Stress, trauma and post-traumatic stress disorder among adolescents in the Gaza strip.

Abdelaziz Mousa Thabet[1]*, Sanaa S Thabet[2]

[1]School of Public Health, Al Quds University, Jerusalem and President of Child and Family Training and Counseling Center, Gaza, Palestine
[2]Child and Family Training and Counseling Center-NGO, Palestine

Abstract

Aim: This study aimed to find the most common stressors facing the adolescents in the Gaza Strip, to explore the types and severity of the traumatic experiences, and to estimate the prevalence rate of post-traumatic events.

Method: The target population consisted of 319 adolescents ages 12 to 18 years with mean age of 14.97 (SD=2.01). They were 163 boys (51.1%) and 156 girls (48.9%). Adolescents were interviewed with Life Events Checklist, Traumatic Events Checklist, and Post-traumatic Stress Disorder Reaction Index.

Results: The study showed that 58.3% reported life stressors, mean stressors was 4.07. Boys significantly reported more life stressors than girls. Mean traumatic events reported was 3.7. Boys report more traumatic events than girls.

The study results showed that 29.5% had partial post-traumatic stress disorder and 23.5% had full criteria of post-traumatic stress disorder. Total stressors and traumatic events reported by children were strongly correlated, stressors were correlated to total with post-traumatic stress disorder, and re-experiencing, total stressors were strongly correlated with reexperiencing, numbness, hyperarousal, and dissociative symptoms. Also total traumatic events total were strongly correlated with post-traumatic stress disorder, re-experiencing, avoidance, numbness, hyperarousal, and dissociative symptoms.

Conclusion: In conclusion, our data support the importance of early detection and treatment of children experiencing psychological distress after war exposure, as this may prevent problems in adulthood. Further, life events contributed to persistent stress, through the erosion of social support, and also directly. Clinicians should focus on efforts to help youth manage stressors effectively, either via social support or with other strategies.

Keywords: Adolescents, Life stressors, Gaza strip, Post-traumatic stress disorder, Trauma

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Introduction

Exposure to traumatic events is common in childhood. According to different cultures, prevalence rates and types of traumatic events are vary widely different across studies, estimates from the National Comorbidity Survey Replication [1], based on a representative sample of 5,692 U.S. children younger than age 13, suggest that as many as 39% experience some type of trauma. Studies in the Middle East showed that mean traumatic events ranged from 4-13 traumatic events in children and adolescents in Palestinian children [2-9]. The impact of the Gulf crisis on Kuwaiti children's psychological functioning is well documented [10,11]. Effects varied across the Kuwaiti population, primarily as a function of exposure severity. Long-term effects on post-traumatic stress (PTS), depressive symptoms, and to some extent anxiety, have been linked to experiences of children's fathers during the Gulf crisis, with children whose fathers were arrested reporting the highest levels of post-traumatic stress symptoms, when compared to children whose fathers were missing or killed [11].

Traumatic exposures in childhood have mental health consequences including post-traumatic stress disorder (PTSD), depression, anxiety, and other mental health problems. In study of the levels of PTS symptoms in a sample of Kuwait children trauma-exposed to Gulf crisis experience found that rate of PTSD was 4% [12]. Other trauma due to natural disasters was another source of information about prevalence of PTSD. A study conducted in L'Aquila Earthquake in Italy ten months after the earthquake demonstrated a prevalence of PSTD of 38% among students with a mean age of 17.65 years [13]. In Balkan area, rates of clinically significant levels of PTS symptoms were found (19.8%) in war-exposed adults in Balkan countries met criteria for PTSD [14].

In our area many studies had been conducted to evaluate the impact of war trauma on children and adolescents mental health. Similarly, in study of 205 males and females Palestinian children in the Gaza Strip aged 9 to 16 years. Results indicated that approximately 30 percent of the Palestinian children who were exposed to higher levels of war traumas have developed PTSD with excess risk for co-morbidity with other disorders

such as emotional symptoms and neuroticism. The findings revealed that children with lower family income reported higher levels of emotion and behavioral disorders and neuroticism [15]. Furthermore, in study of 374 children aged 6-16 years who experienced war traumatic events showed that 61.5% showed severe to very severe PTSD reactions [4]. Trauma exposure was significantly associated with PTSD. In another study, of a sample consisted of 502 children from 16 districts of the Gaza strip. Children reported commonly traumatic events such as hearing the loud voice of Drones (98.8%), hearing shelling of the area by artillery (98.6%), hearing the sonic sounds of the jet fighters (98.4%), and watching mutilated bodies of Palestinians in TV (98.2%). Mean traumatic events reported by children was 7 events. The study showed that 35.9% of children showed full criteria of PTSD. Post-traumatic stress disorder and re-experiencing symptoms were more in girls [5].

More recently, in study of 251 children from 3 summer camps aged 6-16 years. Results showed that children commonly reported traumatic events such as hearing shelling of the area by artillery, hearing the sonic sounds of jetfighters, and seeing images of dead and injured people on TV. Mean PTSD symptoms was 18.37, intrusion mean was 8.98, avoidance symptoms subscale mean was 9.49. Almost sixty percent of children had post-traumatic stress disorder symptoms, 21.9% of children had anxiety and 50.6% had depression. Numbers of traumatic events was associated with PTSD, avoidance, arousal symptoms, anxiety, and depression [7].

Palestinian adolescents living in Gaza Strip had been exposed to variety of traumatic events related to political and community violence. Few studies in the area had included other stressors due to siege and closure, domestic violence, not other traumatic events such as abuse and neglect (Figure 1).

This study aimed to:

- To find the most common stressors facing the adolescents in the Gaza Strip.
- To explore the types and severity of the traumatic experiences.
- To estimate the prevalence rate of post-traumatic events.
- To elaborate the relationships between stress, trauma, PTSD, and socioeconomic variables.

Methods

Participants

The target population consisted of 319 adolescents ages 12 to 18 years with mean age of 14.97 (SD=2.01). They were 163 boys (51.1%) and 156 girls (48.9%).

Measures

A predesigned socio-demographic sheet: This questionnaire included gender, age, place of residence, and family monthly income.

Life events checklist: The Life Events Checklist is a 46-item derivative of the Life Events Record [16]. The reliability of Life Events Checklist has been long established, including among adolescent population [17]. In the present study, only negative

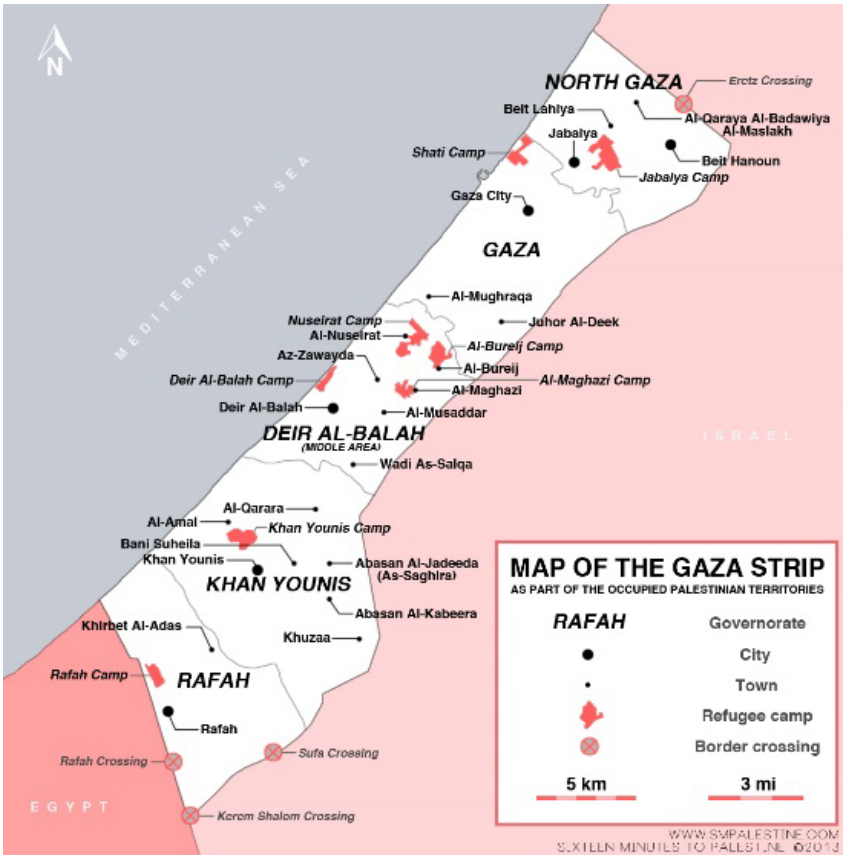

Figure 1. *Gaza strip map.*

events were used in the analyses (27 in total). The adolescents had to answer by Yes (1) and No (0). If the answer was yes, they had to rate the impact of this stressors on their life in liker scale of Not bad at all (0), little bad (1), bad (2), and very bad (3). The Life Events Checklist was professionally translated and culturally adapted into Arabic language by the first author: two forward translations, a single form development, a single back-translation and the pre-testing (i.e., cognitive debriefing). The internal consistency of the scale was calculated using Chronbach's alpha was high (α=0.76).

Traumatic events checklist (DSM-V) [18]: The checklist was developed to reflect the particular circumstances of the regional conflict which could not be captured by other war trauma and other community and family situations. This checklist consisted of 10 items. The adolescents rated their answer whether they had been exposed to each of these events as (0) 'no' or (1) 'yes'. A total score was estimated. The internal consistency of the scale was calculated using Cronbach's was (α=0.64).

Post-traumatic stress disorder reaction index (UCLA PTSD-RI)-The University of California at Los Angeles: The child and adolescent version of the UCLA PTSD-RI is an instrument for the assessment of trauma exposure and post-traumatic stress symptoms among children and adolescents [18]. The UCLA PTSD-RI has been widely used and found to have sound psychometric properties among children and adolescents [19,20]. In the present study, we used the latest version developed according to the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM–5,18) for PTSD. The section measuring PTSD symptoms has 20 items scored and two dissociative symptoms on a scale of 0-4 depending on the severity and burdensomeness of symptoms in the preceding month. PTSD total symptom severity score is calculated by summing severity scores for the 20 DSM-5 PTSD symptoms. Symptom cluster severity scores are calculated by summing the individual item severity scores for symptoms corresponding to a given DSM-5 cluster: Criterion B (items 1-5); Criterion C (items 6,7); Criterion D (items 8-14); and, Criterion E (items 15-20). This index was also professionally translated and culturally adapted into the Arabic languages following the same procedures. The reliability of this measure using the Cronbach's alpha for the 20 items was (α=0.88).

Study Procedure

Participants represented a sample of 350 school-age adolescents from rural and urban communities in the Gaza Strip Sample were drawn from at least five schools within a frame of randomly selected schools within a well-defined local, political, or administrative zone. At least one school is however drawn from both a rural and an urban setting. It was estimated that valid data from at least 350 participants were needed. Ethical approvals were obtained from the appropriate local authorities and/or ethical committees. The adolescents were contacted by school counsellors/ teachers and were informed about the study. Of all contacted, only those who agreed to participate and returned the written self/parental consents (depending on age) were included. Data collection was done from 1st April to 20th April 2015. Only 319 adolescents in the five areas agreed to participate and returned the forms.

Statistical Analysis

Data entry and analysis were carried out using a statistical software SPSS version 20.0 (SPSS Inc. Chicago Ill, US). Frequency and percent were used to express quantitative data of types of trauma, stress, and PTSD. For continuous variables means and standard deviations were reported. For differences between means of two groups parametric tests were used such as an independent t-test was conducted to compare gender of children and mean of stress, trauma, and PTSD. While, One Way ANOVA test was used for measuring differences between more than two groups of continuous variables total stress, traumatic events, PTSD, and other sociodemographic variables. Spearman's correlation coefficient was used to test the association between numbers of stressors, traumatic experiences, and PTSD. Logistic regression analysis was conducted in which PTSD/no PTSD was entered as dependent variable and each traumatic event as independent variables. Another Multivariate regression analysis was conducted, in which each traumatic events were entered as the independent variables, and PTSD, entered as the dependent variable. We used an alpha level of 0.05 for all statistical tests.

Results

Sociodemographic characteristics of the children and adolescents

The sample consisted of 163 boys (51.1%) and 156 girls (48.9%) (Table 1). According to the selection criteria, the age range was 12-18 years, with a mean age of 14.97 (SD=2.10). Regard place of residence, 56 of children were from north Gaza (17.6%), 104 live in Gaza area (32.6%), 46 live in Middle area (14.5%), 76 live in Khan Younis and East area (23.81%), and 37 live in Rafah area (17.6%). Regard place of residence, 223 of children live in city (69.6%), 57 in camps (17.9%), and 39

Table 1. *Sociodemographic characteristics of the study sample (N=319).*

Sex	**N**	**%**
Male	163	510.1
Female	156	48.9
Age mean = 14.97 (SD=20.10)		
12-15 years	181	56.7
16-18 years	138	430.3
Place of residence		
North Gaza	56	17.6
Gaza	104	32.6
Middle area	46	14.4
Khan Younis	76	23.8
Rafah	37	11.6
Type of residence		
City	223	69.9
Rural	39	120.2
Refugee camp	57	17.9
Siblings		
4 and less	72	22.5
05-Jul	153	48
8 more than	94	29.5
Monthly family income		
Less than $420 US	259	810.2
$421-600 US	33	100.3
$601-1000 US	27	8.5

in a rural area (12.2%). Families were of large size, as 22.5% of the participating families had 4 or less siblings, 48% had 5-7 siblings, and 29.5% had 8 or more siblings. Regard family monthly income, 81.2% of the families had a monthly income under $420, 10.3% between $421-600, 8.5% had a monthly income above $601-1000, and 1.8% had more than $1001.

Type of stressors

The study showed that 41.7% reported no life stressors and 58.3% reported life stressors. Palestinian adolescents reported different types of stressors, most commonly affecting them bad/very bad were: There been a decrease in in money parents have (21.9%), lost a close friend (10.2%), family member been seriously ill or injured (9.5%), and mother or father lost his/her job (8.9%) (Table 2).

Mean and standard deviation of the life stressors among adolescents

The study showed that adolescents reported from reported no any stressors to 27. Mean stressors was 4.07. The independent *t* test result showed that mean total stressors reported by boys was 5.12 (*SD*=6.6) compared to 2.7 for girls (*SD*=3.9). There were statistically significant differences in reporting stressors toward boys [*t(*317)=3.90 *p*=0.001]. Age of adolescents was recoded into two groups (12-15 years old and 16-18 years old). The results showed no significant differences in mean stressors according to age group [*t(*317)=1.25, *p*=0.15]. One-Way ANOVA was used to study the differences between number of siblings, place of residence, and family monthly income and total stressors factors among Palestinians' adolescents. The result showed that there were significant differences in total stressors toward adolescents with 8 and more sibling had more stressors [*F*(4/314)=5.33 *p*=0.005]. The result showed that there were no significant differences in place of residence [*F(*4/314)=2.22, p=0.06], or the family monthly income [*F(*4/314)=2.31, *p*=0.10].

Trauma exposure

The study showed that only 3.8% reported no traumatic events, 75.9% reported (1-5 traumatic experiences) traumatic experiences, and 20.1% reported (6-10 traumatic experiences). Palestinian adolescents reported 0-10 traumatic events with a mean=3.7 traumatic events (*SD*=2.02). The most prevalent types of traumatic events were "Exposed to disaster like war and flooding" (81.8%, n=261), "Were in a place where a war was going on around" (69.6%, n=223) "Seeing a dead body (do not include funerals)" (53.6%, n=171) (Table 3).

Exposure to traumatic events and socioeconomic variables

An independent-samples t-test for less than two groups and One Way ANOVA for more than three groups were conducted. The result showed that mean total traumatic events reported by boys was 4.25 (*SD*=2.32) compared to girls 3.3 (SD=2.33). There were statistically significant differences in reporting traumatic events toward boys [*t*(*317*)=4.1, *p*=0.001]. The results showed no significant differences in mean traumatic events according to age group [*t(*317)=1.25, *p*=0.15].

Post hoc test using Tukey test showed that there were significant differences in total traumatic events according to place of residence toward adolescents living in North of Gaza [F(4/314)=6.8,

Table 2. *Type of stressors reported by Palestinian adolescents (N=319).*

	Not bad at all	Little Bad	Bad	Very Bad
Moved to a new home with family	85.4	7.6	4.5	2.5
Changed to a new school	89.6	50.1	20.2	30.2
Family member been seriously ill or injured	88.9	1.6	4.4	50.1
Parents been arguing	87.6	7.9	2.9	1.6
Parents gotten divorced	970.1	1.6	00.3	1
Mother or father lost his/her job	890.2	1.9	30.2	5.7
Brother or sister left home	95.9	1	20.2	1
Close friend been seriously ill or injured	89.8	2.5	3.5	40.1
One of parents gotten into trouble with the law	96.5	2.5	0	1
One of you parents gone to jail	96.8	0.6	10.3	10.3
There been a decrease in in money parents have	70.6	7.6	90.2	12.7
Had trouble with a brother or sister	92.4	5.4	0.6	1.6
Lost a close friend	85.7	40.1	3.5	6.7
Had been arguing with parents	91.4	4.4	20.2	1.9
Had been in special education classes	98.7	0.6	0.6	0
Had learning problems in school	910.1	2.5	2.5	3.8
Had been repeated a grade in school	95.5	10.3	00.3	2.9
Have you gotten into trouble with the police	970.1	1.9	0.6	00.3
Have you been seriously ill or injured	88.9	50.1	3.5	2.5
Had broken up with a friend	89.5	30.2	20.2	50.1
Had been in trouble with a teacher	950.2	0.6	30.2	1
Had a hearing problem	99	00.3	0.6	0
Had been suspended from school	980.1	00.3	0.6	1
Have you made failing grades on your record card	940.3	0.6	2.9	20.2
Had any trouble with classmates	910.1	50.1	2.9	1
Had been put in jail	99	0.6	00.3	0
Has someone close died	95.9	20.2	1	1

p=0.001]. While there were no significant differences in trauma according to number of sibling [$F(4/314)=2.68$, $p=0.07$], or the family monthly income [$F(4/314)=1.36$, p=0.25].

Means and standard deviations of PTSD symptoms

The results showed that the highest PTSD symptoms were: Emotional cue reactivity (34.5%), flashbacks (34.5%), avoidance reminders (30.1%), and avoidance of thoughts (29.2%) (Table 4).

Mean PTSD (20 items) without two dissociative symptoms was 23.08 (*SD*=13.44), re-experiencing mean was 7.5(*SD*=4.75), voidance 3.08 (*SD*=2.28), numbness sensation 6 (*SD*=4.78), and hyper arousal was 6.47 (*SD*=4.22). The results showed that there were no significantly differences in total PTSD according to gender, and also for all subscales (Table 5).

Prevalence of PTSD

Using DSM-V diagnostic criteria for PTSD of summing of 20 items (At least one Criterion B symptom, at least one Criterion C symptom , at least two Criterion D symptoms, at least two Criterion E symptoms), the study results showed that 74 of children (23.2%) showed no PTSD, 76 of children (22.8%) showed at least one criteria of PTSD (B or C or D), 94 showed partial PTSD (B, C and D), (29.5%) and 75 of children showed full criteria of PTSD (23.5%).

Differences in PTSD according to other socioeconomic variables such as type of residence, and family monthly income

Independent-samples-t test showed child age group 12-15 years had more total PTSD than the older age children [$t(319)=2.21$, $p<0.02$], avoidance was also more in children age group of 12-15 years [$t(319)=2.16$, $p<0.03$], and numbness [$t(319)=2.69$, $p<0.007$]. Post hoc test using Tukey test showed that there were significant differences in total PTSD toward adolescents living in middle area [$F(4/319)=4.8$, $p=0.001$] and children with family monthly income less than $ 420 US [$F(4/319)=11.2$, $p=0.001$]. While there were no significant differences in total PTSD according to number of siblings [$F(4/319)=1.08$, $p=0.33$].

Correlation between total stressors, trauma, and PTSD

Pearson correlation test was done to find the relationship between stress, trauma, and PTSD. Correlations are reported with the degrees of freedom (which is N-2), total stressors and traumatic events reported by children were strongly correlated

Table 3. *Percentage of traumatic experiences by children (N=319).*

Trauma	Yes		No	
	N	%	N	%
Exposed to disaster like war and flooding	261	81.8	57	17.9
Were in a place where a war was going on around	223	69.9	96	300.1
Seeing a dead body (do not include funerals)	171	53.6	148	46.4
Seeing someone who was beaten up, shot at or killed	116	36.4	203	63.6
Had a painful or scary medical treatment when you were very sick or badly injured	103	320.3	215	67.4
Seeing a family member being hit, punched or kicked very hard at home	86	27	233	73
Being in a bad accident, like a serious car accident or fall	68	210.3	251	78.7
Being hit, punched, or kicked very hard at home	68	210.3	251	78.7
Seeing or hear about the violent death or serious injury of a loved one or friend?	64	200.1	255	79.9
Being beaten up, shot at, or threatened to be hurt badly in your school, neighborhood or town?	48	15	271	85

Table 4. *Means, standard deviation and percentage of PTSD symptoms.*

	Mean	SD	Much/always %
B1. Intrusive thoughts	10.31	10.25	200.1
B2. Nightmares	10.35	10.25	21
B3. Flashbacks	1.75	10.37	34.5
B4. Emotional cue reactivity	1.76	10.26	34.5
B5. Physiological cue reactivity	10.37	10.34	27
C1. Avoidance of thoughts	1.56	10.31	290.2
C2. Avoidance of reminders	1.52	10.34	300.1
D1. Trauma-related amnesia	0.83	10.1	10
D2. Negative beliefs	10.1	10.1	11.9
D3. Distorted blame	0.6	0.95	60.3
D4. Pervasive negative emotional state	0.8	1.07	8.5
D5. Lack of interest	10.17	10.23	190.1
D6. Feeling detached	0.77	1.03	7.5
D7. Inability to experience positive emotions	0.72	1.07	9.4
E1. Irritability/aggression	0.97	10.23	14.4
E2. Recklessness	0.59	1.03	9.4
E3. Hypervigilance	10.25	10.24	17.9
E4. Exaggerated startle	1.51	10.24	240.1
E5. Difficulty concentrating	10.25	10.13	14.7
E6. Sleep disturbance	0.9	10.14	12.5

[r(319)=0.25, p=0.001], stressors were correlated to total with PTSD [r(319)=0.24, p=0.001], re-experiencing [r(319)=0.18, p=0.001], total stressors reported by children were strongly correlated with re-experiencing [r(319)=0.18, p=0.001], numbness [r(319)=0.27, p=0.001], hyper arousal [r(319)=0.21, p=0.001], and dissociative symptoms. Also total traumatic events total were strongly correlated with PTSD [r(319)=0.37, p=0.001], re-experiencing [r(319)=0.34, p=0.001], avoidance [r(319)=0.25, p=0.001], numbness [r(319)=0.27, p=0.001], hyper arousal [r(319)=0.35, p=0.001], and dissociative symptoms [r(319)=0.18, p=0.001] (Table 6).

Prediction of PTSD by types of daily life stressors and traumatic events

In order to test the predictive value of specific stressors and traumatic events on PTSD symptoms, total PTSD was entered as the dependent variable in a logistic regression analysis, with the all stressors (27) and traumatic events (10) as the covariates. ANOVA table that stressors explained a significant amount of the variance (40%) in the manifestation of PTSD [F(27,283)=2.03, p=0.002, R^2=0.16, R2 Adjusted=0.08]. The analysis also showed that arguing with parents (β=0.19, p=0.001), decrease money their parents have (β=0.17, p=0.001) and being in special education classes (β=0.12, p=0.02) were predicting PTSD. ANOVA table that traumatic events explained a significant amount of the variance (33%) in the manifestation of PTSD [F(27, 283)=13.3, p=0.001, R=0.11, R^2 Adjusted=0.10]. The analysis showed that seeing or hearing about the violent death or serious injury of a loved one or friend (β=0.17, p=0.001), being hit, punched, or kicked very hard at home (β=0.18, p=0.001) and being beaten up, or threatened to be hurt badly in your school, neighborhood or town (β=0.17, p=0.02) were predicting (Table 7).

Discussion

This study aimed to find the most common life stressors and traumatic events reported by children and adolescents in the Gaza Strip and to elaborate the relationships between stress, trauma, PTSD, and other socioeconomic variables. The study showed 58.3% of children reported life stressors. Commonly children and adolescents reported decrease in in money parents have, lost a close friend, family member been seriously ill or injured, and mother or father lost his/her job. Such findings are commonly related to war and siege of the Gaza Strip and high unemployment of parents and inability of families to supply children with money and daily needs.

Other studies in the United States, showed that 70–80% of adolescents experienced one or more traumatic events that meet the stressor criterion for PTSD, as defined by the DSM-IV-TR, DSM-V [18,21]. Our study showed that mean total life stressors were more in boys than girls. Such findings may be explained by the cultural factor in the Palestinian society in which boys are free to leave the house and participate in the political activities outside the homes, while girls were culturally protected and are asked to stay at home to take care of the family and her other younger brothers and sisters. Such findings were consistent with other study of impact of siege stressors on children mental in Gaza Strip, which showed that boys reported more siege stressors than girls. The study showed that the most prevalent types of traumatic events reported by children were "exposed to disaster like war and flooding" (81.8%), "were in a place where a war was going on around" (69.6%) "Seeing a dead body (do not include funerals)" (53.6%) (5). Our study findings were consistent with previous studies in the area after the last wars on 2009, 2012, 2014 (3, 5, 7). Similarly, in study

Table 5. *Means and standard deviations of PTSD.*

	Minimum	Maximum	Mean	SD
PTSD (no dissociative symptoms)	0	57	23.08	13.44
Re-experiencing	0	19	7.54	4.75
Avoidance	0	8	3.08	20.28
Numbness sensation	0	24	6	4.78
Hyper arousal	0	18	6.47	40.22

Table 6. *Correlation between PTSD and total stressors and trauma.*

	Stressors	Total traumatic events
Stressors	1	0.25**
Total traumatic events	0.25**	1
PTSD (20 items)	0.24**	0.37**
Re-experiences	0.18**	0.29**
Avoidance	0.07	0.25**
Numbness	0.27**	0.34**
Hyperarousal	0.21**	0.35**
Dissociative	0.25**	0.18**
***p* <0.05, **p<0.01, ***p<0.001**		

Table 7. *Multiple regressions for stressors and traumatic events predicted the manifestation of PTSD.*

	Unstandardized Coefficients		Standardized Coefficients	t	p	95.0% Confidence Interval for B	
	B	SE	Beta			Lower Bound	Upper Bound
Stressors							
Constant	22.82	0.72		31.58	0.001	21.4	240.24
Arguing with parents	3.92	10.15	00.19	3.42	0.001	1.66	60.18
Decrease money your parents have	1.83	0.58	00.17	30.14	0.001	0.68	2.98
Being in special education classes	7.99	3.44	00.12	20.32	0.02	14.77	10.21
Traumatic events							
Constant	17.73	10.24		140.2	0.001	150.28	200.19
Seeing or hear about the violent death or serious injury of a loved one or friend	3.97	10.23	00.17	30.21	0.001	1.54	6.4
Being hit, punched, or kicked very hard at home	4.58	10.32	00.18	3.44	0.001	1.96	70.19
Being beaten up, or threatened to be hurt badly in your school, neighborhood or town	4.55	10.38	00.17	30.3	0.001	1.83	70.27

of young Iraqi people age from 12 to 23 years in Iraq reported that approximately 74.6% of the participants reported having experienced at least one high-magnitude traumatic event in their lifetime as a result of the invasion. Of the total sample, 57.4% involved a family member being killed, 28.7% a family member being injured, and 13.7% had their house demolished [22]. Moreover, in study of Palestinian children in the Gaza Strip showed that Participants commonly reported traumatic events such as hearing shelling of the area by artillery, hearing the sonic sounds of the jetfighters, hearing the loud voice of drones, and watching mutilated bodies in TV. There were statistically significant differences in reporting traumatic events toward boys [5]. Recently, in study of the sample consisted of 381 children and adolescents with after the 51 days on Gaza on 2014, displaced children reported more traumatic events than non-displaced ones. Boys reporting more traumatic events than girls, 10.0% of non-displaced children and 18.4% of displaced children had acute traumatic stress disorder [6]. Similarly, in study of randomly selected 374 Palestinian children aged 6-16 years. No sex differences in reporting trauma. There were significant differences in total traumatic events according to place of residence toward adolescents living in North of Gaza. Such findings could be due to proximity of the families in north Gaza to border and many families were forced to leave their homes and move to Gaza City. North of Gaza is area in which most of the time ground incursion by army will start from this area [5].

Using DSM-V diagnostic criteria for PTSD, 23.5% of children showed full criteria of PTSD. The results showed that there were no significantly differences in total PTSD according to gender, and also for all subscales. Post-traumatic Stress Disorder (PTSD) and post-traumatic stress symptoms have been identified as the most commonly assessed mental health outcomes for child and adult disaster survivors [23]. Among disaster studies that use gender as a predictor variable, being female is commonly identified as a risk factor for negative outcomes. Many studies find girls to have higher rates of post-traumatic stress symptoms and to be at greater risk for post-traumatic stress symptoms in general. A recent meta-analysis revealed an average prevalence rate of post-traumatic stress disorder (PTSD) of 15.9% in trauma-exposed children and adolescents, with girls exposed to interpersonal trauma being most at risk (32.9%) [24], such rate of PTSD was lower than found in other studies, for example, others reviewed the National Survey of Adolescents to study the prevalence of PTSD. The sample of more than 4,000 adolescents (weighted to be representative of the U.S. population in terms of race, gender, age, and geographic location) indicated that criteria for PTSD were met by 4.9% of the total population. Gender differences were reported to be estimated at 6.3% of total females and 3.7% of total males [25]. Recently, in a paper reviewed the literature that estimated the occurrence of PTSD in refugee populations amongst people 25 years of age and younger. The data they reported found that between 19% and 54% of these young people had scores consistent with a PTSD diagnosis [26]. Our study showed that children group 12-15 years had more total PTSD, avoidance, and numbness than the older age children. Such findings consistent with study data being analyzed originates from a data set of 11,988 observations of children and adolescents (aged 0–18) from the Illinois Department of Children and Family Services (IDCFS) between July 2005 and February 2010 which showed that traumatic stress symptoms increase in severity from early childhood to older youth be it through prolonged stress or as a function of their cognitive development [27]. Our study showed that life stressors were correlated to total with PTSD, re-experiencing. Also total traumatic events total were strongly correlated with PTSD, re-experiencing, avoidance, numbness, hyperarousal, and dissociative symptoms. In a study examined the relationship between exposure to neighborhood violence and PTSD in a sample of African American males attending a high school in the Midwest and found that such exposures significantly predict the endorsement of PTSD symptomology in this group. Although the mechanisms of increased PTSD risk among African American participants are unclear, exposure to community violence is hypothesized to be a key contributing factor [28]. Consequently, economically disadvantaged youth growing up in urban contexts are at a greater risk for traumatic exposure, violent injury, and premature death than middleclass youth growing up in suburban areas [29,30]. Another study aimed to examine of traumatic events and PTSD among African American adolescents found that nonviolent traumatic events (e.g., accidents, illness, etc.), but not violent traumatic events (e.g., shootings, killings, etc.), predicted PTSD for African American boys [31,32]. This study found that violent and nonviolent traumatic events were pervasive in the lives of these urban youth, and that they were as likely to report loss and injury of a close other through an accident as an act of violence. There were strong gender differences in the data. Unexpectedly, injury or loss of a close friend or family member from nonviolent events, but not from violent events, predicted PTSD, internalizing, and depression for boys.

Conclusion

In conclusion, our data support the importance of early detection and treatment of children experiencing psychological distress after war exposure, as this may prevent problems in adulthood. Further, life events contributed to persistent stress, through the erosion of social support, and also directly. Clinicians should focus on efforts to help youth manage stressors effectively, either via social support or with other strategies.

Study Limitations

This study entails some limitations that have to be acknowledged. First, the cross-sectional design of the study does not allow us to draw conclusions regarding causality. Second, traumatic experiences were assessed retrospectively and might therefore be subject to recall bias. Third, we used a rather broad category of stress and trauma; we defined stress as an event that a person experienced as not being consented to. Additional research using prospective data is needed to draw more robust inferences on the meditational role of avoidance symptoms among children that develop PTSD. Forth, as trauma was reported retrospectively, the report of past adverse experiences may have been influenced by current affective states or other unknown factors that were not assessed in this study.

Conflict of Interest Statement

The authors declare that there are no conflicts of interests.

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***Correspondence to:**

Abdelaziz Mousa Thabet
Department of Psychiatry
School of Public Health
Al Quds University
Palestine
E-mail: abdelazizt@hotmail.com