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Stress, Trauma, Psychological Problems, Quality of Life, and Resilience of Palestinian Families in the Gaza Strip

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Abstract

Aim: The aim of the study was to investigate the relationships between stressor due to restriction of Palestinian movement, traumatic events due to war on Gaza and psychological symptoms, quality of life, and resilience.

Methods: A sample consisted of 502 randomly selected subjects from five areas of the Gaza Strip. Measures for collecting data include Stressful Situations due to Siege Scale, Gaza Traumatic Events Checklist, Brief Symptom Checklist-BSI-19, World Health Organization Quality of Life, and Resilience scale.

Results: The most common stressful situations due siege were: feelings of being living in a big prison cannot finish some construction and repair work in their house due to shortage of cement and building materials, prices were sharply increased in the last few years. 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. Males had significantly experienced severe traumatic events than females. People live in cities reported more traumatic events than those live in a village or a camp. As a reaction to stress and trauma Palestinians participants reported anxiety symptoms such as nervousness or shakiness inside, feeling tense or keyed up; while depression symptoms reported were feeling sad, and weak in parts of their body. However, feelings of worthlessness and thoughts of ending life were seldom. Females reported less stress and trauma, but they showed anxiety and somatization symptoms than males. Only 12.5% said that they evaluate their life as good, and 27.1% said they enjoy their life. Better quality of life is an indicator of wellbeing; females had higher level of quality of life. While, physical health activities of daily living were more in males was. Palestinians used religious ways of coping with the stress and trauma, and 98% said God is helping all the time, they were proud of their achievements, and had strong sense of purpose in their life. There were statistically significant positive relationship between stress due to the siege and closure and traumatic events, psychological symptoms, depression, somatization, and anxiety. However, there was statistically significant negative relationship between total score of stress due to the siege and closure and the total resilience factor and subscales, and quality of life. Total traumatic events were positively correlated with psychological symptoms, depression, somatization, and anxiety.

Conclusion and implications: In this study, siege and blockade situation was very stressful. Such stressors due to siege had negative influence families especially older age fathers who live in refugee camp and unemployed and living in poor families. Such findings are trigger to start national and international advocacy campaigns to left the siege on Gaza Strip and allow free movements and association, which may decrease stressors and consequences and improve the economic situation of the families and decrease poverty of the families.

Traumatic experiences due to eight days war on Gaza impact on mental health and quality of life highlight the need for developing new training program including subjects such trauma, impact of trauma, stress management, symptoms

related to trauma such as PTSD, anxiety, depression and ways of dealing such symptoms especially for fathers who live in the cities.

Keywords: Gaza strip, Psychological problems, Quality of life, Resilience, Siege, Stress, Trauma

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Introduction

Since the Israeli Government enacted the full Gaza blockade on 2007, and making the restrictions on the free movement of goods and people in and out of Gaza Strip, almost total, the population in Gaza Strip has suffered ever-increasing infringements of their economic and social rights. The access-restricted area (the so-called "buffer zone" or no man zone) was imposed by Israel within Gaza territory and covering 35% of key agricultural land, highlights how fundamentally the right to movement is ignored with 113,000people unable to access their farms [1]. Siege on Gaza k Strip since 2007 was a unique situation, studies of impact of siege on people were few in the area, [2] in a study of 386 Palestinian adults in Gaza Strip showed that people commonly reported the following siege stressors: prices were sharply increased (97.67%), they feel they in a big prison (92.23%), they cannot find things they need in the market (91.70%), they quitted some purchased daily needs (88.30%), and social visits were less than before (85.23%). For quality of life, the results showed that only 11.8% of Palestinians were satisfied with their general health and only 8% said that they enjoy their life. In addition, there were negative correlation between total siege scores and quality of life. In another similar study, [3] in a study of 184 households from Gaza Strip, showed that the most common stressors items related to siege of Gaza items were: prices are sharply increased (90.8%), I feel I am in a big prison (88.5%), I cannot find things I need in the market (91.70%), I was not able to get specific medicine for me or for one of the family member due to shortage of fuel and absence of transportation (73.4%), and i was not able to get specific medicine for me or for one of the family member due to shortage of physicians and nurses (62.58%) in another study, [4] of 399 university students from main four universities in Gaza Strip showed that the most frequent stressors due to siege were: (92%) prices that were sharply increased due to closure, (83.5%) their study in the university was affected so much due to cut-off of electricity and shortage of gas. The study results showed that mean stressors in males was 12.38 and was 10.33 in females. There were statistically significant differences in stress toward males. The study showed 9.5% of males and 12% of females had severe depression. In addition, 10.3% of males and 13.8% of females had anxiety. There is ample evidence that traumatic events of war and military violence are associated with PTSD and depressive symptoms. An examination of large, fairly representative samples of men and women age 16 or older living in Algeria, Cambodia, Ethiopia, and Gaza, [5] found high rates of post-traumatic stress disorder (PTSD) in each sample (37.4%, 28.4%, 15.8%, and 17.8%, respectively). In Algeria and Cambodia, and consistent with findings in the United States, women had higher rates of PTSD than did men (43.8% versus 32.2% and 34.2% versus 20.6%, respectively). In contrast, in Ethiopia and Gaza, women possessed similar or lower rates of PTSD in comparison with men (15.2% versus 16.6% and 13.5% versus 22.6%, respectively). In a representative sample of Kosovar Albanians age 15 or older assessed approximately one year after the end of the 1998–1999 war in Kosovo, [6] observed a PTSD prevalence rate of 25%, compared with the rate of 17% that was found immediately following the war [7]. Similarly, immediately following the siege of Sarajevo, [8] investigated the prevalence of current PTSD three years after the siege of Sarajevo. They found 18% in their group of residents, 32.7% in their group seeking medical treatment and 38.6% in their group seeking psychological treatment. In recent study, [9] in study of sample included 374 adults with mean age 40 years, commonly reported traumatic such as 95.7% said they hear of shelling and bombardment of the their area, 94.7% reported watching mutilated bodies in TV, 92.8% reported seeing the bombardment effects on ground. They showed that 66.6% of the sample had diagnosed as having PTSD and 90.9% were rated as cases according to General Health Questionnaire.

Quality of life is defined as physical, mental, and social well-being [10]. For the purposes of this paper, we adopt a broader conceptualization of quality of life, according to which quality of life consists of social–material conditions, functioning (role performance), and satisfaction (well-being World Health Organization has defined HR-QOL as: an individual's perception of their position in life in the context of the culture and value systems in which they live, in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, and level of independence, social relationships and their relationships to salient features of the environment [11]. Other studies have focused on the quality of life of the population under occupation [12]. The Israeli military occupation/lack of freedom and its consequences on life were clearly top determinants for the quality of life. The political context of military occupation and instability were generally seen as an important cause of daily life problems including mental health states and the loss of dignity (highly valued in the local culture) contributing to a negative impact on life quality. Displacement was also an important issue among those who live in the Ramallah District camp. Women from poor backgrounds tended to emphasize unemployment,

dependence on Israel, poverty linked to occupation, and inadequate housing as important determinants of life quality. Another finding that emphasizes the inter-connectedness of the political and social contexts and their link to life quality is the lack of educational choices; social domain were rated as extremely important and relevant to Palestinian life quality [12,13] in study of post-traumatic stress disorder, social anxiety disorder, and major depressive disorder and their associations with distress and quality of life in 174 Albanian civilian survivors of the Kosovo War, found that each of the three psychiatric disorders was associated with greater experiential avoidance and psychological distress, and lower quality of life. Survivors without social anxiety and low experiential avoidance reported elevated quality of life; people with either social anxiety or excessive reliance on experiential avoidance reported compromised, low quality of life.

Resilience is most often considered a personality characteristic that moderates the negative effects of stress and promotes adaptation. Resilience was defined as the ability to successfully cope with change or misfortune [14] others such as [15] have defined resilience as the capacity of individuals to successfully maintain or regain their mental health in the face of significant adversity or risk. Resilience is an interactive dynamic construct that considers protective factors and positive adaptation in adversity, rather than focusing on risk factors and psychopathology. Spirituality was commonly reported to be important to resilience and adaptive in illnesses. It was postulated that belief in God or having faith helped individuals make sense of the illness and acted as a source of strength. Participants high in spirituality were reported to have better mental health and adjustment [16-18]. The aim of the study was to investigate the relationships between stressor due to restriction of Palestinian movement, traumatic events due to war on Gaza and psychological symptoms, quality of life, and resilience.

Methods

Setting and sample

The Gaza Strip is a narrow elongated piece of land, bordering the Mediterranean Sea between Israel and Egypt, and covers 360 km2. It has high population density. About 17% of the population lives in the north of the Gaza Strip, 51% in the middle, and 32% in the south area. There is high unemployment, socioeconomic deprivation, family overcrowding, and short life expectancy. Nearly two-thirds of the populations are refugees, with approximately 55% living in eight crowded refugee camps. The remainder lives in villages and towns. The study sample consisted of 502 families living in the Gaza Strip. Families with two children aged from 9-18 years were included. A total number of 502 parents agreed to take part in the study. The response rate was 100%.

Measures

1. **Socio-demographic questionnaire**

This questionnaire includes sex, age, and place of residence, education and job information, number of children, family monthly income.

2. **Gaza stressful situations due to siege checklist** [2]

Stressful situations experiences due to siege were collected by using Stressful Situation due to siege Checklist, which was developed before in 2008 [2] describing the most common stressful experienced during the last 7 years of closure and seize of Gaza Strip. This checklist consisted of 18 items with answers Yes (1) and no (0). The scoring of the scale is considered by summing all the answers. The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.76).

3. **The gaza traumatic events checklist for 8 days war on gaza** [9]

The checklist consisting of 18 items covering three domains of events typical for the 8 days war on Gaza:

1. Witnessing personally acts of violence (e.g., killing of relatives, home demolition, bombardment, and injuries)

2. Having experiences of loss, injury and destruction in family and other close persons, and

3. Being personally the target of violence (e.g., being shot, injured, or beaten by the soldiers)

In checklist respondent were asked whether they had been exposed to each of these events: (0) no (1) yes. In this study, the split half reliability of the scale was high (r=.57). The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.77).

4. **Symptom checklist (BSI-18)[**10]

The Brief Symptom Inventory 1 (BSI-18) is a measure of psychological distress designed to screen for depressive, anxious, and somatic symptoms. The BSI-18 contains 18 items and employs a 5-point Likert-type scale ranging from 0 (not at all) to 4 (extremely). The global severity index (GSI) score is derived from the sum of all item scores, ranging from 0 to 72, with greater scores suggesting greater psychological distress. Additionally, scores can be obtained for the somatization (6 items; e.g., ''faintness''), depression (6 items; e.g., ''no interest''), and anxiety (6 items; e.g., ''nervousness'') dimensions. The BSI has been shown to be a reliable and valid measure, with an adequate internal consistency (a ¼ .74, .84, .79, and .89, for somatization, depression, anxiety, and GSI, respectively) 27 in the present study, Cronbach's of somatization, depression, anxiety, and GSI were .78, .85, .82, and .91, respectively. In this study, the split half reliability of the scale was high (r=.88). The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.90). 5. The Connor-Davidson resilience scale (CD-RISC) [19,20] The CD-RISC is a 25-item scale that measures one's ability to cope with adversity. Respondents rate items on a scale from 1 (not true at all) to 5 (true nearly all the time). Example items include: "I am able to adapt when changes occur", "I can deal with whatever comes my way" and "I tend to bounce back after illness, injury, or other hardships" Preliminary research [20] involving the general population and patient samples provided support for the reliability (e.g., internal consistency, test-retest) and validity (e.g., convergent, divergent) of the five-factor model (personal competence, high standards, tenacity; trust in one's instincts, tolerance of negative affect, strengthening effects of stress; positive acceptance of change, secure relationships; control; spiritual influences). In this study the scale was translated the scale into Arabic by the first author

and back translation was done by second author with minimal changes. In this study, the split half reliability of the scale was high (r=.81). The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.88).

5. **World Health Organization Quality of Life (WHOQOL-BREF-1996)** [21]

The WHOQOL-BREF was developed from the WHOQOL-100, a cross-cultural QOL Instrument developed by the World Health Organization (WHO) for assessing individuals' subjective perception and feelings of life. Thus, the WHOQOL-100 was simplified into a brief version, called the WHOQOL-BREF, by selecting 24 items from 24 facets (one item per facet) and 2 items from the general facet. These 24 items covers four domains, including physical health, psychological state, social relations, and environment. These four domain scores were used to indicate an individual's QOL. The participants rated each item on a 5-point scale ranging from 1 (not at all satisfied) to 5 (very satisfied). In this study, the split half reliability of the scale was high (r=.75). The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.88).

6. **Study procedure**

Data collection conducted by 10 professionals who attended day training by the principal investigator about the aim of the study, sample, and questionnaires of the study. Data collection was done from 1st January one-day 26 January 2013, which include the 502 people in the five areas. For selecting the children from each district, one street was selected in each area, and every principal was selected. In larger buildings, one flat from each floor selected randomly. Families were approached until 502 agreed to participate. Covering letter is given to each participant explaining the aim of the study and about their right not to participate in study and ask them to sign the letter. With the family member lasted for 30 minutes. There were some limitations during data collection in which there was bad weather and heavy raining for three days in January 2013 and families complained that the questionnaires were so long and they were asking about financial support due to the poverty, unemployment, and siege.

Statistical Analysis

Data entry and analysis were carried out using a statistical software SPSS version 20 (SPSS Inc. Chicago Ill, US). Frequency and percent were used to express quantitative data of types of stressful situations, trauma, mental health disorder, quality of life, and resilience. For continuous variables, means and standard deviations were reported. For differences between means of two groups parametric tests were used such as t-test to compare sex and parents and mean of stress, trauma, mental health problems, resilience, and quality of life. While, ANOVA tests were used for measuring differences between more than two groups of continuous variables such place of residence and stress, trauma, resilience, mental health. Spearman's correlation coefficient was used to test the association between numbers of stressors scores, traumatic experiences, WHOQOL scores, resilience, and mental health problems. Multivariate regression analysis conducted, in which each traumatic events and stressors were entered as the independent variables, and psychological symptoms, resilience, and quality of life entered as the dependent variable. We used an alpha level of .05 for all statistical tests.

Results

Sociodemographic data

The sample consisted of 252 males (50.2%) and 250 females (49.8.%) According to the selection criteria, the age range was 20-60 years, with a mean age of 42.49 years. Regard age groups, 239 participants age group was less than 40 years (47.6%), 198 age group was ranged from 41-50 years (39.4%), and 65 age group was above 51 years (12.9%). Regard place of residence, 94 live in north Gaza (18.9%), 174 live in Gaza city (34.7%), 84 live in Middle area (16.7%), 96 live in Khan Younis (19.1%), and 54 live in Rafah area(10.8%) **(Table 1)**.

Types and frequency stressful situations due to siege

As shown in Table 2, 88% of participants said they felt that they are living in big prison, 87.3% said they cannot finish some construction and repairing work in their house due to shortage of building materials, 85.5% said prices are sharply increased due to closure, 81.3% said social visits are less than before, and 77.9% said that their work was affected so much due to cut-off of electricity and shortage of gas **(Table 2).**

Differences in gaza stressful situations due to siege

The results showed than mean stressful situations in males were 10.3 (SD=3.67) and 9.13 for females (SD=3.29). There were statistically significant differences toward males (F=3.73, p=0.01). According to the age, the age of the participants was recoded into three categories (less than 40 years, 41-50 years, and above 51 years). Post hoc test using Tukey test showed that there were statistically significant differences in stressful situations toward participants age 51 years than the other two groups (F (2,

Table 1 Sociodemographic characteristics of the parents sample (N=502).

	No.	%
Sex		
Male	252	50.2
Female	250	49.8
Age Mean=42.49 (SD=7.6)		
Less than 40 years	239	47.6
41-50 years old	198	39.4
51 years and above	65	12.9
Place of residence		
North Gaza	94	18.7
Gaza	174	34.7
Middle area	84	16.7
Khan Younis	96	19.1
Rafah	54	10.8
Family monthly income		
Less than $ 300	337	67.1
$ 301-750	129	25.7
$ 751-1000	27	5.4
More than $1001	9	1.8

Table 2: Types and frequency stressful situations due to restriction of movements and siege (N=502).

Stressors	Yes		No	
	No.	%	No.	%
I feel I am in a big prison	442	88	60	12
I cannot finish some construction and repair work in my house due to shortage of building materials	438	87.3	64	12.7
Prices are sharply increased due to closure	429	85.5	73	14.5
Social visits are less than before	408	81.3	94	18.7
My work affected so much due to cut-off of electricity and shortage of gas	391	77.9	111	22.1
I sold some of my furniture and my wife's gold.	322	64.1	180	35.9
I was not able to get specific medicine for me or for one of the family member	320	63.7	182	36.3
I need to travel outside the Gaza Strip and can not	301	60	201	40
I went to Zakat organizations and other organizations to get the food	282	56.2	220	43.8
I cannot get married or help my sons in marriage	267	53.2	235	46.8
My monthly income decreased and cannot send my children for schools	249	49.6	253	50.4
I had suffering of not able to receive proper medical care	249	49.6	253	50.4
I stopped completely working due to inability to got to my land and restriction in sea area	243	48.4	259	51.6
I thought of immigration	141	28.1	361	71.9
I was unable to travel to visit my relatives in West Bank due to siege	135	26.9	367	73.1
I stopped sending my children to schools and send them to work to help the family	110	21.9	392	78.1
One of the family member died due to prevention of traveling for treatment	97	19.3	405	80.7
I was prevented from visiting one of the family members in Israelis jails	55	11	447	89

502)=6.24, p=0.01). There were statistically significant differences in stressful situations toward participants living in camps than in city of village groups (F (2, 502)=12.03, p=0.01). Poor families with monthly income less than 300$ than the other three groups had reported more stressors (F (2, 502)=50.55, p=0.01).

Types and severity of traumatic events due to 8 days war on gaza

The study showed that Palestinians in the Gaza Strip had experienced from 3-17 traumatic events with mean exposure to 8.8 traumatic events (SD=2.69). The most commonly reported traumatic experiences were hearing shelling of the area by artillery (99.4%), hearing the sonic sounds of the jetfighters (98.8%) hearing the loud voice of Pilotless plans (98.6%), watching mutilated bodies in Television (98%) and witnessing the signs of shelling on the ground (90.2%) **(Table 3).**

Differences in traumatic events according to sociodemographic variables

The results showed that mean traumatic event were 7.51 (SD=2.28). Mean traumatic experience by males was 9.38 (SD=2.70) and for females mean was 8.38 (SD=2.59). There were statistically significant differences toward males (F=4.26, p =0.001). There were no statistically significant differences in traumatic event according to age (F (2, 502)=0.30, p=Ns).

Psychological symptoms measures by brief symptom inventory-18 items

The most common psychological symptoms reported by participants were nervousness or shakiness inside (45.4%), feeling tense or keyed up (42.8%), feeling blue (39.4%), and feeling weak in parts of your body (39%). While the least common reported symptoms were Feeling of worthlessness (8%) and thoughts of ending life. The results showed that mean psychological symptoms reported according to BSI-18 in males were 25.88 (SD=14.88) and 28.44 for females (SD=15.64). There were no

Table 3 Types of traumatic events due to 8 days war on Gaza (N=502).

Traumatic Events	Yes		No	
	No	%	No.	%
Hearing shelling of the area by artillery	499	99.4	3	0.6
Hearing the sonic sounds of the jetfighters	496	98.8	6	1.2
Hearing the loud voice of Drones	495	98.6	7	1.4
Watching mutilated bodies in Television	492	98	10	2
Witnessing the signs of shelling on the ground	453	90.2	49	9.8
Receiving threaten letters by the Israeli army through local Televisions or the Radios	341	67.9	161	32.1
Unable to leave you home with family members due to fears of shelling in the street	323	64.3	179	35.7
Hearing killing of a friend	322	64.1	180	35.9
Witnessing firing by tanks and heavy artillery at neighbors homes	220	43.8	282	56.2
Receiving pamphlets from Airplane to leave your home at the border and to move to the city centers	172	34.3	330	65.7
Forced to leave you home with family members due to shelling	125	24.9	377	75.1
Witnessing shooting of a friend	114	22.7	388	77.3
Witnessing assassination of people by rockets	100	19.9	402	80.1
Threaten by telephoned to evacuate your home before bombardment	100	19.9	402	80.1
Hearing killing of a close relative	96	19.1	406	80.9
Witnessing shooting of a close relative	46	9.2	456	90.8
Witnessing firing by tanks and heavy artillery at own home	36	7.2	466	92.8
Physical injury due to bombardment of your home	31	6.2	471	93.8

statistically significant differences in psychological symptoms according to gender (F (2, 502)=1.40, p=0.06). Mean somatization symptoms in male were 8.67 and mean in females was 10.24. Post Hoc test showed that there were statistically significant differences in somatization symptoms in favor of females (F (2, 502)=3.04, p=0.002), mean depression symptoms in males was 7.51 and 6.87 in females There were no statistically significant differences in depression symptoms according to the sex (F (2, 502)=1.40, p=0.1). Mean anxiety symptoms in male were 9.70 and 11.33 in females. There were significantly differences in anxiety toward females (F (2, 502)=2.88, p=0.004).

Quality of life

The results showed that 12.5% of Palestinian said that they evaluate their life much and very much and 27.1% said they enjoy their life much and very much life.

Sex differences in quality of life

The results showed that total scores of quality of life reported by males were 65.10 and 68.63 in females. There was significant differences in favor of females in total scores of quality of life (*F* (2, 502)=3.18, *p*=0.01). In addition, mean physical health activities of daily living in males were 17.83 and 18.74 in females. There was significant difference in favor of females in physical health activities (*F* (2, 502)=3.19, *p*=0.01). Psychological bodily image and appearance in males mean was 14.51 and mean in females was 15.28. There was significant difference in favor of females psychological bodily image and appearance (*F* (2, 502)=2.15, *p*=0.05). Social and personal relationships in males were 8.71 and mean in females was 9.36. There was significant difference in favor of females social and personal relationships (*F* (2, 502)=3.4, *p*=0.01). Environment and financial resources mean in males was 18.33 and 19.39 females. There was significant difference in favor of females environment and financial resources (*F* (2, 502)=3.1 *p*=0.01). Post Hoc test showed that there were significant differences in favor of people 40 years and less in social and personal relationships domain (*F*=5.24 , *p*=0.01).

Resilience factors in Palestinian

Palestinians used religious factors in facing the stress and trauma, 98% said God help 85.1% said they are proud of their achievements, and 71.55% said they had strong sense of purpose. The results showed that total scores of resilience in males were 61.20 and 60.5 in females. There was no significant sex differences in total resilience factor (*F* (2, 502)=0.49, *p*=0.62). Males significantly showed more personal competence, high standards, tenacity than females (*F* (2, 502)=2.18, *p*=0.03), females showed significantly more religious factor that male (*F* (2, 502)=- 4.75, *p*=0.01). According to the family monthly income, Post hoc test showed that there were statistically significant differences in total scores of resilience in favor of families with income more than 301-750 $ than families with monthly income less than 300$ (*F*=7.34, *p*=0.01). Control scores were statistically significant in favor of families with income more than 301-750 $ than families with monthly income less than $300 (*F* (2, 502) =4.66, *p*=0.01). Personal competence, high standards, tenacity was statistically significant in favor of families with income more than $301-750 and $751-1000 than families with monthly income less than $300 (*F*=10.30, *p*=0.01).

Relationship between stress due to the siege and blockade, trauma, psychological symptoms and subscales, quality of life, and resilience Pearson correlation test showed that there were statistically significant positive relationship between stress due to the siege and closure and traumatic events (r (502) =0.32, p<0.01), psychological symptoms (r=0.44, p<0.01) depression (r=43, p<0.01), somatization (r=0.37, p<0.01), and anxiety (r=0.39, p<0.01). For resilience and stress, there was statistically significant negative relationship between total score of stress due to the siege and closure and the total resilience factor (r=-0.17, p<0.01), personal competence, high standards, tenacity (r=-0.17, p<0.01), trust in one's instincts, tolerance of negative affect, strengthening effects of stress (r=-0.10, p<0.01), positive acceptance of change, secure relationships (r=-0.20,p<0.01), and control (r=-0.12, p<0.01). The correlation test showed that there were statistically significant negative relationship between total score of stress due to the siege and closure and total quality of life (r=-0.46, p < 0.01), physical health activities of daily living (r=-0.31, p< 0.01), psychological bodily image and appearance(r=-0.34, p< 0.01), social relationships personal relationships(r=-0.26, p<0.01), environment financial resources(r=-0.49,p< 0.01). For traumatic events, total traumatic events were positively correlated with psychological symptoms (r=0.19, p<0.01), depression (r=17, p<0.01), somatization (r=0.25, p<0.01), and anxiety (r=0.11,p <0.01).

Prediction of psychological problems, quality of life, resilience by stressors due to siege

The multivariate linear regression analysis showed that the following stressors due to siege were predicting the psychological problems: I sold some of my furniture and my wife's gold (β=7.69, p<0.001), I was not able to get specific medicine for me or for one of the family member (β=5.07, p<0.001), I stopped completely working due to inability to got to my land and restriction in sea area (β=3.95, p<0.001) I thought of immigration (β=4.16, p<0.001) (β=3.13, p<0.001) (F=25.95, p<0.001). While, quality of life was negatively predicted by the following stressors: I sold some of my furniture and my wife's gold. (β=4.20, p <0.001). I need to travel outside the Gaza Strip and cannot (β=-4.65, p <0.001) , prices are sharply increased due to closure (β=-5.92, p<0.001), I feel I am in a big prison (β=-4.75, p<0.001), my monthly income decreased and cannot send my children for schools (β=-2.52, p <0.001), and I stopped completely working due to inability to go to my land and restriction in sea area (β=-2.30 , p <0.001)(F=26.54, p <0.001). However, resilience was negatively predicted by one stressor; I sold some of my furniture and my wife's gold (β=-2.30, p<0.001) (F=17.56, p <0.001) **(Tables 4&5).**

Prediction of psychological problems, quality of life, resilience by traumatic events

The multivariate linear regression analysis showed that the following traumatic events were predicting the psychological problems: hearing killing of a close relative (β=7.18, p<0.001), forced to leave you home with family members due to shelling (β=5.70, p<0.001), and hearing the loud voice of Drones (β=19.8=78, p<0.001) (*F*=15.67, p<0.05, R2=0.29). Also, forced to leave you home with family members due to shelling (β=-5.12, p<0.001) (F=9.33, p <0.05, R2=0.19) was negatively predicting the

quality of life, and (β=5.70, p<0.001), and negatively predicting resilience (β=-5.12, p<0.001) (F=8.29 p<0.05, R2=0.24) **(Table 6).**

Table 4: Pearson correlation Coefficient test between stress, trauma psychological problems, quality of life and resilience.

	Total stress due to siege	Total Trauma
Total stress due to siege	-	.32**
Total BSI-18	.44**	.19**
Somatization	.37**	.17**
Depression	.43**	.25**
Anxiety	.39**	.11*
Total resilience	-.17-**	0.04
Personal competence, high standards, tenacity	-.17-**	0.05
Trust in one's instincts, tolerance of negative affect, strengthening effects of stress	-.10-*	0.08
Positive acceptance of change, secure relationships	-.20-**	-.02-
Control	-.12-**	0.03
spiritual influences	0.01	-.06-
Total QOL	-.46-**	-.04-
Physical domain	-.31-**	0.04
Psychological domain	-.35-**	-.07-
Social relation domain	-.26-**	-.05-
Environment domain	-.49-**	-.04-

Discussion

Stressful situations due to restriction of movements and siege

This study aimed to investigate the relationships between stressor due to restriction of Palestinian movement, traumatic events due to war on Gaza and psychological symptoms, quality of life, and resilience. This study showed that Palestinian suffered from siege of Gaza, the siege increased feelings of being living in big prison, they could not finish construction and repair work in their house due to shortage of building materials, and they said prices were sharply increased in the last few years. Obviously, fathers had more stressor than mothers. In addition, older age people had reported more stressors and made them. Furthermore, people living in refugee camps had more stressors than those living in cities and villages. This is due to overcrowdings of the camps and poverty of such camps. As part of the siege in the low income of families due to inability to move and work outside Gaza Strip, this was another, accumulated factor in suffering of the Palestinians. Such findings were consistent with previous studies, in a study of the impact of siege on Palestinians in the Gaza Strip showed that people reported commonly similar stressors such as had the feeling of being in a big prison, prices were sharply increased could not find things they need in the market for the family [2-4,22]. The study showed that Palestinians 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 Pilotless plans, watching mutilated bodies in TV, witnessing firing by tanks and heavy artillery at their homes, and physical

Table 5 Linear regression analysis of psychological problems, quality of life, resilience and stressors due to siege.

Psychological problems (Total BSI-18)	Unstandardized Coefficients		Standardized Coefficients	t	p	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
I sold some of my furniture and my wife's gold.	7.69	1.36	0.24	5.65	0.001	5.02	10.37
I was not able to get specific medicine for me or for one of the family member	5.07	1.34	0.16	3.78	0.001	2.44	7.71
I stopped completely working due to inability to go to my land and restriction in sea area	3.95	1.36	0.13	2.91	0.001	1.28	6.62
I thought of immigration	4.16	1.39	0.12	2.99	0.001	1.43	6.90
13. I had suffering of not able to receive proper medical care	3.13	1.28	0.10	2.44	0.01	0.61	5.64
R^2=0.20, Std. Error of the Estimate=13.69.							
Quality of Life							
I sold some of my furniture and my wife's gold.	-4.20	1.18	-0.16	-3.56	0.00	-6.52	-1.88
I need to travel outside the Gaza Strip and can not	-4.65	1.05	-0.18	-4.44	0.00	-6.70	-2.59
Prices are sharply increased due to closure	-5.92	1.56	-0.17	-3.79	0.00	-9.00	-2.85
I feel I am in a big prison	-4.75	1.54	-0.12	-3.09	0.00	-7.77	-1.73
My monthly income decreased and cannot send my children for schools	-2.52	1.13	-0.10	-2.23	0.03	-4.75	-0.30
I stopped completely working due to inability to go to my land and restriction in sea area	-2.30	1.12	-0.09	-2.05	0.04	-4.50	-0.09
R^2=0.24, Std. Error of the Estimate=10.95							
Resilience							
I sold some of my furniture and my wife's gold	-6.02	1.44	-0.18	-4.19	0.00	-8.84	-3.20
R^2=0.03, Std. Error of the Estimate=15.43							

Table 6 Linear regression analysis of psychological problems, quality of life, resilience and traumatic event.

Psychological problems (Total BSI-18)	Unstandardized Coefficients		Standardized Coefficients	t	p	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Hearing killing of a close relative	7.18	1.68	0.185	4.26	0.001	3.87	10.49
Forced to leave you home with family members due to shelling	5.7	1.53	0.161	3.73	0.001	2.7	8.7
Hearing the loud voice of Drones	19.78	5.6	0.152	3.53	0.001	8.77	30.78
R^2=0.29, Std. Error of the Estimate=10.47							
Quality of Life							
Forced to leave you home with family members due to shelling	-5.12	1.28	-0.18	-3.99	0.001	-7.64	-2.6
Hearing killing of a friend	2.52	1.16	0.1	2.18	0.03	0.24	4.79
R^2=0.19, Std. Error of the Estimate=12.23							
Resilience							
Forced to leave you home with family members due to shelling	-7.33	1.68	-0.2	-4.37	0.001	-10.62	-4.03
Receiving threaten letters by the Israeli army through local Televisions or the Radios	4.99	1.49	0.15	3.34	0.001	2.06	7.92
Hearing killing of a friend	3.42	1.46	0.1	2.35	0.02	0.56	6.29
Witnessing assassination of people by rockets	4.11	1.81	0.1	2.27	0.02	0.56	7.66
R2=0.24, Std. Error of the Estimate=15.20							

injury due to bombardment. In this study, males had experienced more traumatic events than females. Such findings were consistent with previous studies in the area, which showed that males were exposed more too political violence and traumatic events. Our study showed that total traumatic events were positively correlated with psychological symptoms, depression, somatization, and anxiety. Such findings were consistent with previous studies [9,23,24].

The study showed that Palestinian parents reported mostly anxiety symptoms such as nervousness or shakiness inside, feeling tense or keyed up and depression symptoms such as feeling sad, and weak in parts of your body. However, scarce percentage of people had feeling of worthlessness and thoughts of ending life. In modern day Palestine, however, suicide (al-intihar) is certainly viewed as forbidden (haram) in the strongest possible terms. The effect of siege and closure was so obvious on Palestinian families' satisfaction with their lives and only 12.5% said that they evaluate their life, while 27.1% said they enjoy their life. Males had more total of quality of life, psychological bodily image and appearance than mothers did. However, females had significantly more social, personal relationships, environmental and financial resources. Younger age parents had less social and personal relationships. Our study results consistent with previous studies which military occupation and instability was generally seen as an important cause of daily life problems including mental health states and the loss of dignity (highly valued in the local culture) contributing to a negative impact on life quality [14]. Our results were similar and consistent to previous study in the area; [3], which found that increasing stressors due to siege decreased quality of life, decrease physical activities, increase psychological problems, decrease social activities, and worsening environmental situation. Previous studies showed similar findings [15] in a study of Albanian civilian survivors of the Kosovo War, found that each of the three psychiatric disorders was associated with greater experiential avoidance and psychological distress, and lower quality of life, and survivors without social anxiety and low experiential avoidance reported elevated quality of life; people with either social anxiety or excessive reliance on experiential avoidance reported compromised, low quality of life. In line with the findings of our study, [3] in a study of random sample of 386 adults from the entire Gaza Strip found that people reported more stress due to siege had less quality of life, less physical health.

Palestinians used religious factors in facing the stress and trauma, 98% said God help 85.1% said they are proud of their achievements, and 71.55% said they had strong sense of purpose. The results showed that total scores of resilience in males were 61.20 and 60.5 in females. There were no significant sex differences in total resilience factor. Males significantly showed more personal competence, high standards, tenacity than females, females showed significantly more religious factor than males. According to the family monthly income, families with less than $300 were less resilience than families with higher monthly income. Our study was consistent with study of [25] of Cambodian refugees in New Zealand, which found that those who had strong Buddhist beliefs in reincarnation, fate, and the meaning of suffering were able to accept their trauma and suffering as necessary challenges to enable a better state of being in the next world [26] studied mental health symptoms following war and repression in Eastern Afghanistan, found that respondents valued “Allah” (the Islamic god) as their main resource for emotional support when feeling sad, worried, or tense. Our study was consistent with studies of [17-20] which postulated that belief in God or having faith helped individuals make sense of the illness and acted as a source of strength. Participants high in spirituality were reported to have better mental health and adjustment. Total resilience score was negatively predicated by only two items from siege items: cannot find things they need in the market and had suffering of not able to receive proper medical care.

The study showed that there were significant positive relationship

between stress due to the siege and closure and traumatic events, psychological symptoms, depression, somatization, and anxiety. The study showed that stressors had negative impact on resilience and subscales such as personal competence, high standards, tenacity, trust in one's instincts, tolerance of negative affect, strengthening effects of stress, positive acceptance of change, secure relationships, and control. In addition, stressors affected negatively quality of life, physical health activities of daily living, psychological bodily image and appearance, social relationships, personal relationships, and environment financial resources of Palestinians in Gaza Strip. Such findings were consistent with study of [27], which showed that chronic daily stress might gradually diminish people's capacity to cope effectively with potentially traumatic life events, thereby increasing the likelihood of such events causing enduring symptoms of PTSD [28] has documented the numerous ways in which continuous exposure to stressful circumstances including lower level, non-traumatic stressors gradually erodes physical and psychological health, and leaves people increasingly vulnerable to both physical and psychological illness. For instance, in a study evaluated the relationship between spirituality, resilience, anger, health status, and PTSD symptom severity among 1200 adult trauma survivors in North Carolina found that people reporting higher levels of resilience factors had lower levels of PTSD symptoms than those with lower level [20]. Similarly, a study of 132 undergraduates from San Diego State University found that resilience moderated the relationship between emotional neglect and current psychiatric symptoms [29,30] Furthermore, our results were consistent with [30] study, which postulated that community resilience, emerges from community-level resources that enhance residents' abilities to adapt in positive ways to risk. Social capital resources, institutional resources, and economic resources are three types of resources that contribute to community resilience [31].

Conclusion

In this study, siege and blockade situation was very stressful and commonly people had feelings that they are living in big prison, people cannot finish some construction and repairing work in their house due to shortage of building materials, prices were sharply increased due to closure. Such stressors due to siege had negative influence families especially older age fathers who live in refugee camp and unemployed and living in poor families. Such findings are trigger to start national and international advocacy campaigns to left the siege on Gaza Strip and allow free movements and association, which may decrease stressors and consequences and improve the economic situation of the families and decrease poverty of the families.

Traumatic experiences due to eight days war on Gaza were mostly shelling and bombardment of the cities, so people in this war only hear shelling of the area by artillery, hear of the jetfighters, hear the loud voice of Drones such traumatic experiences were in fathers, living in a cities. Such findings highlight the need for developing new training program including subjects such trauma, impact of trauma, stress management, symptoms related to trauma such as PTSD, anxiety, depression and ways of dealing such symptoms especially for fathers who live in the cities.

Quality of life is an indicator of wellbeing; fathers living in poor had lower level of quality of life including psychological bodily image and appearance, social and personal relationships, environment and financial resources. Such findings again highlight the need for developing new projects with new jobs for fathers to improve their monthly income and improve all the family quality of life. Also, supporting the campaigns for lifting the siege and allow access to the external world for getting jobs for the unemployed fathers outside the Gaza Strip. This study had opened ideas for new research titles concerning the impact of stress due to siege and blockade on children also, coping strategies used by children to overcome the impact of stress, role of social and family support in dealing with stress in children, impact of stress on children school performance and relation with peers. Since the Israeli Government enacted the full Gaza blockade on 2007, and making the restrictions on the free movement of goods and people in and out of Gaza Strip, almost total, the population in Gaza Strip has suffered ever-increasing infringements of their economic and social rights. The access-restricted area (the so-called "buffer zone" or no man zone) was imposed by Israel within Gaza territory and covering 35% of key agricultural land, highlights how fundamentally the right to movement is ignored with 113,000people unable to access their farms [1]. Siege on Gaza k Strip since 2007 was a unique situation, studies of impact of siege on people were few in the area, [2] in a study of 386 Palestinian adults in Gaza Strip showed that people commonly reported the following siege stressors: prices were sharply increased (97.67%), they feel they in a big prison (92.23%), they cannot find things they need in the market (91.70%), they quitted some purchased daily needs (88.30%), and social visits were less than before (85.23%). For quality of life, the results showed that only 11.8% of Palestinians were satisfied with their general health and only 8% said that they enjoy their life. In addition, there were negative correlation between total siege scores and quality of life. In another similar study, [3] in a study of 184 households from Gaza Strip, showed that the most common stressors items related to siege of Gaza items were: prices are sharply increased (90.8%), I feel I am in a big prison (88.5%), I cannot find things I need in the market (91.70%), I was not able to get specific medicine for me or for one of the family member due to shortage of fuel and absence of transportation (73.4%), and i was not able to get specific medicine for me or for one of the family member due to shortage of physicians and nurses (62.58%) in another study, [4] of 399 university students from main four universities in Gaza Strip showed that the most frequent stressors due to siege were: (92%) prices that were sharply increased due to closure, (83.5%) their study in the university was affected so much due to cut-off of electricity and shortage of gas. The study results showed that mean stressors in males was 12.38 and was 10.33 in females. There were statistically significant differences in stress toward males. The study showed 9.5% of males and 12% of females had severe depression. In addition, 10.3% of males and 13.8% of females had anxiety. There is ample evidence that traumatic events of war and military violence are associated with PTSD and depressive symptoms. An examination of large, fairly representative samples of men and women age 16 or older living in Algeria, Cambodia, Ethiopia, and Gaza, [5] found high rates of post-traumatic stress disorder (PTSD) in each sample (37.4%, 28.4%, 15.8%, and 17.8%, respectively). In Algeria and Cambodia, and consistent with findings in the United States, women had

higher rates of PTSD than did men (43.8% versus 32.2% and 34.2% versus 20.6%, respectively). In contrast, in Ethiopia and Gaza, women possessed similar or lower rates of PTSD in comparison with men (15.2% versus 16.6% and 13.5% versus 22.6%, respectively). In a representative sample of Kosovar Albanians age 15 or older assessed approximately one year after the end of the 1998–1999 war in Kosovo, [6] observed a PTSD prevalence rate of 25%, compared with the rate of 17% that was found immediately following the war [7]. Similarly, immediately following the siege of Sarajevo, [8] investigated the prevalence of current PTSD three years after the siege of Sarajevo. They found 18% in their group of residents, 32.7% in their group seeking medical treatment and 38.6% in their group seeking psychological treatment. In recent study, [9] in study of sample included 374 adults with mean age 40 years, commonly reported traumatic such as 95.7% said they hear of shelling and bombardment of the their area, 94.7% reported watching mutilated bodies in TV, 92.8% reported seeing the bombardment effects on ground. They showed that 66.6% of the sample had diagnosed as having PTSD and 90.9% were rated as cases according to General Health Questionnaire.

Quality of life is defined as physical, mental, and social well-being [10]. For the purposes of this paper, we adopt a broader conceptualization of quality of life, according to which quality of life consists of social–material conditions, functioning (role performance), and satisfaction (well-being World Health Organization has defined HR-QOL as: an individual's perception of their position in life in the context of the culture and value systems in which they live, in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, and level of independence, social relationships and their relationships to salient features of the environment [11]. Other studies have focused on the quality of life of the population under occupation [12]. The Israeli military occupation/lack of freedom and its consequences on life were clearly top determinants for the quality of life. The political context of military occupation and instability were generally seen as an important cause of daily life problems including mental health states and the loss of dignity (highly valued in the local culture) contributing to a negative impact on life quality. Displacement was also an important issue among those who live in the Ramallah District camp. Women from poor backgrounds tended to emphasize unemployment, dependence on Israel, poverty linked to occupation, and inadequate housing as important determinants of life quality. Another finding that emphasizes the inter-connectedness of the political and social contexts and their link to life quality is the lack of educational choices; social domain were rated as extremely important and relevant to Palestinian life quality [12,13] in study of post-traumatic stress disorder, social anxiety disorder, and major depressive disorder and their associations with distress and quality of life in 174 Albanian civilian survivors of the Kosovo War, found that each of the three psychiatric disorders was associated with greater experiential avoidance and psychological distress, and lower quality of life. Survivors without social anxiety and low experiential avoidance reported elevated quality of life; people with either social anxiety or excessive reliance on experiential avoidance reported compromised, low quality of life.

Resilience is most often considered a personality characteristic that moderates the negative effects of stress and promotes adaptation. Resilience was defined as the ability to successfully cope with change or misfortune [14] others such as [15] have defined resilience as the capacity of individuals to successfully maintain or regain their mental health in the face of significant adversity or risk. Resilience is an interactive dynamic construct that considers protective factors and positive adaptation in adversity, rather than focusing on risk factors and psychopathology. Spirituality was commonly reported to be important to resilience and adaptive in illnesses. It was postulated that belief in God or having faith helped individuals make sense of the illness and acted as a source of strength. Participants high in spirituality were reported to have better mental health and adjustment [16-18]. The aim of the study was to investigate the relationships between stressor due to restriction of Palestinian movement, traumatic events due to war on Gaza and psychological symptoms, quality of life, and resilience.

Methods

Setting and sample

The Gaza Strip is a narrow elongated piece of land, bordering the Mediterranean Sea between Israel and Egypt, and covers 360 km2. It has high population density. About 17% of the population lives in the north of the Gaza Strip, 51% in the middle, and 32% in the south area. There is high unemployment, socioeconomic deprivation, family overcrowding, and short life expectancy. Nearly two-thirds of the populations are refugees, with approximately 55% living in eight crowded refugee camps. The remainder lives in villages and towns. The study sample consisted of 502 families living in the Gaza Strip. Families with two children aged from 9-18 years were included. A total number of 502 parents agreed to take part in the study. The response rate was 100%.

Measures

1. **Socio-demographic questionnaire**

This questionnaire includes sex, age, and place of residence, education and job information, number of children, family monthly income.

2. **Gaza stressful situations due to siege checklist** [2]

Stressful situations experiences due to siege were collected by using Stressful Situation due to siege Checklist, which was developed before in 2008 [2] describing the most common stressful experienced during the last 7 years of closure and seize of Gaza Strip. This checklist consisted of 18 items with answers Yes (1) and no (0). The scoring of the scale is considered by summing all the answers. The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.76).

3. **The gaza traumatic events checklist for 8 days war on gaza** [9]

The checklist consisting of 18 items covering three domains of events typical for the 8 days war on Gaza:

1. Witnessing personally acts of violence (e.g., killing of relatives, home demolition, bombardment, and injuries)

2. Having experiences of loss, injury and destruction in family and other close persons, and

3. Being personally the target of violence (e.g., being shot, injured, or beaten by the soldiers)

In checklist respondent were asked whether they had been exposed to each of these events: (0) no (1) yes. In this study, the split half reliability of the scale was high (r=.57). The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.77).

4. **Symptom checklist (BSI-18)[**10]

The Brief Symptom Inventory 1 (BSI-18) is a measure of psychological distress designed to screen for depressive, anxious, and somatic symptoms. The BSI-18 contains 18 items and employs a 5-point Likert-type scale ranging from 0 (not at all) to 4 (extremely). The global severity index (GSI) score is derived from the sum of all item scores, ranging from 0 to 72, with greater scores suggesting greater psychological distress. Additionally, scores can be obtained for the somatization (6 items; e.g., ''faintness''), depression (6 items; e.g., ''no interest''), and anxiety (6 items; e.g., ''nervousness'') dimensions. The BSI has been shown to be a reliable and valid measure, with an adequate internal consistency (a ¼ .74, .84, .79, and .89, for somatization, depression, anxiety, and GSI, respectively) 27 in the present study, Cronbach's of somatization, depression, anxiety, and GSI were .78, .85, .82, and .91, respectively. In this study, the split half reliability of the scale was high (r=.88). The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.90). 5. The Connor-Davidson resilience scale (CD-RISC) [19,20] The CD-RISC is a 25-item scale that measures one's ability to cope with adversity. Respondents rate items on a scale from 1 (not true at all) to 5 (true nearly all the time). Example items include: "I am able to adapt when changes occur", "I can deal with whatever comes my way" and "I tend to bounce back after illness, injury, or other hardships" Preliminary research [20] involving the general population and patient samples provided support for the reliability (e.g., internal consistency, test-retest) and validity (e.g., convergent, divergent) of the five-factor model (personal competence, high standards, tenacity; trust in one's instincts, tolerance of negative affect, strengthening effects of stress; positive acceptance of change, secure relationships; control; spiritual influences). In this study the scale was translated the scale into Arabic by the first author and back translation was done by second author with minimal changes. In this study, the split half reliability of the scale was high (r=.81). The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.88).

5. **World Health Organization Quality of Life (WHOQOL-BREF-1996)** [21]

The WHOQOL-BREF was developed from the WHOQOL-100, a cross-cultural QOL Instrument developed by the World Health Organization (WHO) for assessing individuals' subjective perception and feelings of life. Thus, the WHOQOL-100 was simplified into a brief version, called the WHOQOL-BREF, by selecting 24 items from 24 facets (one item per facet) and 2 items from the general facet. These 24 items covers four domains, including physical health, psychological state, social relations, and environment. These four domain scores were used to indicate an individual's QOL. The participants rated each item on a 5-point scale ranging from 1 (not at all satisfied) to 5 (very satisfied). In this study, the split half reliability of the scale was high (r=.75). The internal consistency of the scale was calculated using Chronbach's alpha, and was high (α=.88).

6. **Study procedure**

Data collection conducted by 10 professionals who attended day training by the principal investigator about the aim of the study, sample, and questionnaires of the study. Data collection was done from 1st January one-day 26 January 2013, which include the 502 people in the five areas. For selecting the children from each district, one street was selected in each area, and every principal was selected. In larger buildings, one flat from each floor selected randomly. Families were approached until 502 agreed to participate. Covering letter is given to each participant explaining the aim of the study and about their right not to participate in study and ask them to sign the letter. With the family member lasted for 30 minutes. There were some limitations during data collection in which there was bad weather and heavy raining for three days in January 2013 and families complained that the questionnaires were so long and they were asking about financial support due to the poverty, unemployment, and siege.

Statistical Analysis

Data entry and analysis were carried out using a statistical software SPSS version 20 (SPSS Inc. Chicago Ill, US). Frequency and percent were used to express quantitative data of types of stressful situations, trauma, mental health disorder, quality of life, and resilience. For continuous variables, means and standard deviations were reported. For differences between means of two groups parametric tests were used such as t-test to compare sex and parents and mean of stress, trauma, mental health problems, resilience, and quality of life. While, ANOVA tests were used for measuring differences between more than two groups of continuous variables such place of residence and stress, trauma, resilience, mental health. Spearman's correlation coefficient was used to test the association between numbers of stressors scores, traumatic experiences, WHOQOL scores, resilience, and mental health problems. Multivariate regression analysis conducted, in which each traumatic events and stressors were entered as the independent variables, and psychological symptoms, resilience, and quality of life entered as the dependent variable. We used an alpha level of .05 for all statistical tests.

Results

Sociodemographic data

The sample consisted of 252 males (50.2%) and 250 females (49.8.%) According to the selection criteria, the age range was 20-60 years, with a mean age of 42.49 years. Regard age groups, 239 participants age group was less than 40 years (47.6%), 198 age group was ranged from 41-50 years (39.4%), and 65 age group was above 51 years (12.9%). Regard place of residence, 94 live in north Gaza (18.9%), 174 live in Gaza city (34.7%), 84 live in Middle

area (16.7%), 96 live in Khan Younis (19.1%), and 54 live in Rafah area(10.8%) (Table 1).

Types and frequency stressful situations due to siege

As shown in Table 2, 88% of participants said they felt that they are living in big prison, 87.3% said they cannot finish some construction and repairing work in their house due to shortage of building materials, 85.5% said prices are sharply increased due to closure, 81.3% said social visits are less than before, and 77.9% said that their work was affected so much due to cut-off of electricity and shortage of gas (Table 2).

Differences in gaza stressful situations due to siege

The results showed than mean stressful situations in males were 10.3 (SD=3.67) and 9.13 for females (SD=3.29). There were statistically significant differences toward males (F=3.73, p=0.01). According to the age, the age of the participants was recoded into three categories (less than 40 years, 41-50 years, and above 51 years). Post hoc test using Tukey test showed that there were statistically significant differences in stressful situations toward participants age 51 years than the other two groups (F (2, 502)=6.24, p=0.01). There were statistically significant differences in stressful situations toward participants living in camps than in city of village groups (F (2, 502)=12.03, p=0.01). Poor families with monthly income less than 300$ than the other three groups had reported more stressors (F (2, 502)=50.55, p=0.01).

Types and severity of traumatic events due to 8 days war on gaza

The study showed that Palestinians in the Gaza Strip had experienced from 3-17 traumatic events with mean exposure to 8.8 traumatic events (SD=2.69). The most commonly reported traumatic experiences were hearing shelling of the area by artillery (99.4%), hearing the sonic sounds of the jetfighters (98.8%) hearing the loud voice of Pilotless plans (98.6%), watching mutilated bodies in Television (98%) and witnessing the signs of shelling on the ground (90.2%) (Table 3).

Differences in traumatic events according to sociodemographic variables

The results showed that mean traumatic event were 7.51 (SD=2.28). Mean traumatic experience by males was 9.38 (SD=2.70) and for females mean was 8.38 (SD=2.59). There were statistically significant differences toward males (F=4.26, p =0.001). There were no statistically significant differences in traumatic event according to age (F (2, 502)=0.30, p=Ns).

Psychological symptoms measures by brief symptom inventory-18 items

The most common psychological symptoms reported by participants were nervousness or shakiness inside (45.4%), feeling tense or keyed up (42.8%), feeling blue (39.4%), and feeling weak in parts of your body (39%). While the least common reported symptoms were Feeling of worthlessness (8%) and thoughts of ending life. The results showed that mean psychological symptoms reported according to BSI-18 in males were 25.88 (SD=14.88) and 28.44 for females (SD=15.64). There were no statistically significant differences in psychological symptoms according to gender (F (2, 502)=1.40, p=0.06). Mean somatization symptoms in male were 8.67 and mean in females was 10.24. Post Hoc test showed that there were statistically significant differences in somatization symptoms in favor of females (F (2, 502)=3.04, p=0.002), mean depression symptoms in males was 7.51 and 6.87 in females There were no statistically significant differences in depression symptoms according to the sex (F (2, 502)=1.40, p=0.1). Mean anxiety symptoms in male were 9.70 and 11.33 in females. There were significantly differences in anxiety toward females (F (2, 502)=2.88, p=0.004).

Quality of life

The results showed that 12.5% of Palestinian said that they evaluate their life much and very much and 27.1% said they enjoy their life much and very much life.

Sex differences in quality of life

The results showed that total scores of quality of life reported by males were 65.10 and 68.63 in females. There was significant differences in favor of females in total scores of quality of life (*F* (2, 502)=3.18, *p*=0.01). In addition, mean physical health activities of daily living in males were 17.83 and 18.74 in females. There was significant difference in favor of females in physical health activities (*F* (2, 502)=3.19, *p*=0.01). Psychological bodily image and appearance in males mean was 14.51 and mean in females was 15.28. There was significant difference in favor of females psychological bodily image and appearance (*F* (2, 502)=2.15, *p*=0.05). Social and personal relationships in males were 8.71 and mean in females was 9.36. There was significant difference in favor of females social and personal relationships (*F* (2, 502)=3.4, *p*=0.01). Environment and financial resources mean in males was 18.33 and 19.39 females. There was significant difference in favor of females environment and financial resources (*F* (2, 502)=3.1 *p*=0.01). Post Hoc test showed that there were significant differences in favor of people 40 years and less in social and personal relationships domain (*F*=5.24 , *p*=0.01).

Resilience factors in Palestinian

Palestinians used religious factors in facing the stress and trauma, 98% said God help 85.1% said they are proud of their achievements, and 71.55% said they had strong sense of purpose. The results showed that total scores of resilience in males were 61.20 and 60.5 in females. There was no significant sex differences in total resilience factor (*F* (2, 502)=0.49, *p*=0.62). Males significantly showed more personal competence, high standards, tenacity than females (*F* (2, 502)=2.18, *p*=0.03), females showed significantly more religious factor that male (*F* (2, 502)=- 4.75, *p*=0.01). According to the family monthly income, Post hoc test showed that there were statistically significant differences in total scores of resilience in favor of families with income more than 301-750 $ than families with monthly income less than 300$ (*F*=7.34, *p*=0.01). Control scores were statistically significant in favor of families with income more than 301-750 $ than families with monthly income less than $300 (*F* (2, 502) =4.66, *p*=0.01). Personal competence, high standards, tenacity was statistically significant in favor of families with income more

than $301-750 and $751-1000 than families with monthly income less than $300 ($F$=10.30, p=0.01).

Relationship between stress due to the siege and blockade, trauma, psychological symptoms and subscales, quality of life, and resilience Pearson correlation test showed that there were statistically significant positive relationship between stress due to the siege and closure and traumatic events (r (502) =0.32, p<0.01), psychological symptoms (r=0.44, p<0.01) depression (r=43, p<0.01), somatization (r=0.37, p<0.01), and anxiety (r=0.39, p<0.01). For resilience and stress, there was statistically significant negative relationship between total score of stress due to the siege and closure and the total resilience factor (r=-0.17, p<0.01), personal competence, high standards, tenacity (r=-0.17, p<0.01), trust in one's instincts, tolerance of negative affect, strengthening effects of stress (r=-0.10, p<0.01), positive acceptance of change, secure relationships (r=-0.20,p<0.01), and control (r=-0.12, p<0.01). The correlation test showed that there were statistically significant negative relationship between total score of stress due to the siege and closure and total quality of life (r=-0.46, p < 0.01), physical health activities of daily living (r=-0.31, p< 0.01), psychological bodily image and appearance(r=-0.34, p< 0.01), social relationships personal relationships(r=-0.26, p<0.01), environment financial resources(r=-0.49,p< 0.01). For traumatic events, total traumatic events were positively correlated with psychological symptoms (r=0.19, p<0.01), depression (r=17, p<0.01), somatization (r=0.25, p<0.01), and anxiety (r=0.11,p <0.01).

Prediction of psychological problems, quality of life, resilience by stressors due to siege

The multivariate linear regression analysis showed that the following stressors due to siege were predicting the psychological problems: I sold some of my furniture and my wife's gold (β=7.69, p<0.001), I was not able to get specific medicine for me or for one of the family member (β=5.07, p<0.001), I stopped completely working due to inability to got to my land and restriction in sea area (β=3.95, p<0.001) I thought of immigration (β=4.16, p<0.001) (β=3.13, p<0.001) (F=25.95, p<0.001). While, quality of life was negatively predicted by the following stressors: I sold some of my furniture and my wife's gold. (β=4.20, p <0.001). I need to travel outside the Gaza Strip and cannot (β=-4.65, p <0.001) , prices are sharply increased due to closure (β=-5.92, p<0.001), I feel I am in a big prison (β=-4.75, p<0.001), my monthly income decreased and cannot send my children for schools (β=-2.52, p <0.001), and I stopped completely working due to inability to go to my land and restriction in sea area (β=-2.30 , p <0.001)(F=26.54, p <0.001). However, resilience was negatively predicted by one stressor; I sold some of my furniture and my wife's gold (β=-2.30, p<0.001) (F=17.56, p <0.001) (Tables 4&5).

Prediction of psychological problems, quality of life, resilience by traumatic events

The multivariate linear regression analysis showed that the following traumatic events were predicting the psychological problems: hearing killing of a close relative (β=7.18, p<0.001), forced to leave you home with family members due to shelling (β=5.70, p<0.001), and hearing the loud voice of Drones (β=19.8=78, p<0.001) (F=15.67, p<0.05, R2=0.29). Also, forced to leave you home with family members due to shelling (β=-5.12, p<0.001) (F=9.33, p <0.05, R2=0.19) was negatively predicting the quality of life, and (β=5.70, p<0.001), and negatively predicting resilience (β=-5.12, p<0.001) (F=8.29 p<0.05, R2=0.24) (Table 6).

Discussion

Stressful situations due to restriction of movements and siege

This study aimed to investigate the relationships between stressor due to restriction of Palestinian movement, traumatic events due to war on Gaza and psychological symptoms, quality of life, and resilience. This study showed that Palestinian suffered from siege of Gaza, the siege increased feelings of being living in big prison, they could not finish construction and repair work in their house due to shortage of building materials, and they said prices were sharply increased in the last few years. Obviously, fathers had more stressor than mothers. In addition, older age people had reported more stressors and made them. Furthermore, people living in refugee camps had more stressors than those living in cities and villages. This is due to overcrowdings of the camps and poverty of such camps. As part of the siege in the low income of families due to inability to move and work outside Gaza Strip, this was another, accumulated factor in suffering of the Palestinians. Such findings were consistent with previous studies, in a study of the impact of siege on Palestinians in the Gaza Strip showed that people reported commonly similar stressors such as had the feeling of being in a big prison, prices were sharply increased could not find things they need in the market for the family [2-4,22]. The study showed that Palestinians 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 Pilotless plans, watching mutilated bodies in TV, witnessing firing by tanks and heavy artillery at their homes, and physical injury due to bombardment. In this study, males had experienced more traumatic events than females. Such findings were consistent with previous studies in the area, which showed that males were exposed more too political violence and traumatic events. Our study showed that total traumatic events were positively correlated with psychological symptoms, depression, somatization, and anxiety. Such findings were consistent with previous studies [9,23,24].

The study showed that Palestinian parents reported mostly anxiety symptoms such as nervousness or shakiness inside, feeling tense or keyed up and depression symptoms such as feeling sad, and weak in parts of your body. However, scarce percentage of people had feeling of worthlessness and thoughts of ending life. In modern day Palestine, however, suicide (al-intihar) is certainly viewed as forbidden (haram) in the strongest possible terms. The effect of siege and closure was so obvious on Palestinian families' satisfaction with their lives and only 12.5% said that they evaluate their life, while 27.1% said they enjoy their life. Males had more total of quality of life, psychological bodily image and appearance than mothers did. However, females had significantly more social, personal relationships, environmental and financial resources. Younger age parents had less social and

personal relationships. Our study results consistent with previous studies which military occupation and instability was generally seen as an important cause of daily life problems including mental health states and the loss of dignity (highly valued in the local culture) contributing to a negative impact on life quality [14]. Our results were similar and consistent to previous study in the area; [3], which found that increasing stressors due to siege decreased quality of life, decrease physical activities, increase psychological problems, decrease social activities, and worsening environmental situation. Previous studies showed similar findings [15] in a study of Albanian civilian survivors of the Kosovo War, found that each of the three psychiatric disorders was associated with greater experiential avoidance and psychological distress, and lower quality of life, and survivors without social anxiety and low experiential avoidance reported elevated quality of life; people with either social anxiety or excessive reliance on experiential avoidance reported compromised, low quality of life. In line with the findings of our study, [3] in a study of random sample of 386 adults from the entire Gaza Strip found that people reported more stress due to siege had less quality of life, less physical health.

Palestinians used religious factors in facing the stress and trauma, 98% said God help 85.1% said they are proud of their achievements, and 71.55% said they had strong sense of purpose. The results showed that total scores of resilience in males were 61.20 and 60.5 in females. There were no significant sex differences in total resilience factor. Males significantly showed more personal competence, high standards, tenacity than females, females showed significantly more religious factor than males. According to the family monthly income, families with less than $300 were less resilience than families with higher monthly income. Our study was consistent with study of [25] of Cambodian refugees in New Zealand, which found that those who had strong Buddhist beliefs in reincarnation, fate, and the meaning of suffering were able to accept their trauma and suffering as necessary challenges to enable a better state of being in the next world [26] studied mental health symptoms following war and repression in Eastern Afghanistan, found that respondents valued “Allah” (the Islamic god) as their main resource for emotional support when feeling sad, worried, or tense. Our study was consistent with studies of [17-20] which postulated that belief in God or having faith helped individuals make sense of the illness and acted as a source of strength. Participants high in spirituality were reported to have better mental health and adjustment. Total resilience score was negatively predicated by only two items from siege items: cannot find things they need in the market and had suffering of not able to receive proper medical care.

The study showed that there were significant positive relationship between stress due to the siege and closure and traumatic events, psychological symptoms, depression, somatization, and anxiety. The study showed that stressors had negative impact on resilience and subscales such as personal competence, high standards, tenacity, trust in one’s instincts, tolerance of negative affect, strengthening effects of stress, positive acceptance of change, secure relationships, and control. In addition, stressors affected negatively quality of life, physical health activities of daily living, psychological bodily image and appearance, social relationships, personal relationships, and environment financial resources of Palestinians in Gaza Strip. Such findings were consistent with study of [27], which showed that chronic daily stress might gradually diminish people’s capacity to cope effectively with potentially traumatic life events, thereby increasing the likelihood of such events causing enduring symptoms of PTSD [28] has documented the numerous ways in which continuous exposure to stressful circumstances including lower level, non-traumatic stressors gradually erodes physical and psychological health, and leaves people increasingly vulnerable to both physical and psychological illness. For instance, in a study evaluated the relationship between spirituality, resilience, anger, health status, and PTSD symptom severity among 1200 adult trauma survivors in North Carolina found that people reporting higher levels of resilience factors had lower levels of PTSD symptoms than those with lower level [20]. Similarly, a study of 132 undergraduates from San Diego State University found that resilience moderated the relationship between emotional neglect and current psychiatric symptoms [29,30] Furthermore, our results were consistent with [30] study, which postulated that community resilience, emerges from community-level resources that enhance residents’ abilities to adapt in positive ways to risk. Social capital resources, institutional resources, and economic resources are three types of resources that contribute to community resilience [31].

Conclusion

In this study, siege and blockade situation was very stressful and commonly people had feelings that they are living in big prison, people cannot finish some construction and repairing work in their house due to shortage of building materials, prices were sharply increased due to closure. Such stressors due to siege had negative influence families especially older age fathers who live in refugee camp and unemployed and living in poor families. Such findings are trigger to start national and international advocacy campaigns to left the siege on Gaza Strip and allow free movements and association, which may decrease stressors and consequences and improve the economic situation of the families and decrease poverty of the families.

Traumatic experiences due to eight days war on Gaza were mostly shelling and bombardment of the cities, so people in this war only hear shelling of the area by artillery, hear of the jetfighters, hear the loud voice of Drones such traumatic experiences were in fathers, living in a cities. Such findings highlight the need for developing new training program including subjects such trauma, impact of trauma, stress management, symptoms related to trauma such as PTSD, anxiety, depression and ways of dealing such symptoms especially for fathers who live in the cities.

Quality of life is an indicator of wellbeing; fathers living in poor had lower level of quality of life including psychological bodily image and appearance, social and personal relationships, environment and financial resources. Such findings again highlight the need for developing new projects with new jobs for fathers to improve their monthly income and improve all the family quality of life. Also, supporting the campaigns for lifting the siege and allow access to the external world for getting jobs for the unemployed

fathers outside the Gaza Strip. This study had opened ideas for new research titles concerning the impact of stress due to siege and blockade on children also, coping strategies used by children to overcome the impact of stress, role of social and family support in dealing with stress in children, impact of stress on children school performance and relation with peers.

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