

EFFECT OF WAR ON PALESTINIAN CHILDREN BEHAVIOURAL AND EMOTIONAL PROBLEMS

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Abstract

Aim: The aim of this study was to investigate the impact of war on children depression and anxiety, and other mental health problems.

Methods: The study was conducted in the entire Gaza Strip two weeks after finishing War on Gaza that lasted for 23 days. The study sample included 374 children aged 6-17 years. Children completed measures of experience of traumatic events (Gaza Traumatic Checklist-War on Gaza), SDQ-self, and SDQ-parents.

Results: Palestinians children experiences variety of traumatic events: 93.9% hear shelling of the area by artillery, 93.9% hear the sonic sounds of the jetfighters, and 69% left home form more safe place, and 24.5% exposed to burn by bombs. Each child reported 12.80 traumatic events. The study showed that mean traumatic events was 13.8, 33.5% of children reported low traumatic level, 51.2% reported moderate level, and 15.3% reported high level of traumatic events.

Using SDQ, the study showed that 59.9% of children rated themselves as having psychiatric morbidity compared to 61.5% by parents' report, 17.4% reported hyperactivity compared to 23.5% by parents' report, 57.2% reported emotional problems compared to 51.9% by parents' report, 72.7% reported conduct problems compared to 82.1% by parents report, 32.9% reported peer relationships compared to 40.6% by parents' report, and 8% reported social problems compared to 13% by parents' report.

Total SDQ by self was negatively associated with hearing of arrest of someone or a friend, and positively predicted by witnessing the signs of shelling on the ground and being detained at home during incursion. While total SDQ by parents scores was positively associated with being detained at home during incursion, watching mutilated bodies in TV, and witnessing of own home demolition.

Conclusions: This study revealed that children living in area of conflict and war are the main group at risk of developing mental health problems and the international laws to protect the civilians during the conflict and establishing save haven for children and their families to decrease the effect of war on children. Also, we recommend doing more follow-up study of the same sample after 6 months to evaluate the effect of continuous trauma on children mental health problems. More intervention programs such as expressive writing therapy, mind body, school bases crisis intervention, group's intervention, and cognitive behaviour methods should be applied and evaluated for its efficacy in developing better coping strategies with similar traumatic events.

Key words: War on Gaza, trauma, SDQ self, SDQ parents.

Introduction

Previous studies showed that not only PTSD is the only reaction to trauma, but children reported depression, anxiety, ADHD symptoms. Thabet and Vostanis (1998) in study of social

adversities and anxiety disorders in Palestinian children showed that 21.5% of children scored as anxiety problems. Anxiety disorders varied from study to another study according to type of traumatic events and sample size.

Papageorgiou et al. (2000) in study of 95 children of 8-13 years, who had experienced war in Bosnia found that rate of anxiety was 23.0%; Scholte et al, (2004) in study of a sample of 1011 respondents aged 15 years or older, conducted in Nangarhar province found that 38.5% had anxiety disorders. Also depression was one of the common psychological disorder found in children exposed to political violence, Papageorgiou et al, (2000) described the pattern of psychopathology in a sample of 95 children of 8-13 years, who had experienced war in Bosnia. The study found that 47% scored within the clinical range on the Depression Self-Rating Scale for Children. Thabet et al (2006) in study of 349 children aged 6-15 years from West Bank and Gaza Strip found that 39.2% of children from the Gaza Strip reported post traumatic stress disorder compared to 34% of children from the West Bank. Using SDQ for parents and teachers, 36.9% and 38.5% according to parents and teachers from Gaza were rated as being caseness. Similarly, Thabet et al (2007) in study of 420 children in the Gaza Strip showed that 25.4% reported anxiety scores within the clinical range, 268 children (65.5%) were rated within the clinical PTSD range, and 203 children (49.6%) were rated within the range for likely clinical morbidity according to SDQ-parents. Previous studies in the area showed that there were differences in level of PTSD, depression, and anxiety in children at risk. Other researchers tried to find the effect of trauma on mental health problems, Elbedour et al (2007) in study of 229 Palestinian adolescents living in refugee camps of Rafah and Khan-Younis in the southern region of the Gaza Strip showed that 68.9% of the sample was classified as having developed PTSD, 40.0% of the participants reported moderate or severe levels of depression, 94.9% of the sample was classified as having severe anxiety levels. In another study Thabet and Vostanis (2007) showed that 65.5% of children were rated within the clinical PTSD range. Also, 25.4% of children reported anxiety scores within the clinical range and 49.6% were rated within the likely clinical range, according to the previous SDQ by parents. Also, Thabet et al (2008a) in study of 200 families from North Gaza and East Gaza showed that 70.1% of children were likely to present with PTSD, 33.9% were rated as having anxiety symptoms of likely clinical significance, and 42.7% were rated as having significant mental health morbidity by their parents.

Mater et al (2007) in a study aimed to identify the impact of labor on children general mental health and anxiety. The study showed that 79.2% of children were rating themselves as psychiatric cases, 33.9% of children reported hyperactivity; 38% reported emotion problems, 56.3% reported conduct disorder, 79.1% of them had good peer relationships. Also, 20.6% reported obsessive compulsive problems, 18% reported social phobia, 17.7% had generalized anxiety, and 17.7% had panic and agoraphobia, 10.7% had physical injury and 15.3% had separation anxiety.

The aim of the study was to investigate the impact of war on children behavioural and emotional problems rated by children and their parents.

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 population is refugees, with approximately 55% living in eight crowded refugee camps. The remainder lives in villages and towns. Since September 2005, the population of the Gaza Strip has been exposed to regular incursions and shelling, resulting in at least 200 deaths and many more injuries, in the last six months alone.

The study population included 374 children living in areas exposed to war that lasted for 23 days including the entire Gaza Strip. The total sample was selected using EPI 6 in which the total sample was 380 children. We added 20 children to the sample for missing interviews. Children were selected from randomly families from the five areas of the Gaza Strip. One street was selected in each area, and every third household that fulfilled the selection criteria. In larger buildings, one flat from each floor was selected.

The data collection was carried out by 8 trained professionals, under the supervision of the first author. The data was collected during Feb 2008. Children were interviewed in their homes after getting written consent from parents to participate in the study. One of the difficulties of this study was that, throughout the interviews, there were strong feelings of hostility, anger, and intolerance to interview in the selected areas, for which reason the interviews had to be discontinued with some children and to be repeated later on.

Measures

• Demographic characteristics

Demographic information about the participants was obtained using a survey developed by the authors. This questionnaire includes sex, age, number of children, and education level.

• Traumatic events were assessed by checklists that reflected the nature of violence, trauma and losses during the war on Gaza. Israeli military violence was assessed by the Gaza Traumatic Events Checklist for Israeli Violence (Thabet, Abdulla, El Helou, & Vostanis, 2006) consisting of 30 items covering three domains of events typical for the Israeli siege: (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 children were asked whether they had been exposed to each of these events: 0 = no, 1 = yes during the 23 days of war. The internal consistency of the scale calculated using Cronbach's alpha, was $\alpha=0.90$ and split half was 0.81.

The *Strengths and Difficulties Questionnaire (SDQ)* (Goodman R, 1997, 1999) was completed by parents on their children's behavioural and emotional functioning and by children 11 years and old. This standardised questionnaire includes 25 items on a 0-2 scale. The 25 SDQ items are grouped in the scales of hyperactivity, emotional, conduct, and peer relationships problems, as well as a prosocial scale. A score is estimated for each scale and a total difficulties score for the four problem scales. The SDQ has previously been used in the Gaza child population by the research group (Thabet et al, 2000). The internal consistency of the scale calculated using Cronbach's alpha for parents was $\alpha=0.60$ and split half was 0.58 and for children form Cronbach's alpha was $\alpha=0.59$ and split half was 0.58.

Statistics analyses

Cross tables with Pearson χ^2 –statistics were applied to analyse the associations between demographic factors, trauma, and psychiatric symptoms, and gender differences in exposure to traumatic events, and general mental health. T-tests were applied to analyse gender differences in trauma, and psychiatric symptoms. To analyse the predictive role of traumatic experiences by children, general mental health problems, we used hierarchical multiple regression analyses with main and interaction effects. The estimated main effects indicate direct associations between trauma and psychiatric symptoms. The dependent variables were SDQ parents and Self total scores and independent variables were 30 traumatic experiences.

Results

Sociodemographic characteristics of study population (N = 374)

The sample consisted of 374 children, 197 were males (52.7%) and 177 were females 47.3%. The age ranged from 6 to 17 years with mean age 11.09 (SD = 2.9). According to place of residence, 34.2% were from North Gaza, 24.9% were from Gaza city, 15.8% were from middle area, 7.8% from Khan Younis, and 17.4% were from Rafah area. According to type of living, 44% live in cities, 20.9% live in villages, and 34.8% live in refugee camps. According to family monthly income, 60.9% had less than 300 US \$ monthly, 26.% had 301-650 \$ monthly, and 13.1% had 651 and above

Table 1 :Sociodemographic characteristics of study population (N = 374)

	N	%
1. Sex		
Male	197	52.7
Female	177	47.3
Mean = (SD = 7.48)		
3. Place of residence		
North Gaza	128	34.2
Gaza	93	24.9
Middle area	59	15.8
Khan Younis	29	7.8
Rafah area	65	17.4
4. Type of residence		
City	166	44.4
Village	78	20.9
Camp	130	34.8
No of siblings		
Less than 4	99	26.5
5-7 siblings	172	46.0
8 and more	103	27.5
Family monthly income		
Less than 300 US \$	190	60.9
301-650 \$	81	26.0
651\$ and more	41	13.1
Father job		
Unemployed	109	36.8
Simple worker	54	18.2
Skilled worker	39	13.2
Employee	72	24.3
Merchant	11	3.7
Others	11	3.7

Mother job		
Housewife	296	90.2
Simple worker	10	3.0
Employee	12	3.7
Others	10	3.0

Types of traumatic events

Palestinians children experiences variety of traumatic events: 93.9% hear shelling of the area by artillery, 93.9% hear the sonic sounds of the jetfighters, 91.4% witnessing the signs of shelling on the ground, 94.9% watched mutilated bodies in TV, 73% were deprived from water or electricity during the war, 69% said they left home form more safe place.

Table 2: The most common traumatic events

Types of traumatic events	No.	%
1. Watched mutilated bodies in TV	335	94.9
2. Heard shelling of the area by heavy	351	93.9
3. Heard the sonic sounds of the jetfighters	351	93.9
4. Witnessed the signs of shelling on the ground	342	91.4
5. Deprivation from water, food, or electricity during the war	273	73
6. Forced to move from home to safer place during the war	258	69
7. Witnessed firing by tanks and heavy artillery at neighbours homes	239	63.9
8. Witnessed of shelling and destruction of another's home	225	60.2
9. Witnessing assassination of people by rockets	203	54.3
10. Were detained at home during incursion	198	52.9
11. Heard killing of non relative	177	47.3
12. Hearing killing of a relative	167	44.7
13. Heard the arrest of someone or a friend	157	42
14. Threaten by shooting	150	40.1
14. Destruction of personal belongings during the war	133	35.6
15. Witnessed firing by tanks and heavy artillery at own home	127	34
16. Witnessed shelling and destruction of own home	124	32.2
17. Deprivation of going to toilet and leaving the room at home because of the firing and shelling the area	101	27
18. Witnessed shooting of non relative	89	23.8
19. Witnessed killing of non relative	86	23
20. Witnessed shooting of a relative	85	22.7
21. Exposure to burn by bombs and phosphorous bombs	84	22.5
22. Witnessed killing of a relative	81	21.7
23. Beaten and humiliation by the army during the war	72	19.3
24. Threaten with a family member being killed	69	18.4
25. Shot by bullets, rocket, or bombs	61	16.3
26. Threaten with being killed by the army	61	16.3
27. Physical injury due to bombardment of your home	58	15.5
28. Threatened to death by being used as human shield by the army to move from home to home	54	14.4
29. Detained for hours during the war	49	13.1

Mean of traumatic events

The study showed that mean traumatic events was 13.8 (SD =6.1). The results showed that mean traumatic events reported by males was 13.032 (SD =6.46) compared to mean in female =12.50 (SD = 6.64). No significant differences between males and females in reporting traumatic events (t=0.78, p = 0.44).

Level of traumatic events

In order to find the severity of traumatic events, 30 items were recoded into 0-9 low level traumatic event, 10-19 moderate level, and 20 and above severe level. The results showed that 33.5% of children reported low level, 51.2% reported moderate level, and 15.3% reported high level of traumatic events.

Table 3: Level of traumatic events

Traumatic events	No.	%
Low level	125	33.5
Moderate level	191	51.2
High level	57	15.3

Mental health problems according to children above 11 years themselves and parents

Prevalence of general mental health problems using SDQ

Using SDQ by children above 11 years, 59.9% of children rated themselves as having psychiatric morbidity, 17.4% reported hyperactivity, 57.2% reported emotional problems, 72.7% reported conduct problems, and 32.9% reported peer relationships, and 8% reported social problems.

Table 3 : Prevalence of mental health problems according to children 11 years and above

Mental health problem	Normal	Borderlin	Abnormal
SDQ total difficulties	21.9	18.2	59.9
Conduct problems	10.2	17.1	72.7
Emotional problems	27.8	15.0	57.2
Peer relationship problems	39.0	28.1	32.9
Hyperactivity problems	62.6	20.1	17.4
Social problems	73.5	18.5	8

Determinants of mental health of children rated by children and traumatic events

In order to find out the predictive effect of traumatic events on psychological symptoms, total SDQ was entered as dependent variable in a multiple regression model, with traumatic events as the independent variables. The results showed that the total SDQ scores was negatively associated with hearing of arrest of someone or a friend (B = -.12, p< 0.013), and positively predicted by witnessing the signs of shelling on the ground (B = 0.12, p< 0.01) , and being detained at home during incursion (B=.11, p< 0.02).

Table 4:Linear Regression analysis of SDQ-self and traumatic events

	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	Std. Error	Beta		
(Constant)	2.035	.148		13.747	.000
16. Witnessing the signs of shelling on the ground	.372	.150	.127	2.486	.013

5. Hearing of arrest of someone or a friend	-.213	.085	-.128	-2.495	.013
19. Being detained at home during incursion	.185	.085	.113	2.189	.029

F = 5.4, p <0.05, R²=0.04

Prevalence of mental health problems according to parents

The study showed that 61.5 % of children rated by their parents as having psychiatric morbidity, 82.1% reported conduct problems, 51.9% reported emotional problems, 40.6% reported peer relationships problems, 23.5% reported hyperactivity, and 13% reported social problems.

Table 5: Prevalence of mental health problems according to parents (N = 374)

Mental health problem	Normal	Borderline	Abnormal
Total SDQ by self	19.5	19.0	61.5
Conduct problems	7.2	10.7	82.1
Emotional problems	32.1	16.0	51.9
Peer relationships	39.3	20.1	40.6
Hyperactivity	55.9	20.6	23.5
Social problems	75.3	11.0	13.7

Determinants of mental health of children rated by parents and traumatic events

In order to find out the predictive effect of traumatic events on psychological symptoms, total SDQ scores was entered as dependent variable in a multiple regression model, with traumatic events as the independent variables. The results showed that the total SDQ scores was positively associated with being detained at home during incursion (B = .11, p< 0.03), watching mutilated bodies in TV (B= .10, p< 0.04), and witnessing of own home demolition (B=.10, p< 0.04).

Table 6: Linear Regression analysis of SDQ-parent and traumatic events

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	14.170	1.108		12.786	.000
19. Being detained at home during incursion	1.078	.502	.111	2.145	.033
14. Watching mutilated bodies in TV	2.267	1.128	.103	2.009	.045
10. Witnessing of own home demolition	1.063	.530	.104	2.008	.045

F = 5.15, p <0.05, R²=0.05

Discussion

This study tried to investigate the effect of war trauma on children anxiety, depression, and general mental health problems. This study showed that Palestinians 93.9% of children hear shelling of the area by artillery, 93.9% hear the sonic sounds of the jetfighters, 91.4% witnessing the signs of shelling on the ground, 94.9% watched mutilated bodies in TV, 73% were deprived from water or electricity during detention at home, 69% said they left home from more safe place, and 24.5% exposed to burn by bombs. These findings were consistent with most of our previous studies in the area (Thabet et al, 2006; Thabet et al, 2007; Thabet et al, 2008).

Our study showed 59.9% of children rated themselves as having psychiatric morbidity compared to 61.1% rated by parents. Our findings are the highest level of mental health problems in area and it is inconsistent with previous studies which showed lower level of mental health problems, in study of Palestinian children in the Gaza Strip was described by Thabet & Vostanis (1998) where the prevalence of mental health problems rated by teachers was (43.4%). In another study of Palestinian children found that (20.9%) were rated above the cut-off for mental health problems on the Rutter A2 (parent) Scales, and 74 children (31.8%) were above the cut-off on the Rutter B2 (teacher) (Thabet & Vostanis, 2000). Zakrisson, Shahan, Mortaja & Hamel (2004) in a study of prevalence of psychological morbidity among Palestinian children living in the southern Bethlehem District of the West Bank during July 2000, using the Rutter A2 (parent) Scale filled out by a parent of each of the 206 subject children (ages 6 to 13 years) found a rate of psychological morbidity of 42.3% among Palestinian children. Thabet et al (2006) in study of Palestinian children in Gaza Strip and West Bank of using SDQ for parents and teachers, 72 children (36.9%) from Gaza were rated as having caseness (were considered as having a problem) by parents using (17-40) cut-off points compared to 44 (29.3%) from the West Bank. Seventy two children (38.5%) from Gaza were rated as having caseness by teachers using (16-40) cut-off points compared to 46 (30.7%) from the West Bank. Our speculation of this high level of mental health problems could be due to the high intensity of trauma during the war and children feelings that their were no safe place to hide and others cannot protect them. Also, Palestinians are under siege for the last 3 years and children feel that they are in big prison and cannot leave Gaza.

Clinical implications

It appears that traumatic events and other emotional and behavioural problems are common disorders of children living in area of war and conflict. At present, however, it is clear how many of these children will behavioural and emotional problems have.

Also, do we need new types of intervention in wide scale approach in dealing with increasing number of Palestinian children affected by war and trauma. There are needs for more psychoeducation programs for parents to enable them of recognizing their own reactions to war and trauma and their children normal and abnormal reactions to war. This also applicable to professionals working in community based organizations and increase their capacity of early detection of children with mental health problems and giving them the clinical skills to practice these skills in dealing with children in community and schools. Also school based intervention using group counseling and psycho education of adolescents.

We recommend doing more follow-up study of the same sample after 1 year to evaluate the effect of continuous trauma on children mental health problems.

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