n=28 (16.6%) in low (not-Alexithymic). These percentages reflect the existence of gender disparities in their classification within each category of Alexithymia. In order to detect the significance of differences in percentages between male and female student classifications for each category of Alexithymia, the Chi square test (χ^2) was used for independence ($\chi^2 = 30.891$, $d.f. = 2$, and $P = 0.000$),

which is a statistically significant ($\alpha = 0.000$). These results indicate that there are significant differences between male and female students on Alexithymia severity categories, and that there is a significant correlation between the gender and the categories of Alexithymia.

To determine the strength of this relationship, the value of Phi coefficient (Phi coefficient= ϕ) was calculated between the gender and the level of Alexithymia, and its value was (0.438) $p= 0.000$). However, application of Chi-square tests showed no gender differences at the .05 level with regard to category of high Alexithymia severity, with a total of (n=23 (13.6%) were males, and (n=26 (15.4%) were females. But findings in the other two categories of low and medium Alexithymia, show that there are statistically significant gender differences at the .05 level with a total of (n= 28, 23 (16.6; 13.6%), were males, and (n= 6, 63 (3.6; 37.3%), were females, respectively, in these two groups. These results indicate that in the medium category of Alexithymia, numbers of female students were higher than male students, while in the low category, numbers of male students were higher than female students.

Question 3: Are there a statistically significant correlations between Alexithymia, and its sub-dimensions; and perceived social support, and its sub-dimensions, among Syrian refugee students? In light of the above findings, we run the statistical analyses for males and females separately, when answering the study question 3. Descriptive, homogeneity of variance and normality, correlations and regression analyses were performed, then a final regression model separately for male and female students to identify the best predictors. The results of the Descriptive, homogeneity of variance and normality for Total, male and female are presented in Tables 2, and 3.

Table 4, and table 5, show the correlations among personality factors of Alexithymia (TOT- TAS-20) and its sub-scales: Difficulty describing feelings (DIF), Difficulty identifying feelings (DDF), and Externally-oriented thinking (EOT), and Perceived Social Support

Table 3: Results of descriptive statistics for overall study sample (n = 169), and for male and female, homogeneity of variance and normality values on TAS-20 and MSPSS measures

Gender	Dependent Variable	MD (SD)	Minimum	Maximum	Skewness	Kurtosis	Variance
M	TOT- TAS-20	62.84 (14.8)	34.03	77.04	-.876	-.959	219.767
F		71.10(3.6)	63.04	77.04	.166	-.970	13.281
T		67.48(10.9)	34.03	77.04	-.908	1.061	119.805
M	DIF	19.69(4.5)	9.03	24.11	-.732	-.857	20.06
F		22.53(1.7)	17.09	24.11	-.966	.373	3.015
T		21.29 (3.6)	9.03	24.11	-1.047	1.009	12.416
M	DDF	13.67(3.6)	5.12	17.16	-.905	-.705	15.484
F		15.36 (1.6)	11.16	17.16	-.817	-.257	2.611
T		14.62(2.9)	5.12	17.16	-1.074	1.056	8.897
M	EOT	23.11 (5.7)	11.08	28.10	-.852	-.806	33.315
F		26.11(2.1)	20.05	28.10	-1.107	.541	4.355
T		24.79(4.3)	11.08	28.10	-1.068	1.099	19.148
M	TOT- MPSS	35.20 (14.8)	15.01	65.08	.594	-1.088	337.719
F		34.93 (12.4)	15.01	61.07	.180	-.780	155.665
T		35.06 (15.3)	15.01	65.08	.506	-.975	233.863
M	FA	10.10 (5.1)	3.04	18.25	.494	-1.037	25.637
F		9.59 (3.6)	3.04	17.25	.206	-.829	13.214
T		9.81(4.3)	3.04	18.25	.469	-.950	18.597
M	FR	9.99 (5.2)	3.04	18.25	.433	-1.052	26.811
F		10.11 (3.9)	3.08	18.17	.068	-1.004	15.759
T		10.06 (4.5)	3.08	18.25	.293	-1.028	20.471
M	SO	9.72 (5.2)	3.04	18.25	.498	-1.092	27.035
F		9.44(3.8)	3.25	18.25	.622	-.324	14.274
T		9.56(4.4)	3.25	18.25	.584	-.371	19.451

Multidimensional Scale of Perceived Social Support (MSPSS) (20-100); FA =Family, (4-24); FR = Friends (4-24); SO= Significant Others (4-24).

Table 4: Inter-correlation matrix among Alexithymia and perceived social support in Syrian refugee students ($N=169$)

Scale	1	2	3	4	5	6	7	8
1. TOT- TAS-20	--	.891	.889	.937	-.638	-.605	-.597	-.601
2. DIF		--	.709	.749	-.593	-.557	-.576	-.552
3. DDF			--	.770	-.562	-.550	-.505	-.538
4. EOT				--	-.595	-.566	-.544	-.568
5. TOT-MSPSS					--	.936	.929	.909
6. FA						--	.802	.846
7. FR							--	.776
8. SO								-

Note. $N=169$. Correlations above the diagonal are for total sample ($N=169$)

* $p < .05$. ** $p < .01$.

Results in Table 4 indicate that for total sample of students ($N=169$), higher Alexithymia-TOT score was significantly correlated with lower Perceived Social Support-TOT score and its three-subcales: Family (FA), Friends (FR), and Significant Others (SO) respectively. For TOT-MSPSS ($r = -.64, -.605, -.59, -.60, p < .01$), For Difficulty describing feelings (DIF) ($r = -.59, -.56, -.58, -.55, p < .01$). Difficulty identifying feelings (DDF) ($r = -.56, -.55, -.505, -.54, p < .01$), and Externally-oriented thinking (EOT) ($r = -.595, -.57, -.54, -.59, p < .01$).

Table 5: Inter-correlation matrix among Alexithymia and perceived social support in Syrian refugee students by Gender

Scale	1	2	3	4	5	6	7	8
1. TOT- TAS-20	--	.919	.943	.962	-.915	-.882	-.872	-.882
2. DIF	.572	--	.808	.819	-.870	-.849	-.831	-.820
3. DDF	.508	.243*	--	.882	-.841	-.806	-.808	-.825
4. EOT	.693	.245*	.263*	--	-.875	-.834	-.824	-.854
5. TOT-MSPSS	-.482	-.445	-.363	-.359	--	.962	.960	.951
6. FA	-.382	-.323	-.297	-.312	.898	--	.884	.906
7. FR	-.509	-.273	-.343	-.365	.888	.692	--	.876
8. SO	-.274	-.341	-.368	-.329	.844	.757	.640	-

Note. $N=169$. Correlations above the diagonal are for males ($N=74$) and below the diagonal are for females ($N=95$).

* $p < .05$. ** $p < .01$.

Table 6: Stepwise Multiple Regression of Perceived Social Support (MSPSS) dimensions on Alexithymia (TAS-20) TOT scores for total sample ($N=169$), males ($N=74$), and females ($N=95$)

	Predicting Variables	R	R ²	Adjusted R ²	Standardized Coefficients	R ² change	F	P
Total	Factor 2 Friends (FR)	.585	.342	.338	-.370**	.342	86.87	.000**
	Factor 1 Family (FA)	.606	.368	.360	-.268*	.026	48.29	.000**
Males	Factor 1 Family (FA)	.654	.428	.420	-.654**	.428	53.83	.000**
Females	Factor 2 Friends (FR)	.440	.194	.185	-.440**	.194	22.39	.000**

* Significant at the 0.05 level. ** Significant at the 0.001 level.

(TOT-MSPSS) and its sub-scales: from Family (FA), Friends (FR), and Significant Others (SO) for total, male and female refugee students.

Findings shown in Table 5 indicate that higher Alexithymia-TOT score was significantly correlated with lower Perceived Social Support-TOT score and its three-subcales: Family (FA), Friends (FR), and Significant Others (SO) respectively, for male ($r = -.91, -.88, -.87, -.88, p < .01$), and females, ($r = -.48, -.38, -.51, p < .01; -.27, p < .05$). For Alexithymia-TOT- Difficulty describing feelings (DIF), findings show that it was significantly correlated with lower Perceived Social Support-TOT and its three-subcales respectively, for males ($r = -.87, -.95, -.83, -.82, p < .01$), and females, ($r = -.44, -.32, -.27, -.34, p < .01$). Difficulty identifying feelings (DDF) was significantly correlated with lower Perceived Social Support-TOT and its three-subcales, respectively, for males ($r = -.84, -.81, -.81, -.82, p < .01$), and females, ($r = -.36, -.30, -.34, -.37, p < .01$). Externally-oriented thinking (EOT) was significantly correlated with lower Perceived Social Support-TOT and its three-subcales respectively, for males ($r = -.87, -.83, -.82, -.85, p < .01$), and for females, ($r = -.36, -.31, -.36, -.33, p < .01$). These correlations appear

in males nearly in same strong degree, but in females to a moderate degree with higher association with lower degree of experienced social support from friends (FR).

Also, stepwise multiple regression analyses were conducted to determine the relative importance of each factors of Perceived Social Support-TOT: Family, Friends, and Significant Others in predicting Alexithymia (TOT TAS-20), for total, males and females. The stepwise summary is presented in Table 6.

In predicting levels of Alexithymia (TAS-20) TOT scores, for total sample, as shown in table 6, the only two factors entered in the analysis were Support from Family (Factor1-FA) firstly, then Support from Friends (Factor2-FR), while support from Significant Others (SO) did not contribute in the prediction of Alexithymia (TAS-20). Support from Family (Factor1-FA) correlated negatively and accounted for 34.2 % of the variance in students' Alexithymia (TAS-20) TOT level, $F(1,167) = 86.9, p < .000$; and Support from Friends (Factor 2-FR) correlated negatively and accounted for 2.6% of the

variance in students' Alexithymia (TAS-20) TOT level, $F(2,166) = 48.3, p < .000$).

Table 6 shows that there were differentiated results of the impact of social support and its contribution to accentuating the Alexithymia trait of Total, male and female refugee students. For males, as shown in table 6, in predicting levels of Alexithymia (TAS-20) TOT scores, the only factor entered in the analysis was Support from Family (Factor1-FA) and it correlated negatively and accounted for 42.8 % of the variance in males' Alexithymia (TAS-20) TOT level, $F(1,72) = 53.8, p < .000$. While, for females, the only factor entered in the analysis was Support from Friends (Factor2-FR)-Perceived Social Support (MSPSS) score, it correlated negatively and accounted for 19.4% of the variance in females' Alexithymia (TAS-20) TOT scores, $F(1,93) = 22.4, p < .001$.

These results suggest for total sample, that refugee students who believe that they have provided with support by their family, and friends also perceive that they are not encountered Difficulty in describing feelings, difficulty in identifying feelings, and not having Externally-oriented thinking, because they feel satisfied with their interpersonal relationship inside their families, with their peer relationships, they have less tendency to be Alexithymic. These results prove that Support from Family (FA) was the strongest predictor of Alexithymia, followed by Support from Friends (FR), while support from Significant Others (SO) did not contribute in the prediction of Alexithymia in refugees students.

Results suggest also that males who believe that they have provided with sufficient support by their family, are closely related to ties with family, also perceive that they are not faced with Difficulty in describing feelings, difficulty in identifying feelings, and not having Externally-oriented thinking, because they feel satisfied with their interpersonal relationship inside their families they have less tendency to be Alexithymic. On the other hand, those who perceived their family support are not capable to meet their needs enough, and not available for them, reported that they faced higher levels of Difficulty in describing feelings, difficulty in identifying feelings, and Externally-oriented thinking, because they feel not satisfied with what their family provides them of care, trust, and love, generally have more tendency to be Alexithymic. In sum, this result shows that Factor 1 Family (FA) -Perceived Social Support (MSPSS) was the strongest predictor of Alexithymia in male refugees students. Moreover, females who perceived their support from friends is very strong and useful, providing them with empathy, concern, and caring, generally have less difficulty in describing feelings, difficulty in identifying feelings, and Externally-oriented thinking, have more tendency to become not-Alexithymic, while the opposite is true. This result shows that Support from Friends (FR) was the strongest predictor of Alexithymia in female refugees students.

Discussion

Results show that the significant percentage of 29.0% of total refugee students is observed to have high levels of Alexithymia, and categorized as Alexithymic. This trend goes in consistence with results of previous research (e.g., Galvan, 2014; Hebert et al., 2018; Janiec et al., 2019), suggesting the universal consensus on this trait/like personality aspect in adolescence. Although we did not find a gender-significant difference in the Alexithymic high category, this higher mean level of Alexithymia in females than in males, does not match with "Normative Male Alexithymia" hypothesis" which suggests that there is a pattern of restrictive emotionality in traditionally reared males (Levant et al. 2009). These findings are supported by other studies (e.g., Janiec et al., 2019; Joukamaa et al. 1995; Loas et al. 2001; Moriguchi et al. 2007;

Simon & Nath, 2004) that showed no significant gender differences in Alexithymia

Additionally, results of inter-correlations showed that students with pathological levels of Alexithymia reported also lower scores on Difficulty describing and identifying feelings (DIF; DDF), and Externally-oriented thinking (EOT) Perceived Social Support Scale (MSPSS). In particular, consistent associations have been found between deficits in describing feelings (DIF) and less perceived support, fewer close friends relationships, and less family support; while deficits in identifying feelings (DDF), and Externally-oriented thinking (EOT), were related to less perceived support, less family support, fewer close relationships. Actually, these results may interpret in light of the abundant studies that agreed on that social support considered essential for maintaining physical and psychological health. Specifically, Alexithymia, especially its sub-Factor I, difficulty in identifying feelings (DIF) was associated with a high prevalence of dysphoric affects as it is a state of unease, anxiety, and misery which is very common among refugees (Sondergaard 2002).

Taken together, considering these results, it seems that a high level of perceived social support may reduce the negative impact of stress that accompanied asylum experiences on refugee student' Alexithymia and increases his resilience. This is consistent with the stress-buffering hypothesis (Cohen & Wills, 1985), and as cited by Bailey, Wolfe, & Wolfe (1994), that "the buffering hypothesis holds that social support enhances coping which mediates either the stressor-experience of stress association or the stress-well-being association or both" (p.132).

Finally, findings of stepwise regression analysis for total sample showed that Alexithymia was predicted significantly by poor available support from family and friends. These results partially in consistent with previous results that Alexithymia was linked to perceptions of a lack of maternal, and parental care (Karukivi et al. 2011; Mason et al. 2005). These results affirm that the social skills deficit accounted for the association between high -Alexithymia and the limited perceived social network (Karukivi et al. 2011; Lumley et al. 1996).

Unexpectedly, in regard to gender differences, and the classic socialization perspective of the stronger bonds between girls and their families compared to boys (Gilligan, 1982), results also showed that the only social support resource perceived by Alexithymic males as having significantly strong impact was family support, while, for Alexithymic female students, they were inclined significantly to be affected by lower levels of Support from Friends (FR); Previous studies on friendship patterns have reported gender differences, with girl's friendships tending to be richer and having a possible therapeutic value, as compared to those of boys (Elkins & Peterson, 1993). These results imply that the lack of social support from family, friends and of peer relationships appeared to predict Alexithymia more strongly than lack of support from significant other persons. Support from significant others was not able to predict Alexithymic features. This study highlights the significance of maternal, paternal and peer support as a possible risk factor for development of Alexithymia among refugee adolescents.

Limitations

Because the present study was based on self-reported measures, and the fact that individuals with ample Alexithymic features found the identifying and describing of emotions is a difficult task, it has been questioned if these individuals are capable to properly evaluate themselves with self-reporting tools (Lane et al. 1996). As a result of these limitations, it was suggested semi-structured interview methods of assessment to be used (Karukivi & Saarijarvi, 2014, p. 92). In

addition, the cross-sectional study method used is not reliable to reach an exclusive conclusion. Thus, further study requires a longitudinal design. In addition, only one region in Jordan was involved in this study, which might affect the generalizability of the findings. Lastly, there might be many associated confounding factors that affected the results. For example, Alexithymia appears to intertwine with other personality variables, such as negative affectivity, or other mental health symptoms, such as anxiety, depression and PTSD, anxiety-depressive symptoms. Refugee adolescents, in particular, are at high risk and vulnerability to suffer much emotional distress, anxiety, and misery; feel not adequately supported, or secured, and have a lot of perceived discrimination (Park et al. 2015; UNHCR 2019). Lastly, besides the influence of mental health and students being a male or female refugee, other variables might still be affecting the relationship between Alexithymia and social support that need to be further investigated.

Conclusions

To our knowledge, this study was the first to assess the prevalence of Alexithymia and gender based differences in a sample of Syrian refugee adolescents, which was modified to detect the harmful role of its contribution to weakening and disrupting social support and the other way around. The associations of Alexithymia with perceived social support showed that it was significantly associated with a lower degree of experienced social support – particularly from family and friends. The present study verified the significant effect of social support in developing or alleviating Alexithymia. This study highlights the significance of parents' and friends' support as a possible risk factor for the development of Alexithymia. However, to assess causality, we need longitudinal studies in light of the theories that range from neurobiological to sociocultural ones. And since Alexithymia in adolescents is also likely to predict poorer outcome in several different mental health disorders, the possibility of Alexithymia should be explored efficiently and comprehensively. The results also emphasize the need for further studies to establish the significance of family and peer relationships in the development of Alexithymia. Interventions and counseling programs that aim to teach families methods of providing adequate support by caring, loving, and trusting their offspring, and to train students on skills of building strong peer friendships and relationships should be considered when school counselors design strategies for the prevention of Alexithymia among refugee students. The future studies might focus on considering that Alexithymic refugee adolescents have significantly more mental health symptoms compared with their peers.

Authors' contributions

JA, and MA designed the study. MA and AG performed the study. JA and MA analyzed the data and drafted the manuscript. JA, MA and AG participated in revising the manuscript. All authors approved the final manuscript.

Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Availability of Data

The raw data supporting the conclusions of this manuscript will be made available by the authors, upon request to any qualified researcher.

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