

Screening of Post Traumatic Stress Disorders among Preschools Children in Baijee City

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Abstract

Background: Post-traumatic stress disorder is the name given to the psychological and physical symptoms that can sometimes follow particular threatening or distressing events. To assess the frequency of Post Traumatic Stress Disorder among preschools children this study was carried out in Baijee Borough.

Subjects & Methods: A sample of 105 preschool children aged (1-5) years, (24) of them are females and (81) are males were assessed by using a questionnaire that include a demographic information, family history of exposure to trauma and by using a screening semistructured tool that known as modified Child Behavior Checklist which divided the sample into two groups: first one those with < 9 scores which considered as negative screening test for Post-traumatic stress disorder and the second one those with > 9 scores which considered as positive screening test for Post-traumatic stress disorder.

Results: Positive screening test of post-traumatic stress disorder was found in 31 (29.5%) of the sample with male to female ratio (2.1:1). Children from rural areas had positive screening test of post-traumatic stress disorder in (67.7%) of them comparison to 10 (32.3%) of those from urban areas. The commonest involved age group with positive screening test of post-traumatic stress disorder was between 2-3 years (48.4%). Explosion and or airplane voice were the commonest trauma associated with positive screening test of post-traumatic stress disorder in 35% of children exposed to.

Conclusions: Post-traumatic stress disorder exists among preschool children exposed to trauma but not recognized. Breast feeding is of protective effect against post-traumatic stress disorder.

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Introduction

Millions of children are exposed to traumatic experiences each year. Over 30% of these traumatized children develop a clinical syndrome with significant emotional, behavioral, cognitive, social and physical symptoms called post-traumatic stress disorder (PTSD). PTSD is a clinical syndrome that may develop following extreme traumatic stress (DSM IV) [1]. Like all other DSM IV diagnoses, it is likely that heterogeneous pathophysiologies underlie the cluster of diagnostic signs and symptoms labeled PTSD. With this in mind, there are six diagnostic criteria for PTSD: 1) extreme traumatic stress accompanied by intense fear, horror or disorganized behavior; 2) persistent re-experiencing of the traumatic event such as repetitive play or recurring intrusive thoughts; 3) avoidance of cues associated with the trauma or emotional numbing; 4) persistent physiological hyper reactivity or arousal; 5) signs and symptoms present for more than one month following the traumatic event and 6) clinically significant disturbance in functioning.

A child is considered to have Acute Stress Disorder (DSM IV) when these criteria are met during the month following a traumatic event. PTSD is further characterized as Acute when present for less than three months, Chronic for more than three months or Delayed Onset when symptoms develop initially six months or more after the trauma. Despite high numbers of traumatized children, the clinical phenomenology, treatment and neurophysiological correlates of childhood PTSD remain under studied. The clinical phenomenology of trauma-related neuropsychiatric sequelae are poorly characterized [2,3]. Most of the studies of PTSD have been following single discreet trauma (e.g., a shooting). The least characterized populations are very young children and children with multiple or chronic traumatic events.

Several factors complicate the study of PTSD in children. It has only been in the last ten years that child-specific structured interviews for PTSD have been available. The development of trauma-specific psychometrics continues [4, 5]. In very young children diagnostic assessment is difficult due to the inability of infants and toddlers to self-report trauma-related symptoms, the differential expression of symptoms across the developmental spectrum and the difficulty determining the nature and extent of certain traumatic experiences (e.g., exposure to domestic violence or physical abuse) [6,7]. A key complication in studying

and treating trauma-related neuropsychiatric problems in children is the complex and varied clinical presentations that may result following acute or chronic trauma [2]. Despite increasing attention over the last ten years, childhood PTSD remains an unstudied public health problem in Iraq and this work was carried out to study the PTSD among preschools children.

Subjects and methods

A descriptive cross-sectional study with analytical component was carried out on 105 children who exposed to different types of traumas in Baijee city which exposed to too many of military operations, from 14th May to 30th October 2008. The preschool children's families who were exposed to a trauma before one month, directly interviewed through a questionnaire regarding demographic characteristics and a screening semi-structured tool the modified Child Behavior Checklist (CBCL-PTSD), a paper-and-pencil yes/no questionnaire, can be presented to the children (Ages 1-5 years).

It consists of a 15 items that are rated as Yes and No scored as (1) and (0) respectively. The total score is calculated as together the score of each of the 15 items. If the result of calculation is 9 and above scores which mean positive screen test and below 9 scores mean negative screening test [8]. Statistical analysis was done by using SPSS 13 pack for windows and Chi-square test(X²-test) used for comparing groups. The level of signification was (0.05) for comparison, descriptive, and analytic statistics were carried out.

Results

Regarding the demographic characters of the sample population; 105 preschool children, 81 (77.1%) of them were male, and there is a 24 (29.9%) were female representing as shown in Figure-1. Regarding the age distribution of the study sample; 46 children (44%) of the sample aged 48.1- 60 months and 31 children aged 36.1-48 month (29%), as shown in Figure- 2. Regarding the residency of the study sample; 71 (67.6%) children in were from rural area, and the rest of the sample; 34 (32.4%) of children were from urban area as shown in Figure-3. Fifty one children (48%) of the sample were on breast feeding and a 27 (26%) were on bottle feed and the last 27(26%) were on mixed feeding. as shown in Figure-4.

Regarding the distribution of the mother educational level, 8 (6.7%) of children's mothers were not read and not write, 19(18.1%) of them read and write, primary school 63 (60 %), secondary school 8(7.6%), and high school 7(6.7%) as

shown in Figure-5. Regarding the father educational level, 62 (59 %) of fathers were graduate of primary school, and 25(23.8%) of them were graduate of secondary school as shown in Figure-6. Thirty one (30%) of the children had ≥ 9 scores in comparison to 74 (70%) who had < 9 as shown in Figure-7.

Concerning the effects of age and it's relation to the PTSD it shows that from a 74 (1-5 years) child with a score of < 9 there is 13 (17.6%) are in the age of 23-36 months and 26(35.1%) in the age 36.1-48 months and the rest 35 (47.3%) in the age of 48.1-60 months. While a 31 child who having a score of ≥ 9 divided in a three groups the first one is 15 (48.4%) aged 23-36 months, the second group 5 (16.1%) aged 36.1-48 months and the last group 11(35.5%) aged 48.1-60 months..Table(2)

The distribution of PTSD scores in relation to the residency in this study shows that from a 74 children who have a score of < 9 there is a 24(32.4) in urban area, and the other 50(67.6%) child in the rural area. And from 31child who have a score of ≥ 9 there is 10(32.3%) in urban area while the rest 21(67.7) from the rural area Table (3).

Regarding the effects of feeding in PTSD scores; The result from this table show that from 74 child in the score of < 9 a 40(54.1%) of them were on breast feed, 12(16.2%) were in bottle feed and a 22(29.7%) were on mixed feeding. While from a 31 child who have a score ≥ 9 there are 11(35.5%) of them were on a breast feeding, 15(48.4%) of them were on bottle feed, and the last 5(16.1%) on mixed feeding Table(4).

Regarding the effects of mother's education level on the scores of PTSD, the mothers who were their children in the score of < 9 there are 6(8.1%) mother of them are not read and not write, 12(16.2%) of them are read and write, 43(58.1) mothers are from primary school, 6(8.1%) mother from secondary school and the last 7(9.5%) from the high school level. Mothers who were their children in the score of ≥ 9 there are 2(6.5%) mother of them are not read and not write, 7(22.6%) of them are read and write, 20(64.5%) mothers are from primary school, 2(6.5%) mother from secondary school and the last 0(0%) from the high school level.

Regarding the effects of father's education level on the scores of PTSD, the father who were their children in the score of < 9 there are 6(8.1%) fathers of them are not read and not write, 3(4.1%) of them are read and write, 46(62.2%) father are

from primary school, 2(2.7%) father from secondary school and the last 17(23%) from the high school level. Fathers who were their children in the score of ≥ 9 there are 2(6.5%) father of them are not read and not write, 4(12.6%) of them are read and write, 16(51.6. %) fathers are from primary school, 1(3.2%) fathers from secondary school and the last 8(25.8%) from the high school level.

Regarding the Types of trauma; there are different types of trauma that increase the occurrence of PTSD like hearing of explosion and or airplane voice 77 case which represent the common types 27(35.1%) of them in score of ≥ 9 .

Also 67 child exposed to night army attacks, 29 (38%) of them in the score of ≥ 9 , while from 64 child who witnessing a killing of relatives there are 25 (39.1%) of them are in the score of ≥ 9 . Also 56 child exposed to the day army attacks, 22 (39.3%) of them are in the score of ≥ 9 , and from a 45 child who witnessing a breaking of relatives limbs there are 19 (42.2%) of them are in the score of ≥ 9 . From a 28 child witnessing an explosion, 16 (57.1%) of them are in the score of ≥ 9 .

From a 20 child witnessing destruction of his or his friends house, 4 (20%) of them are in the score of ≥ 9 . From a 19 child witnessing breaking of friend limbs, 4 (21.1%) is in the score of ≥ 9 . From 9 children hearing killing of friends, 2 (22.2%) of them are in the score of ≥ 9 . From 8 children of broken limbs there are 4 (50%) of them in score of ≥ 9 . Also from a 4 children witnessing lashing of a friends there are 4 (100%) of them in the score ≥ 9 . The least types of trauma in children is witnessing lashing of relatives 4 cases, 2 (50%) of them are in the score of ≥ 9 .

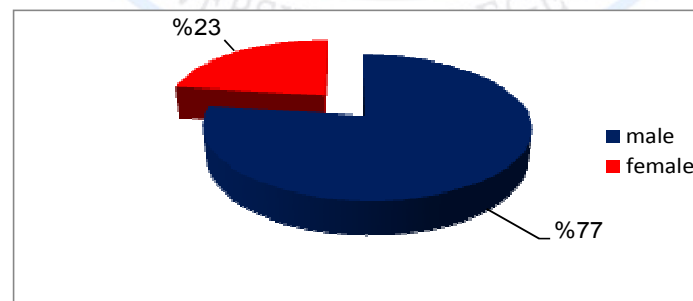


Figure (1): The distribution of the gender in the study sample

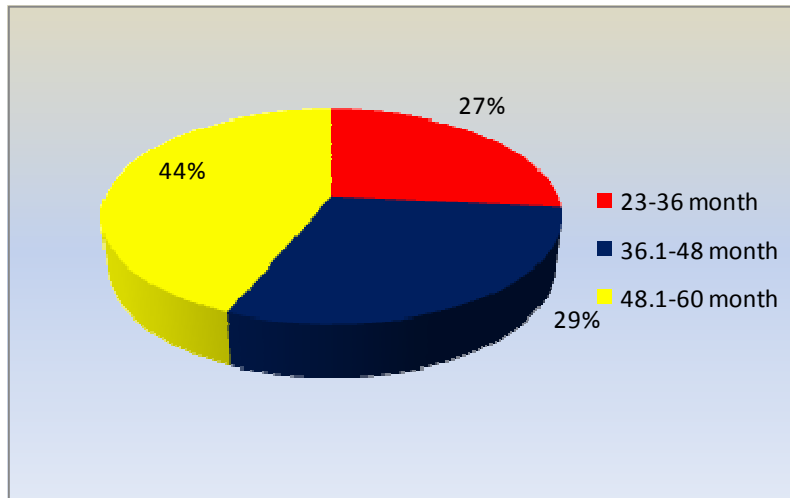


Figure (2): The distribution of sample by age

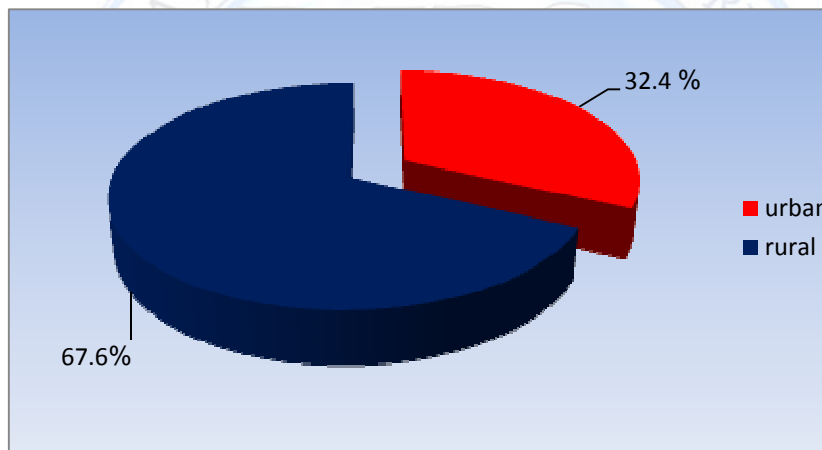


Figure (3): The distribution of sample by residency

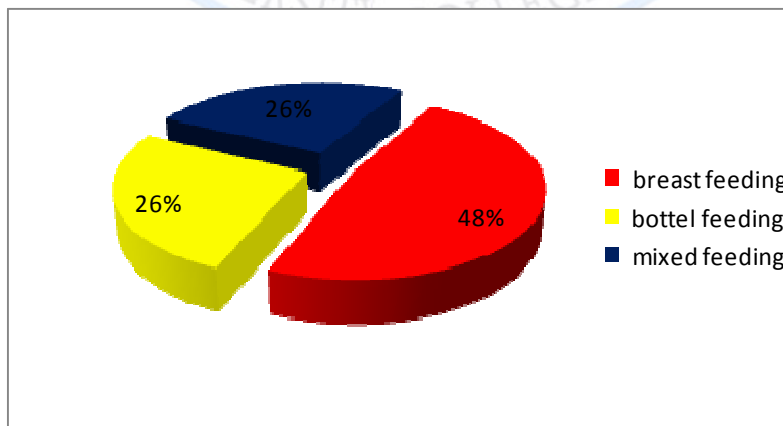


Figure (4): The distribution of feeding types in the study sample

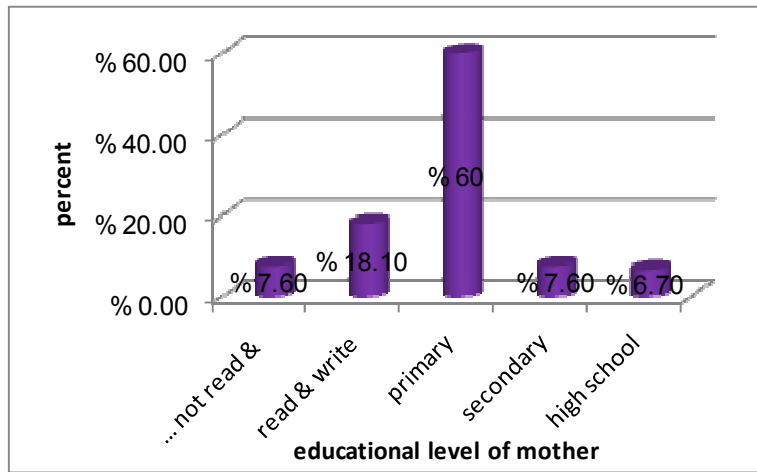


Figure (5): The distribution the mother educational level in the study sample

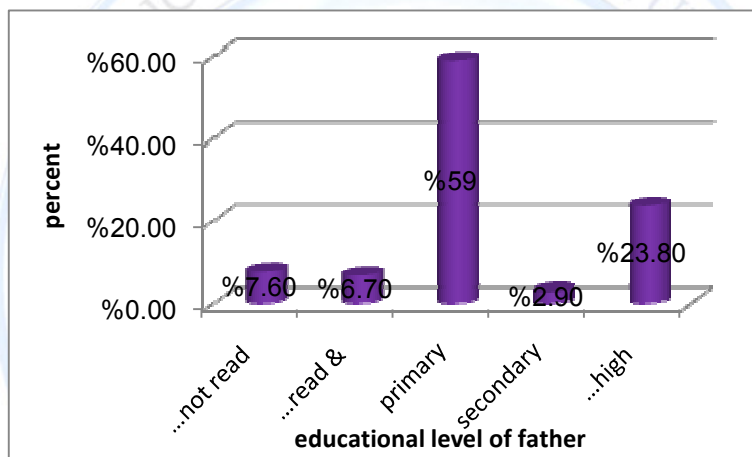


Figure (6): The distribution of the father educational level in the study sample

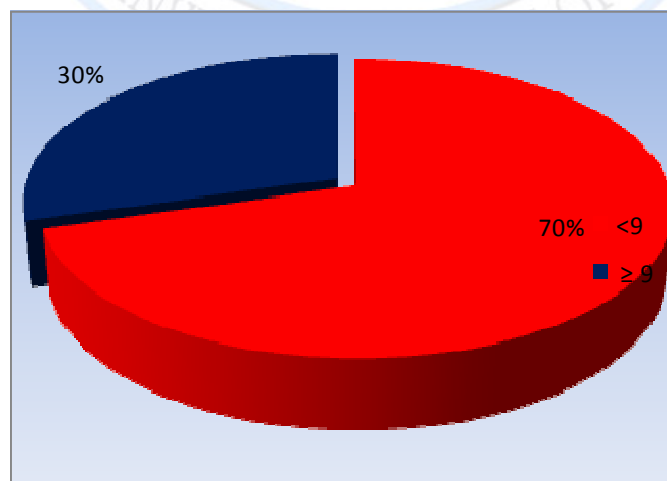


Figure (7): The percent of score obtained

Table (1): The frequency distribution of gender according to (PTSD) score.

| Sex | <9 | | ≥9 (PTSD) | | Total | |
|--------|-----|------|-----------|------|-------|------|
| | No. | % | No. | % | No. | % |
| Male | 60 | 81.1 | 21 | 67.7 | 81 | 77.1 |
| Female | 14 | 18.9 | 10 | 32.3 | 24 | 22.9 |
| Total | 74 | 100 | 31 | 100 | 105 | 100 |

Chi-square=2.205, DF=1, P-value at 0.05=3.84146

Not significant

Table (2): The frequency distribution of age according to (PTSD) score.

| Age groups (months) | <9 | | ≥9 (PTSD) | | Total | |
|---------------------|-----|------|-----------|------|-------|------|
| | No. | % | No. | % | No. | % |
| 23-36 | 13 | 17.6 | 15 | 48.4 | 28 | 26.7 |
| 36.1-48 | 26 | 35.1 | 5 | 16.1 | 31 | 29.5 |
| 48.1-60 | 35 | 47.3 | 11 | 35.5 | 46 | 43.8 |
| Total | 74 | 100 | 31 | 100 | 105 | 100 |

Chi-square=12.355, DF=3, P-value at 0.05=7.815

Significant

Table (3): The frequency distribution of residency according to (PTSD) score.

| Residence | <9 | | ≥9 (PTSD) | | Total | |
|-----------|-----|------|-----------|------|-------|------|
| | No. | % | No. | % | No. | % |
| Urban | 24 | 32.4 | 10 | 32.3 | 34 | 32.4 |
| Rural | 50 | 67.6 | 21 | 67.7 | 71 | 67.6 |
| Total | 74 | 100 | 31 | 100 | 105 | 100 |

Chi-square=0.001, DF=1, P-value at 0.05=3.84146

Not significant

Table (4): The frequency distribution of feeding types according to (PTSD) score.

| Feeding types | <9 | | ≥9 (PTSD) | | Total | |
|----------------|-----|------|-----------|------|-------|------|
| | No. | % | No. | % | No. | % |
| Breast feeding | 40 | 54.1 | 11 | 35.1 | 51 | 48.6 |
| Bottle feeding | 12 | 16.2 | 15 | 48.4 | 27 | 25.7 |
| Mixed feeding | 22 | 29.7 | 5 | 16.1 | 27 | 25.7 |
| Total | 74 | 100 | 31 | 100 | 105 | 100 |

Chi-square=11.916, DF=2, P-value at 0.05=5.991

Significant

Table (5): The frequency distribution of mother educational level according to the (PTSD) score.

| Education of the mother | <9 | | ≥9 (PTSD) | | Total | |
|-------------------------|-----|------|-----------|------|-------|------|
| | No. | % | No. | % | No. | % |
| Not read and write | 6 | 8.1 | 2 | 6.5 | 8 | 7.6 |
| Read and write | 12 | 16.2 | 7 | 22.6 | 19 | 18.1 |
| Primary | 43 | 58.1 | 20 | 64.5 | 63 | 60 |
| Secondary | 6 | 8.1 | 2 | 6.5 | 8 | 7.6 |
| High school | 7 | 9.5 | 0 | 0 | 7 | 6.7 |
| Total | 74 | 100 | 31 | 100 | 105 | 100 |

Chi-square=3.720, DF=4, P-value at 0.05=9.488

Table (6): The frequency distribution of father educational level according to the (PTSD) score.

| Education of the father | <9 | | ≥9 (PTSD) | | Total | |
|-------------------------|-----|------|-----------|------|-------|------|
| | No. | % | No. | % | No. | % |
| Not read and write | 6 | 8.1 | 2 | 6.5 | 8 | 7.6 |
| Read and write | 3 | 4.1 | 4 | 12.9 | 7 | 6.7 |
| Primary | 46 | 62.2 | 16 | 51.6 | 62 | 59 |
| Secondary | 2 | 2.7 | 1 | 3.2 | 3 | 2.9 |
| High school | 17 | 23 | 8 | 25.8 | 25 | 23.8 |
| Total | 74 | 100 | 31 | 100 | 105 | 100 |

Chi-square=3.151, DF=4, P-value at 0.05=9.488

Not significant

Table (7): The effects of traumas types on the development of (PTSD).

| Risk factors | <9 | ≥9 (PTSD) | Total | P-Value |
|--|----------|-----------|---------|---------|
| | No. (%) | No. (%) | No. (%) | |
| Witnessing lashing of relative | 2(50) | 2(50) | 4(100) | >0.05 |
| Witness f lashing of friend | 0(0) | 4(100) | 4(100) | <0.05 |
| Witnessing killing of friend | 5(55) | 4(44.4) | 9(100) | >0.05 |
| Witnessing killing of relative | 39(60) | 25(39.1) | 64(100) | <0.05 |
| Hearing killing of friend | 7(77) | 2(22.2) | 9(100) | >0.05 |
| Witnessing shooting of relative with firearm | 13(76.5) | 4(23.5) | 17(100) | >0.05 |
| Witnessing shooting of friend with firearm | 3(60) | 2(40) | 5(100) | >0.05 |
| Beaten | 8(80) | 2(20) | 10(100) | >0.05 |
| Witnessing an explosion | 12(42.9) | 16(57.1) | 28(100) | <0.05 |
| Explosion and or airplane voice | 50(64.9) | 27(35.1) | 77(100) | >0.05 |
| Night army attack | 47(61.8) | 29(38.2) | 67(100) | <0.05 |
| Day army attack | 34(60.7) | 22(39.3) | 56(100) | <0.05 |
| Broken limbs | 4(50) | 4(50) | 8(100) | >0.05 |
| Witnessing breaking of relative limbs | 26(57.8) | 19(42.2) | 45(100) | <0.05 |
| Witnessing breaking of friend limbs | 15(78.9) | 4(21.1) | 19(100) | >0.05 |
| Witnessing destruction of his or his friends house | 16(80) | 4(20) | 20(100) | >0.05 |

Discussion

Post Traumatic Stress Disorders and Socio Demographic characters :

Regarding gender factor; in this study, (67.7%) of the males were scored as PTSD in comparison to (32.3%) of female who scored as PTSD, and this agree with (Thabet, A,) which show that (61.9%) of boys are scored as PTSD [9], and this could be due to that the males are more exposed to the traumas because they play outside. The sex distribution of symptoms of PTSD varied among Sudanese nationals and refugees. While Sudanese national and refugee populations showed similar prevalence, there is a significant difference in how the disorder affected males and females. Significantly higher numbers of refugee females suffer from symptoms of PTSD than their male counterparts. This resembles the pattern observed in Ugandan nationals and other populations [10], this disagree with the current study result. However, there is a marked reversal of this sex differential in the Sudanese national population [11], so there is different in sex distribution of PTSD between genders of different nations. The sex difference in PTSD was markedly greater if exposure occurred in childhood than later on, and might involve characteristics of individuals and of the traumatic experiences [12]. The National Vietnam Veterans' Readjustment Study found that the males are more than females to suffer from PTSD and this agree with this study result .

The male to female (M:F) ratio in this study (2.1:1) which is more than that found by (Thabet) [9], and this ratio also disagrees with a number of epidemiologic survey studies have shown that PTSD ratio in (M:F) is (1:2) in addition, there are gender differences in the type of trauma exposure, presentation of illness, and co-morbidities [13]. In this study, PTSD found in 29.5% of children who exposed to trauma, and this agrees with other studies, which revealed that Over 30% of traumatized children develop a PTSD [14]; this result agrees with the study results. Life-Time prevalence of PTSD was (30.9%) [15]. but the current study disagree with the (Thabet, A,) [9], which may be explained by small sample size, but this result agrees with (Saigh et al., 1999) [16], and (Schwarzwald J, 2000) [17]. The current study results also disagree with other authors have found that following exposure to traumatic events (40-70%) of people have been identified to be at risk of developing PTSD [18], and this is more than that found in this stud that could be due to the use of western concept of PTSD might be questioned. Ackerman and colleagues examined the prevalence of PTSD and other neuropsychiatric disorders in (204) children, 34% of these children met criteria for PTSD [19]. Haithi Al Sady found that (28 %) of Iraqi children suffer some degree of PTSD

and the numbers are rising, and this agree with current study which record a (29.5%) of children were scored as PTSD [20].

Regarding residency; in the current study, (32.3%) of the urban children are scored as PTSD and (67.7%) of the rural children are scored as PTSD, this could be due to that the children in the villages are more exposed to traumas because it's small society when any family exposed to any traumas its effect all the other families, also probably due to difficulty in life condition, more complex, more needs, close community, and less psychological support. Yet, relatively little attention has been paid to the mental health needs of rural communities in the wake of such events [21]. In this study the children of rural area are more vulnerable to PTSD than those of urban area. While this agree with a study conducted in Bangladesh were rural children significantly more likely to have serious behavioral problems, and marginally more likely to have post-traumatic stress disorder [22] but disagree with Mohammed KH. Abdulwahd who found that psychosocial problems are more in urban area [23]. In a study done in China villages, the rate of onset of earthquake-related PTSD within 9 months was 24.2% by using DSM-IV criteria and 41.4% by using DSM-III-[24], this study slightly agree with current study because the uses of diagnostic criteria in the former study while in the current one use a screening scale.

Regarding age; the most common effected age in this study is (23-36) months of age. PTSD can be diagnosed in children as young as 3 years, possibly even earlier, Dr. Scheeringa said in an interview. Theoretically, as long as you have memory, you should be able to develop symptoms ,behavioral memory comes online at 9 months of age; narrative memory, where you can say you remember something, can appear when language comes online at around 36 months [25], and this support the current study results in that the PTSD can occur in early childhood. An accurate research base for the prevalence of PTSD in very young children represents a gap in our knowledge [26].

Regarding PTSD and types of feeding; in this study, (35%) of breast feeding children had ≥ 9 PTSD, (16.1%) of mixed feeding children had ≥ 9 PTSD, in comparison to (48.4%) of bottle feeding children had ≥ 9 PTSD. It is clear that children of breast feeding are less vulnerable for PTSD than other, with a significant relation. Children who are breastfed are less likely to suffer from behavioral or mental health issues than those who are not breastfed. This goes in accordance with what found by American Public Health Association's 136th Annual Meeting and Katherine Hobbs Knutson, that breastfeeding enhances childhood

intellectual ability while providing new evidence that breastfeeding may contribute to childhood emotional development and protect against psychiatric illness and behavioral problems [27].

Regarding PTSD and parental educational level; in this study revealed that no significant effects of the parental educational level in the occurrence of PTSD, but it's obvious that child of educated mother are less likely to get PTSD as its show in this study results in which that from [25] mothers of primary educational level there are (64.5%) of their children are scored as PTSD while from [7] in the high school level there are no children scored as PTSD. In father side of education there is less obvious role of educational level in the protections of children from PTSD, this could be explained in that the role of father is secondary in comparison with role of mother in the world in general and in our society in special and also most of father (all social class) busy during day (during period of education. The prevalence and determinants of PTSD were assessed among (121) Palestinian children; the results showed that (54%) of the children suffered from severe, (33.5 %) from moderate and (11%) from mild and doubtful levels of PTSD. The mother's education has a significant effect in decreasing the occurrence of PTSD, [28], this result disagree with current study result, this might be due to a deficient psychological knowledge even in educated mothers and how to deal with the traumatized children.

Regarding PTSD and types of trauma; in this study different types of trauma that increases the occurrence of PTSD and have a significant relationship likes children who have witnessing killing of friend a (44.4%) of them are scored as PTSD, witnessing an explosion (57.1%) of them scored as PTSD, children who exposed to night army attacks(38.2%) of them are scored as PTSD, who exposed to day army children a (39.3%) of them are scored as PTSD, and lastly children who witnessing breaking of relatives limbs (42.2%) of them also scored as PTSD. This study agrees with Karin M who examined precipitating traumas for person diagnosed as having PTSD among children seen or heard someone get hurt very badly or killed was the most frequent trauma for PTSD significantly higher percent (58.9%)[29], As is the case with other traumas, individuals often experience PTSD as a result of community violence. PTSD can affect people of all ages. Although some people think that young children are not psychologically affected by exposure to community violence because they are too young to understand or remember the violence, studies have found posttraumatic symptoms and disorders among infants and toddlers [30], and this confirm that even young children

vulnerable to PTSD after they exposed to different types of trauma. 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 (91.4%) witnessing the signs of shelling on the ground, (94.9%) watched mutilated bodies [31]. In this study, (27%) of Iraqi children who did hear an explosion, and (73.3%) hearing an airplane voice, and (18%) witnessing breaking of friend limbs, this difference might be due to that Gaza strip is small area and exposed to aggressive military operations for long period.

Conclusions

The current study has revealed that PTSD is found in 29.5% of children who exposed to traumas, that is more common in age group (23-36) months, and that breast feeding was a protective factor against PTSD. A significant relation was found between the traumas (witnessing lashing of friend, witnessing killing of relatives, witnessing an explosion, witnessing day army attacks and witnessing breaking of relative's limbs) and the occurrence of PTSD.

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