

Depression symptoms among children in Mosul, A post conflict study

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Abstract

Childhood depression deserves special attention considering its serious consequences to child development ranging from physiological changes to the impairment of social and cognitive functions. This study was set to estimate the prevalence of depression symptoms that followed the psychological stress experienced by children in Mosul city after the invasion of what is called Islamic State of Iraq and Sham-ISIS. This cross-sectional study was conducted during the period from November 2017 through January 2018 in Mosul city. The source of data was the primary health care centers. A consecutive sample of 300 children who attended the centers during the period of data collection was included.

The instrument used was borrowed from the Center for Epidemiological Studies Depression Scale for Children (CES-DC). The results revealed that 147 (49%) of the participants had symptoms of depression. A significant association was found between depression and older age, and among those who lost a father (77%). All children who reported losing a mother showed symptoms of depression. Children are paying back for adults' conflicts from their mental health and wellbeing, the remote effects built on that can be very serious. A rapid intervention is needed to rescue those children from their "gloomy" future.

Keywords: Depression, Children, Conflict, Mosul, Iraq.

Introduction

Depression is predicted to be the illness with the greatest negative impact and disease burden by the year 2020¹. It was believed that only adults become depressed, but many studies proved that children and teenagers also may develop depression^{2,3}. Child depression forms an insidious and major public health problem. Its prevalence increases sharply with age precisely during adolescence, estimates of the prevalence of major depression during childhood ranges from 0.3% to 7.8% in children below 13 years of age while in adolescents it ranges from 14% to 20%⁴⁻⁶. Considering its serious and lasting consequences to child development; childhood depression needs special attention and care as its complications can range from physiological changes to impairment of social and cognitive functions^{7,8}.

Children with mental depressive disorders (MDD) typically have functional impairments in their performance at school or work, as well as in their interactions with their families and peers. Children with MDD are more susceptible to recurrent depression and other mental disorders in adulthood with an increased risk for suicidal ideation, attempts, and suicide completion. It was reported that ten percent of children age 5 to less than 13 years, and 19% of adolescents age 13 to less than 18 years who have MDD attempt suicide^{9,10}.

Only 36% to 44% of children and adolescents with depression receive treatment, suggesting that the majority of depressed youth are undiagnosed or untreated¹¹.

Rationale of the study: During June and July of 2014, more than 5 00 000 person were displaced from Mosul, Iraq's second city due to ISIS invasion, the damage was heavy, and many surveys reported extensive brutal killing by ISIS, superimposed by the military ground and air strikes that resulted in a great death toll¹². The military forces started the operations in Mosul to fight down ISIS at November 2016 and ISIS was not completely thrown out until March 2017.

Purpose of the review: Children are usually the most affected group in disaster situation, so this study was conducted to estimate the prevalence of depression symptoms that followed the psychological stress experienced by children in Mosul city after ISIS invasion. We chose Mosul for it was the city that was completely occupied by ISIS and the population was subjected to different types of torture and harassment¹³.

Methods: This cross-sectional study was conducted during the period from November 2017 through January 2018 in Mosul city, the second large city in Iraq. House to house survey was difficult to apply considering the security instability, so the source of data was the only two primary health care centers (PHCCs) working in the left (East) side of the city, there were no PHCCs working in the right (West) side due to the extreme risk and the huge devastation after military operations, so those two PHCCs (Al-Quds and Al-Qadisiya) represented the total PHCCs in Mosul at the time of the study. A team of four family physicians who are working in those centers were trained in a two-day training course by a field expert professor in Mustansiriya Medical School for the purpose of data collection. They were also supervised by us to determine the implementation fidelity of the data collection method.

A consecutive non probability sample of 300 children, who attended the chosen PHCCs during the period of data collection, was pooled. We interviewed them (when they are alert enough to respond and understand the questions) or their mothers in case we find that they need some assistance to understand the questions.

The instrument used was from the Center for Epidemiological Studies Depression Scale for Children (CES-DC) which is a 20-item self-report depression inventory with possible scores ranging from 0 to 60. Each response to an item is scored as follows: 0 = "Not At All" 1 = "A Little" 2 = "Some" 3 = "A Lot". Higher CES-DC scores indicate increasing levels of depression. A cutoff score of 15 has been set as suggestive of depressive symptoms in children and adolescents, that is, scores over 15 can be indicative of significant levels of depressive symptoms¹⁴.

We have omitted few questions (8, 9, 13, 14, and 20) that we thought are difficult to be comprehended by children at that age. The child was asked to answer the questions when we feel that he/she is able to do that, otherwise the mother helped.

The use of interviews was employed rather than participants completing the inventory by hand because the participants were children, and some of them were too young to fill the questionnaire form by themselves, and that is why we preferred to use the interview rather than the self-report method. For the same reason; the mothers sometimes were asked to help encourage the child (when he or she is too young) to answer the questions.

The adapted version of the scale employed was revised and validated by a committee of expert professors from the Department of Family and Community Medicine from Mustansiriya Medical School, and the validity was 84%. It is important to mention here that we did not attempt to make a definite clinical diagnosis of depression; the diagnosis was rather built on symptomatic basis.

The permission for data collection was gained from the managers of the centers first, and then a verbal consent was taken from each mother to participate in the survey after explaining them the aim of the study. Privacy was secured and the mothers were assured that they have the complete choice to participate in the survey without any obligations, and that all the information taken would be kept strictly confidential and would not be used for purposes other than research work.

Statistical analysis: Statistical analysis was carried out using the available statistical package of SPSS (Statistical Packages for Social Sciences-version 20). Data was presented as central tendency measures of frequencies, and percentages. Significance of association was tested using t-test, and Pearson Chi-square test. Statistical significance was considered with p value equal or less than 0.05.

Results

Out of the 300 participants, males formed 52.3% and females (47.7%). The age ranged between 5-15 years (9.2 ± 3.2), 4.3% were orphans and 1.7% had dead mothers. Other socio-demographic characteristics are shown in table 1.

The results revealed that 147 (49%) of the participants have symptoms of depression. A significant association was found between age and depression where a high frequency of depression symptoms was demonstrated among older ages (above 9 years) Table 2.

The results also revealed that depression symptoms are seen a bit more among males (51%) than females (47%) with no significant association, the same was true regarding the relation with parents' education and job, while a significant association was found with parents' status where depression symptoms were more among those who lost a father (77%); all children who reported losing a mother showed symptoms of depression as shown in table 3.

Discussion

The high prevalence of depression symptoms reported in our sample reflects the severity of traumatic events those children exposed to, that was beyond their ability to tolerate. The public health concern of this problem is its association with psycho-social disturbances that may lead to substance abuse or suicide¹⁵.

The four decades of wars, embargo, and sectarian conflict have greatly affected the Iraqis' life and health from different aspects (death, injuries, and physical, social and mental disabilities). The group that most suffered from the consequences of the devastation was children as they are the most vulnerable and fragile^{16, 17}. This became much worse after the occupation of ISIS to a large area of Iraq and the displacement of hundred thousands of families who fled outside Mosul seeking a secure shelter, with all the sequels of this traumatic event on the life of people, psychological condition and on health services¹⁸.

In the current study; depression symptoms were seen significantly more in older children, this goes with the developmental nature of childhood as children become more oriented to the hard events and to the accumulative effect of trauma as age advances. Surveys in the United States showed that the prevalence of depression in adolescents (4.7%) is more than double in children (1.9%); other study that conducted among adolescent females in Egypt showed that the point prevalence of depression was 13.3%¹⁹. The results revealed no significant association between gender and depression symptoms, this is on the same line with some literature which observed that the boy to girl ratio is almost one before puberty; however, a gender difference starts to occur by early adolescence and thereafter, it was found that young and middle-age females have a higher incidence of depression symptoms compared to males of the similar age²⁰.

Table 1
Socio-demographic characteristics of the children

		Frequency	%
Gender	Male	157	52.3
	Female	143	47.7
Father status	Alive (live with the child)	287	95.7
	Dead	13	4.3
Mother status	Alive (live with the child)	295	98.3
	Dead	5	1.7
Father's education	Primary	50	16.7
	Secondary	53	17.7
	College	172	57.3
	Higher education	25	8.3
Mother's education	Primary	75	25.0
	Secondary	74	24.7
	College	130	43.3
	Higher education	21	7.0
Father's job	Employee	144	48
	Worker	137	45.6
	Retired	19	6.3
Mother's job	Employee	104	34.7
	Retired	6	2.0
	Housewife	190	63.3
	Total	300	100.0

Table 2
Depression symptoms and age

Depression	N	Mean age (years)	Std. Deviation	Std. Error Mean	P value (t-test)
No depression symptoms	151	8.89	2.953	.240	0.042
Depression symptoms	145	9.65	3.405	.283	

There was no influence of father's or mother's education on the occurrence of depression symptoms; this may give the impression that the trauma was too severe to be diluted by the parents' education, while there was a significant association between depression symptoms and history of loss of any of the parents, this is consistent with what was stated by other researchers that orphans are more susceptible to develop psychological disorders²¹.

Limitations of the study: Security instability was the most serious limitation that the interviewers met, in addition to the fear of people attributed to the hard events they experienced through the past three years, that is why we could not implement a house to house survey, which would be more valid than collecting participants from the primary health care centers. No other limitations were reported during the process of data collection. The response rate was 98%.

Conclusion

It can be concluded from this study that children in Mosul are paying back for adults' conflicts from their mental health and wellbeing, the future consequences built on that can be very serious. An urgent and effective intervention is needed

including close follow up and supervision of the mental and social status of those children through rehabilitation courses to dilute the effect of stress that resulted from the exceptional psychological trauma they suffered, these measures can probably help rescue those children from their "gloomy" future.

Future wide-scale surveys and more advanced studies with an in-depth analysis of the risk factors and consequences could be of great benefit to identify the problem and find more effective solutions.

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Table 3
Association between socio-demographic variables and depression symptoms (n=300)

		Depression symptoms	No depression symptoms	Total	P* value
Gender	Male	80 (51)	77 (49)	157	0.276 [NS]
	Female	67 (47)	76 (53)	143	
Father status					
	Alive	137 (48)	152 (52)	287	0.036
	Dead	10 (77)	3(23)	13	
Mother status					
	Alive	142 (48)	153 (52)	295	
	Dead	5 (100)	0	5	
Father's education					
	Primary	31 (62)	19 (38)	50	0.116 [NS]
	Secondary	29 (55)	24 (45)	53	
	College	76 (44)	96 (56)	172	
	Higher	11 (44)	14 (56)	25	
Mother's education					
	Primary	41 (55)	34 (45)	75	0.051 [NS]
	Secondary	43 (58)	31 (42)	74	
	College	52 (40)	78 (60)	130	
	Higher	11 (52)	10 (48)	21	
Father's job					
	Employee	70 (48)	75 (52)	145	0.21
	Worker	64 (47)	72 (53)	136	[NS]
	Retired	13 (68)	6 (32)	16	

*P value for Chi square test

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