QMJ
A peer reviewed journal
QATAR MEDICAL JOURNAL

RESEARCH ARTICLE

Effects of witnessing or exposure to community violence on mental health of Iraqi men

Maha A. Al-Nuaimi[1], Ruaa A. Hamad[2], Riyadh K. Lafta[3,4]

Address for Correspondence:
Maha A. Al-Nuaimi
[1]College of Medicine, Ninawa University, Mosul, Iraq
[2]Ministry of Health, Baghdad, Iraq
[3]College of Medicine, Mustansiriya University, Baghdad, Iraq
[4]Department of Global Health, University of Washington, USA
Email: maha_alneami@yahoo.com

http://dx.doi.org/10.5339/qmj.2015.10
Submitted: 29 January 2015
Accepted: 9 April 2015

Cite this article as: Al-Nuaimi MA, Hamad RA, Lafta RK. Effects of witnessing or exposure to community violence on mental health of Iraqi men, Qatar Medical Journal 2015:10 http://dx.doi.org/10.5339/qmj.2015.10

QSCIENCE.com
An Initiative of Qatar Foundation

ABSTRACT

Background: Iraq is consistently exposed to large-scale traumatic events such as successive wars since 1980 to the present day, economic sanctions, sustained organized violence, and terrorism. These unsafe circumstances have negatively impacted the psychosocial status of the Iraqi community.
Objective: To study the prevalence of witnessing or exposure to various types of violence, and its association with mental health problems in a sample of Iraqi men.
Methods: This is a cross-sectional study that was conducted from April to September 2014. The target population were men from different age groups that were collected through a convenience sampling technique from two large cities; Baghdad (the capital city) and Mosul (the second largest city in Iraq). The source of data was from different institutions, colleges and lay people. The data collection process was done using the Self-Reporting Questionnaire 20 which is recommended by the World Health Organization for screening psychiatric disturbances.
Results: A total of 480 Iraqi males agreed to participate in the study. The main type of violence reported was witnessing violence (55.4%), followed by exposure of friends or relatives to violence (51.4%), and witnessing or exposure to sexual assault was least reported (3.8%). The most frequent feeling recorded was of worry (72.9%), getting easily upset (65.4%), suffering from headaches (62.7%) and lethargy (59.4%). Severe psychological changes were evident in 68.5% of men, while moderate changes were present in 31.5%. Analysis of the feelings and behavioral changes in relation to the participants' history of exposure to violence revealed a significant association with witnessing shooting or stabbings,

displacement, friends or relatives' exposure to violence, and viewing corpses.
Conclusion: There is a high prevalence among Iraqi men of exposure to, or witnessing violence that showed an association with their mental condition, which, if proved causally, may be a leading cause for future devastating effects on their health, wellbeing and quality of life.

Keywords: Community violence, mental health, men, Iraq

INTRODUCTION

Violence is a vague term that covers a huge and frequently changing spectrum of heterogeneous physical and emotional behaviors, anything that is excited in an injurious way, or presenting risk accordingly, may be described as violent.[1,2]

Exposure to community violence is a public health problem with devastating consequences, it encompasses violence experienced and witnessed by a population or members in a community.[3,4] It also covers a wide range of acts including threats and intimidation, riots, sniper attacks, gang wars, drive-by shootings, terrorist attacks, torture, witnessing and hearing guns shots, armed conflict and bombs.[5,6] Beyond death and physical injury, highly prevalent forms of violence as a witness or a victim have serious lifelong non-physical health consequences, and are related to a number of longer term emotional, behavior and social outcomes.[7]

Iraq is consistently exposed to large-scale traumatic events such as successive wars since 1980 to the present day, economic sanctions, sustained organized violence, and terrorism. This unsafe situation has negatively impacted the psychosocial status of the whole Iraqi community,[8] including children and adolescents.[9] Deaths and injuries from violent causes are concentrated in adolescents to middle age men.[10] There is a paucity of standardized research data about the extent of mental health problems to inform policy planning and development.[11]

Iraqis have witnessed the painful and horrific consequences of car bombings, mass violence, and military operations. The population face very real danger of disease, hunger, psychological trauma and death, they are afraid, anxious, and depressed about the prospect of war, many have frequent nightmares, and only 40 percent think that life is worth living.[12]

It has been reported that Iraqi children who were exposed to the Amiriyah shelter bombing in 1991 continued to experience sadness and remained afraid of losing their family for years following the Gulf War.[13]

There have been many reports about the violence in Iraq during the years of intense conflict however, disabilities and mental health trauma subsequent to this have not been widely documented.[14]

The objective of this study was to estimate the prevalence of witnessing and experiencing various types of violence from a community-based sample of Iraqi men after 11 years of confrontational violence and to describe community violence exposures as a risk factor contributing to mental health disorders among adult males.

METHODS

This cross-sectional study was conducted from April to September 2014. The target population were men from different age groups that were selected through a convenience sampling technique from two large cities; Baghdad (the capital city) and Mosul (the second largest city in Iraq). The source of data was from different institutions, colleges and from lay people. The subjects were recruited by selecting some colleges and governmental institutions that were accessible to the researchers, whilst taking into consideration the security aspect. The researchers met all the people who were available at the institutions at the time of the study, explained to them the objectives and the nature of the questions. Only those who were aged 18 years or above and were willing to participate were included in the study.

Data was collected using the self-reporting questionnaire 20 (SRQ-20) which is recommended by the World Health Organization[15] for screening psychiatric disturbances, which includes twenty yes/no questions. SRQ-20 was chosen to measure the current general psychosomatic symptoms and risk factors of any future psychopathology of the Iraqi men in response to witnessing and experiencing all types of community violence, in addition to their associated consequences. Some minor modifications were made to the questionnaire to make it more suitable for the Iraqi culture and norms, which resulted in one question being removed. The first part of the questionnaire included information about demographic characteristics of the participants (age, marital status, housing status, work status, and

years of schooling), the second part included questions about history of exposure to (or witnessing) any type of violence during the last 12 months, the third part were questions on the psychological status: feelings, reactions or complaints of any psychological reactions during the last seven days (to lessen the recall bias) that could be connected to an exposure or witnessing of violence. Psychological changes were identified on a symptomatic basis. A modified Angoff procedure was used to assess the validity of the study instrument. The format was validated by a team of experts in community medicine and psychology who gave their opinions about the predictive validity, lucidity of the content and the authenticity of each question in measuring the event. The questionnaire form was pre-tested with a sensitivity of 73% and specificity of 82%,[16] the overall validity was 86%.[17]

Data collection was performed after explaining to the participants the aim and objective of the study, taking their verbal consent to participate, giving reassurance that all the information collected would be kept strictly confidential and would not be used for anything other than research purposes. The interviews were conducted by a well-trained team of specialized family physicians at the place where the participants were present. The questionnaire form was kept anonymous.

The data was coded and analyzed using the Statistical Packages for the Social Sciences (SPSS), version 22. Statistical analysis included descriptive measures of frequency, percentages, mean, standard deviation, and range.

The scoring system was applied through giving (1) for a "Yes" and (0) for a "No" answer for each question, giving a specific median regarding the level of participants' feelings and psychological changes for the nineteen questions. A cutoff point of 8 was assumed, those that scored less than 8 were considered not to be at risk of mental health issues (mild changes) and those who scored more than or equal to 8 were considered to be at risk (severe changes).

Pearson's chi-square test was used to test the significance of association of the studied variables with a p-value of 0.05 as a cut-off point. Odd's ratio was also calculated with its corresponding 95% C.I.

RESULTS

A total number of 480 Iraqi males agreed to participate in the study. The general characteristics of the sample (age, marital status, working status, years of schooling and housing status) are detailed in Table 1. With respect to age, 80.4% of participants were between 20-49 with a mean age of 37.09 ± 11.45 years (range 18-72). Half of the respondents were married, more than one third were governmental employees, and two-thirds had more than 12 years of schooling.

The main reported type of violence was witnessing violence (55.4%), followed by exposure of friends or relatives to violence (51.4%), and witnessing or exposure to sexual assault was least reported (3.8%) (Figure 1).

The participants' feelings and psychological changes in the last seven days due to witnessing or exposure to violence are summarized in Table 2. The most frequent feeling recorded was feeling worried (72.9%), followed by getting easily upset (65.4%), suffering from headaches (62.7%) and lethargy (59.4%). Severe changes to mental health were seen in 68.54% while mild changes only effected 31.46%. Analysis of the feelings and psychological changes in relation to participants' history of witnessing or exposure to violence, revealed a significant association with witnessing shooting or stabbings, displacement, friends or relatives' exposure to violence, and viewing corpses ($\chi^2 = 4.214$, $P = 0.040$; $\chi^2 = 4.211$, $P = 0.040$; $\chi^2 = 7.662$, $P = 0.006$; $\chi^2 = 8.818$, $P = 0.003$ respectively) (see Table 3).

DISCUSSION

Violence has become a major public health issue over the past decade as it has been found to be a major cause of mortality and morbidity worldwide.[18] While Iraqi people are exposed to increasing unprecedented levels of acute and enduring community violence as a result of successive wars, much less attention has been paid to determining the prevalence of witnessing and exposure to community violence. The impact of such widespread violence on social and emotional functioning of the Iraqi population is not clearly understood.

After Iraq's civil war that flared up in 2006, it began to divide into two main parts according to the variations in the level of violence. A hot zone that includes seven provinces in addition to Baghdad where approximately 57 percent of Iraqis live, is associated with high levels of violence and terrorism. The other relatively calmer zone represents most of the south provinces and forms about 43 percent of Iraq's population.[19]

Table 1. Distribution of participants by sociodemographic characteristics.

characteristics		No	%
The age (years)			
	< 20	18	3.8%
	20 – 29	129	26.9%
	30 – 39	132	27.5%
	40 – 49	125	26.0%
	> 50	76	15.8%
Mean ± SD (Range)		37.09 ± 11.45 (18-72)	
Marital status	Unmarried	176	36.7%
	Married	237	49.4%
	Divorced	19	4.0%
	Widowed	48	10.0%
Working status	Governmental	188	39.2%
	Non-governmental	83	17.3%
	Voluntary work	68	14.2%
	Student	44	9.2%
	Retired	39	8.1%
	Unable to work	14	2.9%
	Unemployed	44	9.2%
Years of schooling	0	12	2.5%
	1 – 6	60	12.5%
	7 – 9	51	10.6%
	10 – 12	60	12.5%
	> 12	297	61.9%
Housing status	Owned	309	64.4%
	Rented	132	27.5%
	Illegally occupied	24	5.0%
	Shared house	15	3.1%

Baghdad and Mosul were chosen to be studied as they have been labeled two of the hottest areas in Iraq with respect to high levels of community violence; and they form about one third of the total Iraqi population. No attempt was made to test the difference in outcome between the two areas as respondents did not register different patterns of violence or psychopathology.

The main limitation of this study was related to the security problem in the country, which makes conducting a house-to-house survey for a more representative sample, extremely difficult. The general status of panic has created a new barrier between people, making visits to households unwelcomed. The same reason was behind the non-inclusion of urban and more remote areas where tribal violence is more prevalent.

Cross-sectional studies are known to be associated with recall bias however, we tried to lessen the bias through avoiding going too far into the past when questioning history of exposure. Another limitation was the unavailability of standard Iraqi scales to measure the psychological disorders and absence of medical registrations for the Iraqi population.

The study included only males aged 18 years or above, and adolescents were not considered for the study as this is a special category that requires a different study approach and treatment of data. Approximately two-thirds of the sample obtained more than 12 years of education and many were governmental employees. A fair proportion of the sample were college students. The old mandatory education law made that possible, although in recent years (after 2003) this trend has started to change.

The current study revealed an interesting trend, which is that more than half (55.4%) of the participants reported witnessing other civilians to various types of physical violence within the last 12 months. This is more than that reported in USA where violence is described as "epidemic" especially in young people.[20]

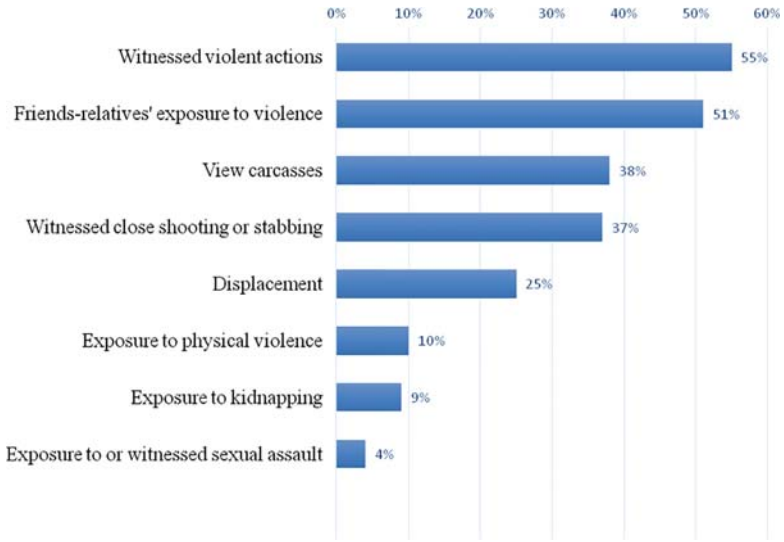

Figure 1. Prevalence of exposure to forms of community violence.

Studies in USA have reported that witnessing violence firsthand ranges from a low of 1 percent in middle and upper classes in predominantly Caucasian youth[21] to a high of 47 percent in low-income classes and African-Americans.[22]

More than one-third of the study sample had viewed harrowing scenes of corpses by roadsides, which can be considered as an unacceptably high prevalence. Since the 2003 invasion of Iraq, the country has experienced uncontrolled violence that has resulted in tens of thousands of deaths and even more being wounded every year.[23] However, the exact number of violent deaths in Iraq remains unknown because the Iraqi Body Count Project counts deaths only according to media reports and cross-checks without substantial analysis of the data. Meanwhile, the hot zone in Iraq encompasses up to 95 percent of Iraq's violent deaths. This region with an estimated population of approximately 18 million, has more than 4,000 violent deaths annually, compared to some developed countries such as Australia with a total population of 22 million where the recorded number of murders in 2009 was 263.[19]

The lowest prevalence of violence in this study was witnessing or exposure to sexual violence (3.8%). This finding is unlike what has been reported by the National Survey of Children's Exposure to Violence in USA, where 1 in 16 children aged 17 years and younger have been victimized sexually during their lifetime.[24] This difference may be due to the USA survey being based on self-report, while the current survey was based only on witnessing violent incidents. Given the often clandestine nature of sexual violence, particularly in a conservative Arab society, it is unsurprising that self-report measures are higher than witness reports.

Witnessing or exposure to violence is usually expected to be more prevalent in less-educated and lower socioeconomic groups, but the opposite was apparent

Table 2. Participants' psychosomatic symptoms in the last 7 days.

characteristics (n = 480)	No	%
Feeling worried	350	72.9%
Easily getting upset	314	65.4%
Suffering headaches	301	62.7%
Feeling tired	285	59.4%
Feeling faint/dizzy	262	54.6%
Suffering concentration disturbances	242	50.4%
Sleeping disturbances	232	48.3%
Feeling depressed	229	47.7%
Feeling sad	219	45.6%
Feeling like a failure	208	43.3%
Feeling lonely	176	36.7%
Suffering appetite disturbances	176	36.7%
Feeling dyspepsia	167	34.8%
Feeling uncontent	139	29.0%
Feeling palpitations	139	29.0%
Suffering nightmares	139	29.0%
Feeling emotional/ wanting to cry	130	27.1%
Wishing to die	82	17.1%
Feeling shivering	79	16.5%

Table 3. Psychological changes in the last seven days in relation to history of exposure to violence.

Characteristics N = 480	Severe changes N = 329, (68.54%)		Mild changes N = 151, (31.46%)		χ^2;d.f.; P-value	OR	95% C.I
	No	%	No	%			
Witnessing violence	181	55%	85	56.3%	0.068;1; 0.794	0.95	0.644 to 1.400
Witnessing shooting or stabbings	130	39.5%	45	29.8%	4.214;1; 0.040*	1.539	1.018 to 2.325
Displacement	92	28%	29	19.2%	4.211;1; 0.040*	1.633	1.020 to 2.616
Exposure to kidnappings	34	10.3%	11	7.3%	1.133;1; 0.287	1.467	0.722 to 2.981
Exposure to physical violence	40	12.2%	10	6.6%	3.399;1; 0.065	1.952	0.948 to 4.016
Friends/relatives' exposure to violence	144	43.8%	46	30.5%	7.662;1; 0.006*	1.777	1.180 to 2.675
Viewing corpses	138	41.9%	42	27.8%	8.818;1; 0.003*	1.875	1.235 to 2.848
View/exposure to sexual assault	15	4.6%	3	3.8%	1.898;1; 0.168	2.357	0.672 to 8.266

in our study. This might be due in part to the fact that the population studied, comprise groups of people that have been the main target following the 2003 invasion, and also in part due to the methodology of the study as educated people formed a large percentage of the sample. On the other hand, financial deprivation as a consequence of war was not investigated although it may influence mental wellbeing as it has become a very subjective variable in Iraq, as people tend not to disclose their real financial situation.

It is worth mentioning here that psychological changes were based not on clinical diagnosis but, rather, on probable symptomatology. The main emotional and psychological reactions described by respondents within the last seven days that coincided with witnessing or experiencing violence were feeling worried, easily getting upset, complaining of headaches and tiredness, disturbed sleep and lack of concentration. Similar reactions were reported in a review of earlier clinical studies addressing the effects of acute trauma, which stated that those who witnessed a single violent event reported the following symptoms: diminished concentration in school, sleep disturbances, flashbacks, disordered attachment behaviors, sudden startling, and hypervigilance.[25] However, these reactions can be magnified when the exposure to violence is recurrent. Exposure to violence also causes individuals to feel grief-stricken, depressed, anxious, guilty, angry, and have low self-esteem.[25] In addition to these understandable emotional reactions, there are other associated symptoms such as diarrhea, irregular heartbeats, headache, and feeling of panic, fear, depression, flashbacks, nightmares and numbness.[26]

"Wishing to die" was reported by more than 17 percent of the study sample. This emotional reaction was accompanied by a high percentage of males having disquieting outlooks that possibly act in a synergistic manner to cause sleeping disturbances, feeling of being a failure, loneliness and depressed mood. This doesn't necessarily indicate clinical depression but, rather, mood changes on the side of depression. We didn't attempt to test this finding statistically as it was not part of our objectives. Although this figure is relatively high, it is still less than that reported among Iraqi women in a previous study conducted (24%).[27]

The current study demonstrated that the majority of Iraqi men (68.5%) have severe emotional disturbances (more than seven emotional disturbances)

which indicates mental health distress including psychological disorders, which is in agreement with the findings of a study conducted in Chile,[28] as well as the Iraqi family health survey (IFHS) conducted in 2006-2007.[29] This high figure realized is the cohort effect of augmented exposure to community violence of men more than women. This is a finding reported in several studies which state that males are more likely than females to be victims of and witness to violent acts, making their lifetime risk of exposure higher.[30,31] Moreover, the related emotional symptom scores significantly amplify the increased number of traumatic events witnessed and is an indicator that a person has suffered repeatedly.[32] This alarming figure is higher than that reported for women in the Iraqi family health survey, which found that 40.4 percent of Iraqi women suffer from severe mental health disorders[29] and higher than that reported in a similar survey conducted in Mosul[27] where 54.4 percent of women were found to suffer from severe emotional disturbances as a result of exposure to various forms of community violence. Exposure to violence or threats of violence does not only affect the mental wellbeing, it may disturb the whole life of an individual by pushing them forcibly to leave their country.[33]

Iraqi men with a history of exposure to shooting or stabbings, or witnessing a friend being stabbed or shot and coming across corpses, were recognized as incidents resulting in severe emotional disturbances, more than for those who did not experience such traumatic events. This is in agreement with what has been asserted by Richters and Martinez (1993), who found that the three types of witnessing events: witnessing stabbing, shootings, or killing were the most impactful dealings.[34] In our study, the prevalence of exposure to these events were confirmed in more than one-third of Iraqi men, making them vulnerable to various emotional maladjustments. Another study reported that certain types of exposure to violence were highly associated with specific categories of trauma symptoms. For males, the combined measure of exposure (witness/victim) to a shooting or knife attack was the strongest predictor of anger and other violent behaviors.[35] The same was recognized by the Iraq and Afghanistan Wars whereby 37 percent of veterans who had enrolled in the Veterans Health Care System between 2002 and 2008, were diagnosed as having mental health issues.[36] Meanwhile, family unit displacement following terrorization or sectarianism was significantly associated with a higher risk of severe emotional distress among the Iraqi men, the same being found in Iraqi women.[27]

CONCLUSION

It can be concluded from this study that there is a high prevalence of mental health issues among Iraqi men following exposure to, or witnessing different types of community violence. If proved causally, this may be a leading cause for future devastating effects on mental health, wellbeing and quality of life in the male population within Iraq.

CONTRIBUTION OF AUTHORS

1. Study design, questionnaire, data collection and writing of the article.
2. Data collection and analysis
3. Study design, methodology, questionnaire, and writing of the article.

FINANCIAL DISCLOSURE

None.

CONFLICT OF INTEREST

None.

REFERENCES

1. Levi M, Maguire M, Brookman F. Violent crime. In: Maguire M, Morgan R, Reiner, eds. *The Oxford handbook of criminology*. 3rd edn. Oxford: Oxford University Press; 2002:796 – 843.
2. Dahlberg LL, Krug EG. Violence: a global public health problem. In: Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, eds. *World report on violence and health*. Geneva, Switzerland: World Health Organization; 2002:1 – 21.
3. Craft-Rosenberg M, Pehler SR. *Encyclopedia of Family Health*. SAGE Publications, Inc. 223 – 224.
4. World Health Organization. *Definition and typology of violence*. http://www.who.int/violenceprevention/approach/definition/en/ (accessed 24 June 2015).
5. Hamblen J, Goguen C. *Community Violence*. National Center for PTSD, U.S. Depeartment of Veterans Affairs. http://www.ptsd.va.gov/professional/trauma/other/community-violence.asp (accessed Dec 2, 2014).

6. World Health Organization. *World report on violence and health: Summary*. Geneva: http://www.who.int/violence_injury_prevention/violence/world_report/en/summary_en.pdf WHO; 2002.
7. Center for Disease Control and Prevention, Injury Prevention & Control: Division of Violence Prevention "Adverse Childhood Experiences (ACE) Study". http://www.cdc.gov/violenceprevention/acestudy/ (accessed 24 June 2015).
8. World Health Organization. *Iraq Mental Health Survey 2006/7 Report*. Iraq: WHO Office. http://www.who.int/mediacentre/news/releases/2008/pr02/2008_iraq_family_health_survey_report.pdf (accessed 24 June 2015).
9. AlObaidi AK. Psychological Trauma: Experience from Iraq. *J Trauma Treat*. 2013;S4:005:1 – 2.
10. Burnham Lafta R, Doocy S, Roberts L. Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey. *Lancet*. 2006;368(9545):1421 – 1428.
11. Lafta RK, Aziz ZS, AlObaidi AK. Posttraumatic Stress Disorder (PTSD) among Male Adolescents in Baghdad. *J Psychol Abnorm Child*. 2014;3(3):121.
12. Al-Jawadi A, Abdul-Rhman S. Prevalence of childhood and early adolescence mental disorders among children attending primary health care centers in Mosul, Iraq: a cross-sectional study. *BMC Public Health*. 2007;7:274.
13. Dyregrov A, Gjestad R, Raundalen M. Children exposed to warfare: a longitudinal study. *J Trauma Stress*. 2002;15(1):59 – 68.
14. ICRC. *Iraq: giving disabled people a chance to resume a normal life*. 2011. https://www.icrc.org/eng/resources/documents/update/2011/iraq-update-2011-10-20.htm
15. Beusenberg M, Orley J. *A user's guide to the self-reporting questionnaire (SRQ)*. Geneva: World Health Organization. WHO/MNH/PSF/94.8. 1994.
16. Donnoe WE, Amato RP, Supportive data & guidelines for using Angoff, Ebel and Nedelsky cutoff score methods. International Personnel Management Association Assessment Council Conference: June 1997; Newport Beach, 1997:6.
17. Tuan T, Harpham T, Huong NT. Validity and Reliability of the self-reporting Questionnaire 20 Items in Vietnam. *Hong Kong J Psychiatry*. 2004;14(3): 15 – 18.
18. Ribeiro WS, Andreoli SB, Ferri CP, Prince M, Mari JJ. [Exposure to violence and mental health problems in low and middle-income countries: a literature review]. *Rev Bras Psiquiatr*. 2009;31(S2): S49 – S57.
19. Jafar S. *safer than canada? half of iraq deadly, other half more peaceful than us*. http://www.niqash.org/articles/?id=3150 (accessed Nov 11, 2014).
20. Cole T. Ebbing epidemic: youth homicide rate at a 14-year low. *JAMA*. 1999;281(1):25 – 26.
21. Gladstein J, Rusonis EJ, Heald FP. A comparison of inner-city and upper-middle class youths' exposure to violence. *J Adolesc Health*. 1992;13(4):275 – 280.
22. Fitzpatrick KM. Aggression and environmental risk among low-income African-American youth. *J Adolesc Health*. 1997;21(3):172 – 178.
23. Roberts L, Lafta R, Garfield R, Khudhairi J, Burnham G. Mortality before and after the 2003 invasion of Iraq: cluster sample survey. *Lancet*. 2004;364(9448):1857 – 1864.
24. Finkelhor D, Turner H, Ormrod R, Hamby S, Kracke K. *Children's Exposure to Violence: A Comprehensive National Survey*. US Department of Justice, Office of Justice Programs, October 2009. https://www.ncjrs.gov/pdffiles1/ojjdp/227744.pdf
25. Al-Shawi AF, Lafta RK. Relation between childhood experiences and adults' self-esteem: A sample from Baghdad. *Qatar Med J*. 2014;2014(2):82 – 91.
26. Royal College of Psychiatrists. *Post-traumatic Stress Disorder*. http://www.rcpsych.ac.uk/healthadvice/problemsdisorders/posttraumaticstressdisorder.aspx (accessed 23 June 2015).
27. Al-Nuaimi MA. Community violence and mental health among Iraqi women, a population-based study. *Qatar Med J*. 2013;2013(2):20 – 28.
28. Illanes E, Bustos L, Vizcarra MB, Munoz S. [Social and familial determinants of anxiety and depressive symptoms in middle to low income women]. *Rev Med Chil*. 2007;135(3):326 – 334.
29. *Iraq Family Health Survey 2006/7*. World Health Organization and Republic of Iraq (Iraq Ministry of Health, Iraq Central Organization for Statistics & Information Technology, Ministry of Health Kurdistan, Kurdistan Regional Biostatistics Office), IFHS 2016/7. http://www.who.int/mediacentre/news/releases/2008/pr02/2008_iraq_family_health_survey_report.pdf
30. Fitzpatrick KM, Boldizar JP. The prevalence and consequences of exposure to violence among African-American youth. *J Am Acad Adolesc Psychiatry*. 1993;32(2):424 – 430.
31. Singer MI, Anglin TM, Song LY, Lunghofer L. Adolescents' exposure to violence and associated symptoms of psychological trauma. *JAMA*. 1995;273(6):477 – 482.
32. Harder VS, Mutiso VN, Khasakhala LI, Burke HM, Ndetei DM. Multiple Traumas, Postelection Violence,

and Posttraumatic Stress Among Impoverished Kenyan Youth. *J Trauma Stress*. 2012;25(1):64 – 70.

33. Burnham GM, Lafta R, Doocy S. Doctors leaving 12 tertiary hospitals in Iraq, 2004 – 2007. *Soc Sci Med*. 2009;69(2):172 – 177.
34. Richters JE, Martinez P. The NIMH community violence project: I. Children as victims of and witnesses to violence. *Psychiatry*. 1993;56(1):7 – 21.
35. Song LY, Singer MI, Anglin TM. Violence exposure and emotional trauma as contributors to adolescents' violent behaviors. *Arch Pediatr Adolesc Med*. 1998;152(6):531 – 536.
36. Dao J. Vets' Mental Health Diagnoses Rising. *NY TIMES*. July 16 2009. http://www.nytimes.com/2009/07/17/health/views/17vets.html?_r=0. (accessed Nov 15, 2014).