Received: 1 December 2020 | Revised: 10 May 2021 | Accepted: 18 May 2021

DOI: 10.1002/hec.4364

HEALTH ECONOMICS LETTER

Health Economics WILEY

Conflict exposure and health: Evidence from the Gaza Strip

Michele Di Maio[1] | **Valerio Leone Sciabolazza**[2]

[1]Department of Economics and Law, Sapienza University of Rome, Italy

[2]Department of Business and Economic Studies, University of Naples Parthenope, Italy

Correspondence
Michele Di Maio, Department of Economics and Law, Sapienza University of Rome, Italy.
Email: michele.dimaio@uniroma1.it

Abstract

We study the impact of conflict exposure on health in the Gaza Strip using individual-level longitudinal data and geo-localized information on conflict-related violent events. Results show that individuals living in localities exposed to more conflict events have a higher probability of suffering from a physical impairment and a chronic disease. Two mechanisms contribute to explain why living in conflict-affected area increases the incidence of physical impairment: conflict increases the difficulty to reach health facilities and it decreases individual income. The conflict-induced increase in the probability of having high blood pressure is instead consistent with the development of Post-Traumatic Stress Disorder (PTSD) due to the exposure to conflict-related violent events.

KEYWORDS
conflict, Gaza Strip, health, health facilities, household income, violence

JEL CLASSIFICATION
C81, C83, C93, O10

1 | Introduction

More than 1.4 billion people live in countries affected by violence and conflict (World Bank, 2020). Medical case studies have consistently documented that being exposed to violence and conflict events is correlated with worse population health conditions (Cohen et al, 2007; Levy and Sidel, 2016). Yet rigorous evidence of a causal effect of conflict exposure on health is still scarce and mostly limited to children's health (Akresh et al., 2012; Bundervoet et al., 2009; Mansour and Rees, 2012; Minoiu and Shemyakina, 2014; Tsujimoto and Kijima, 2020; Zachary et al., 2018).

We thank the Editor and two anonymous referees for their constructive comments and suggestions. We also thank Tarik Alami, Valentina Calderon-Mejia, Davide Del Prete, Marwan Khawaja, Vincenzo Lombardo, Elena Paglialunga, and Maja Ramadan for useful comments. We also thank participants to the ESCWA Expert Group Meeting "Living conditions in the OPT and development under occupation", Amman (Jordan) and the WIDER Conference "Transforming economies for better jobs", Bangkok (Thailand). We thank the Palestinian Central Bureau of Statistics (PCBS) for providing the data and Marwan Khawaja for helping us with the dataset construction. The views expressed in this paper are those of the authors and do not necessarily reflect those of ESCWA. All errors are our own.

This paper documents the effect of conflict exposure on health conditions of young and adult individuals in the context of the Gaza-Israel conflict.[1] Taking advantage of unique individual-level longitudinal health information and of detailed geo-localized information on conflict events, we show that higher conflict exposure worsens health conditions of people in the Gaza Strip: living in more conflict-affected localities increases the probability of having a physical impairment and a chronic disease. These effects are heterogeneous across age groups, being significant only for non-young individuals. We also provide suggestive evidence on the possible mechanisms explaining these effects. Individuals living in more conflict-exposed localities - even if themselves not directly affected by violence - have a higher probability of suffering from a physical impairment because conflict increases their difficulty to reach health facilities when needed and it decreases individual income, reducing available resources for medications and medical treatments. The conflict-induced increase in the probability of having high blood pressure is instead consistent with the development of Post-Traumatic Stress Disorder (PTSD) due to the exposure to conflict-related violent events.

Our paper is related to different strands of literature. First, it contributes to the economics of conflict literature by providing evidence of the negative effect of conflict exposure on various types of health diseases, by considering both young and adult individuals, and by documenting possible mechanisms explaining these effects. Second, by focusing on the indirect effect of conflict, i.e. living in a locality affected by conflict-related events, our results speak to the medical literature on the link between being exposed to local violence and having a chronic disease (Tung et al, 2018; Wilson et al., 2004). Finally, our analysis adds to the growing economic literature on the Israeli-Palestinian conflict by providing novel evidence on the effects of the Gaza-Israel conflict on the Gaza Strip population.[2]

2 | Data

Our individual-level data come from the Socio-Economic and Food Security (SEFSec) survey provided by the Palestinian Central Bureau of Statistics (PCBS). This is a representative survey of the Palestinian population living in the Gaza Strip (PCBS, 2016). The panel nature of the data allows us to track the same individual for the period 2013–2018. One important feature of this survey is that, in addition to questions related to household characteristics and food security, it also includes a set of questions related to the individual's health condition.[3] Our sample includes all individuals aged 11–70. Definitions and summary statistics for all variables used in the analysis are reported in Appendix A1. Results for the attrition analysis are reported in Appendix A2.

To measure conflict intensity, we use the geo-localized information on political violence provided by the ICEWS dataset (Shilliday and Lautenschlager 2012). This dataset collects information from international, national, and local news publishers to record any violent interaction occurred between socio-political actors. These data are considered highly reliable and have been already used in studies on the Gaza Strip (Amodio et al., 2020). The detailed list of the conflict events considered in the construction of the conflict exposure measure is reported in Appendix A.3. Figure 1 shows the geographical (panel a) and the yearly distribution (panel b) of conflict events during the period of analysis: conflict intensity exhibits large variations both across localities and over time (see also the summary statistics on the conflict-related violent events reported in Appendix A1, Table A1).

3 | Estimation strategy

We estimate the effect of conflict exposure on individual health using the following model:

$$Health_{it} = \alpha + \beta\, Number\ of\ Conflict\ Events_{10km\ (i,t-1)} + \mu X_{it} + \pi_i + \rho_t + \varepsilon_{it} \quad (1)$$

where $Health_{it}$ is our proxy for individual-level health conditions for individual i at time t. As a first health outcome, we consider $Physical\ impairment_{it}$, a dummy variable which takes value one if individual i at time t reports suffering from any difficulty in vision, hearing, or movement, and 0 otherwise. As an additional outcome, we consider $High\ Blood\ Pressure_{it}$, a dummy variable which takes value one if individual i at time t reports suffering from high blood pressure, and 0 otherwise. $Number\ of\ Conflict\ Events_{10km\ (i,t-1)}$ is the number of conflict-related violent events which occurred in the 10 km radius from the place of living of the individual during the 12 months before the date of the interview.[4] X_{it} is a vector of individual time-varying characteristics. π_i and ρ_t are individual and time fixed effects,

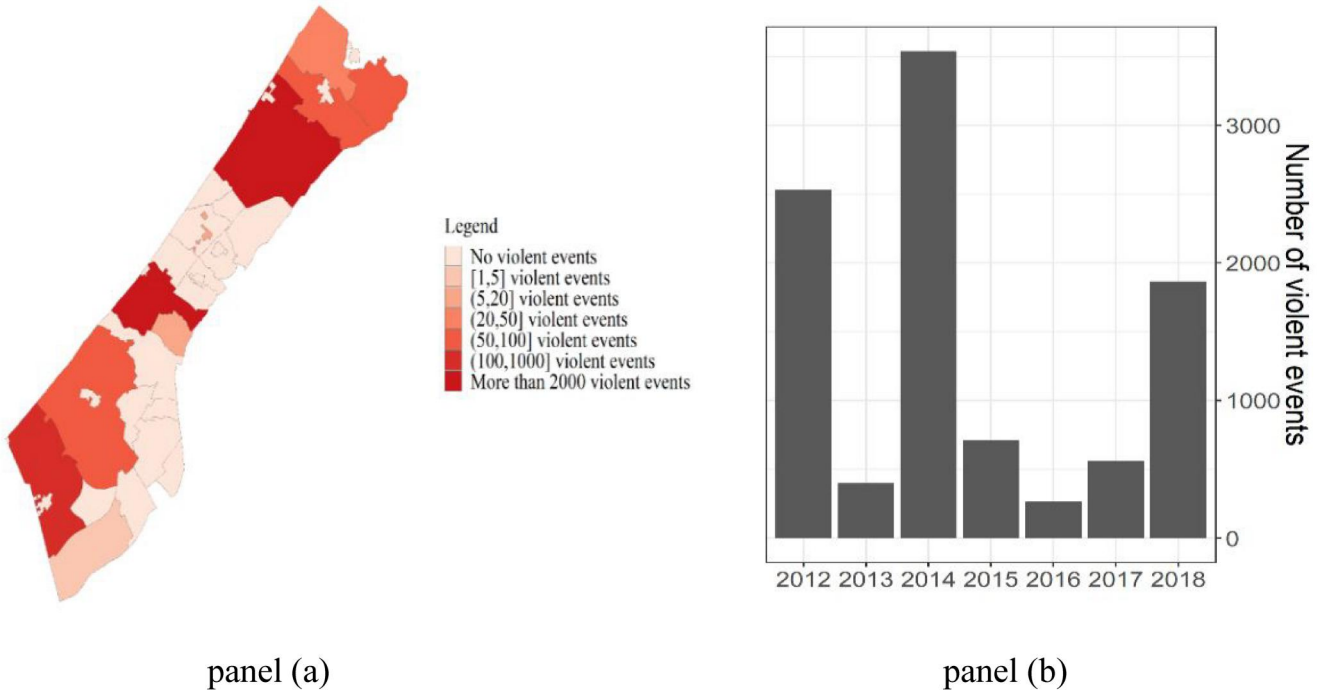

FIGURE 1 Number of conflict-related violent events in the Gaza Strip (2012–2018)

respectively. Individual fixed effects control for all time-invariant unobservable individual characteristics. Year fixed effects capture overall trends in local condition common to all individuals. Finally, ε_{it} is the error term. In the analysis, $t = 2013$ and 2018 for *Physical impairment*$_{it}$ and $t = 2015$, 2018 for *High Blood Pressure*$_{it}$.

There are three main threats to our identification strategy. The first one is that of reverse causality: if people with health problems attribute their condition to the conflict situation they may be more willing to participate in demonstrations, possibly increasing the number of conflict events. This possibility is not supported by the data: conflict intensity at the locality level is not predicted by the locality-level percentage of people with health problems (see Appendix A4, Table A4 column 1). At the same time, conflict intensity does not depend on the unemployment level or the share of drop-out students in the locality (columns 2 and 3).[5] Secondly, our measure of conflict intensity may suffer from measurement bias. For instance, reporting of conflict events may be biased toward certain regions or types of events. Previous studies have shown that this is not the case for the ICEWS dataset (Amodio et al. 2020). Third, individuals may respond to an increase in conflict intensity by changing residential location. If migrating individual were healthier, the negative effect of conflict on health conditions would just be the result of individuals relocating away from high-conflict areas. This is unlikely to be the case for the Gaza Strip. International migration is nearly zero due to the Israeli-imposed restrictions and internal mobility is traditionally low (PCBS, 2011; Etkes and Zimring, 2015). These observations together with the results of the attrition analysis (Appendix A2) indicate that conflict-induced relocation is not a serious threat to our identification strategy.

4 | Results

4.1 | Main results

Table 1 shows our main results. Column 1 reports the baseline estimate for our regression model when we use as dependent variable *Physical impairment*$_{it}$. An increase in the individual's level of conflict exposure (as proxied by the number of conflict-related events which occurred in the 10 km radius from the place of living of the individual during the 12 months before the date of the interview) increases her probability of having difficulties in vision, hearing, or movement.[6] The magnitude of the effect is large: 100 more conflict events in the last 12 months increase by 31% the probability of having a physical impairment with respect to the sample average. The magnitude of the effect is

TABLE 1 Effect of conflict exposure on health conditions

	Suffers from difficulties in vision, hearing, or movement (1 = Yes)			Suffers from high blood pressure (1 = Yes)		
	(1)	(2)	(3)	(4)	(5)	(6)
Number of Conflict Events$_{10km\ (i,t-1)}$	0.0004** (0.0001)	0.0004** (0.0001)	0.0005** (0.0002)	0.0003** (0.0001)	0.0003** (0.0001)	0.0005** (0.0002)
Age	0.0589*** (0.0055)	0.0584*** (0.0056)	0.0583*** (0.0055)	0.0269 (0.0208)	0.0276 (0.0208)	0.0284 (0.0209)
Has health insurance (1 = Yes)		0.3181 (0.2839)	0.3260 (0.2861)		0.4622** (0.2109)	0.4785** (0.2112)
Received (any) assistance or aid (1 = Yes)		0.4916*** (0.1137)	0.4932*** (0.1138)		0.0640 (0.0781)	0.0617 (0.0786)
Number of Conflict Events (spatial lag)$_{i,t-1}$			0.0000 (0.0000)			0.0000 (0.0000)
Individual controls	No	Yes	Yes	No	Yes	Yes
Individual fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	10566	10566	10566	10462	10462	10462

Note: Conditional logit estimated coefficients. *Number of Conflict Events*$_{10km\ (i,t-1)}$ is the number of conflict-related violent events which occurred in the 10 km radius from the place of living of the individual during the 12 months before the date of the interview. In column 1-3, the dependent variable is *Physical impairment*$_{it}$, a dummy variable which takes value 1 if individual *i* at time *t* reports suffering from any difficulty in vision, hearing, or movement, and 0 otherwise. In column 4-6, the dependent variable is *High Blood Pressure*$_{it}$, a dummy variable which takes value 1 if individual *i* at time *t* reports suffering from high blood pressure and 0 otherwise. The sample in column (1-3) includes individuals in SEFSec wave five and seven (t = 2013, 2018). The sample in column (4-6) includes individuals in SEFSec wave six and seven (t = 2015, 2018). The mean of the outcome variables is 0.12 and 0.11, respectively. *Individual (time-varying) controls* are: household size; percentage of children in the household, employment status of the individual, number of hours worked. *Number of Conflict Events (spatial lag)*$_{i,t-1}$ is the total number of conflict-related events occurred in the Gaza Strip in the previous 12 months, weighted by their distance from individual *i*. Robust standard errors are clustered at the individual level. *, **, *** indicate statistical significance at the 10, 5 and 1 percent level, respectively. Data sources: ICEWS, SEFSec.

unchanged when we add a set of (time-varying) individual controls, including having a health insurance and having received (any) form of assistance or aid (column 2). The positive and statistically significant coefficient for the latter control suggests that aid targeting works well in the Gaza Strip.[7] Finally, in column 3, we control for spatial autocorrelation in the effect of conflict by including the variable *Number of Conflict Events* $(spatial\ lag)_{i,t-1}$, i.e. the weighted sum all conflict-related events occurred in the Gaza Strip in the last 12 months, where the weights are the distance of each event from individual *i*. When controlling for the potential spill-over effect of conflicts events across all the Gaza Strip, the coefficient of our variable of interest remains significant and its magnitude increases with respect to the baseline. Column 4 reports the baseline results when we use as dependent variable $High\ Blood\ Pressure_{it}$: 100 more conflict events in the locality of residence of the individual increases by 29% the probability of having high blood pressure with respect to the sample average. The magnitude and the significance of the effect is unchanged when we include individual controls (column 5) and it increases when we also control for spatial autocorrelation (column 6).[8]

4.2 | Heterogeneity

As shown in Table 2 panel A, the effect of conflict exposure on the probability of having a physical impairment increases with the age of the individual. In line with previous studies, Table 2 panel B indicates that the effect of living in violence-affected localities on the probability of suffering from high blood pressure is significant only for middle-age individuals (Wilson et al., 2002).

TABLE 2 Effect of conflict exposure on health conditions: Heterogeneity

	Panel A		
	Suffers difficulties in vision, hearing, or movement (1 = Yes)		
	Young (1)	**Middle (2)**	**Old (3)**
$Number\ of\ Conflict\ Events_{10km\ (i,t-1)}$	0.0001 (0.0008)	0.0003* (0.0002)	0.0019** (0.0007)
Individual fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of observations	1716	7748	1102
	Panel B		
	Suffers from high blood pressure (1 = Yes)		
	Young (1)	**Middle (2)**	**Old (3)**
$Number\ of\ Conflict\ Events_{10km\ (i,t-1)}$	0.0000 (0.0007)	0.0006** (0.0002)	0.0002 (0.0002)
Individual fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of observations	1614	7713	1135

Note: Conditional logit estimated coefficients. $Number\ of\ Conflict\ Events_{10km\ (i,t-1)}$ is the number of conflict-related violent events which occurred in the 10 km radius from the place of living of the individual during the 12 months before the date of the interview. In Panel A, the dependent is $Physical\ impairment_{it}$ (see Table 1 for the definition) and the sample includes individuals in SEFSec wave five and seven. In Panel B, the dependent is $High\ Blood\ Pressure_{it}$ (see Table 2 for the definition) and the sample includes individuals in SEFSec wave six and seven. All regressions include the control for age. *Young* is defined to be an individual aged 11-20 years old; *Middle* is 21-54 years old; *Old* is 55-67 years old. Robust standard errors are clustered at the individual level. *, **, *** indicate statistical significance at the 10, 5 and 1 percent level, respectively. Data sources: ICEWS, SEFSec.

4.3 | Robustness checks and additional results

Our results are robust to the use of the Generalized Estimating Equation (GEE) approach. GEE can be used in alternative to fixed effects models for longitudinal data when there is uncertainty about the underlying distribution of the independent variables (Diggle et al. 2002). This applies to our case since the conflict exposure measure is not normally distributed, and it is so even after a log-normalization. Results (available upon request) obtained using the GEE are reassuring for our main finding: for both health outcomes, the estimated effect of an increase in conflict exposure is positive and highly statistically significant.

Finally, we explore the effect of conflict exposure depending on the timing of the conflict events considered. Results (available upon request) show that conflict exposure increases the probably of physical impairment also when we consider only more recent events with respect to date of the interview, namely those occurred in the last 9 and 6 months, respectively. In these cases, the effect of conflict exposure is larger than in our baseline. We also find that being exposed to a very high level of conflict intensity in the last 3 months before the interview has a very large and statistically significant effect on the probability of reporting physical impairment. The effect of more recent conflict events on the probability of having high blood pressure is also positive and statistically significant but slightly smaller in magnitude than in the baseline. These results suggest that - whereas conflict exposure may rapidly lead to physical impairment, the probability of suffering from high blood pressure increases with the duration of the exposure to conflict events.

4.4 | Mechanisms

There are various possible mechanisms explaining the negative effect of (indirect) conflict exposure on having a physical impairment. The first mechanism is the impact of conflict on the access to health services (WHO, 2016). Table 3 column (1) shows that higher conflict exposure increases the difficulty to reach the (closest) health facility, while controlling for both individual and time fixed effects. In turn, the more difficult is to reach a health facility, the higher the probability of having a physical impairment (column 3). These results are consistent with a situation in which the incidence of having a physical impairment worsen because - due to the conflict situation - individuals have more difficulties to see a doctor when needed and thus they may end up not treating their disease.[9] The second mechanism is the conflict-induced reduction in income. Table 3 column (2) indicates that conflict intensity has a negative and significant effect on income, controlling for individual and time fixed effects. Column (4) in turn shows that a lower income increases the probability of having a physical impairment. As indicated by WHO (2016), in the Gaza Strip the decrease in income has reduced the access to fee-based medical treatments and the purchases of

TABLE 3 Mechanisms: conflict exposure and physical impairment

	Difficulty reaching health facility (1)	(Log) Individual income (2)	Suffers difficulties in vision, hearing, or movement (1 = Yes) (3)	(4)
Number of Conflict Events$_{10km\ (i,t-1)}$	0.0003** (0.0001)	−0.0001* (0.0000)		
Difficulty reaching health facility			0.237* (0.122)	
(Log) Individual income				−0.388*** (0.063)
Individual Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Number of Observations	10566	10566	10566	10566

Note: Column 1, 3, and 4 report conditional logit estimated coefficients. Column 2 reports OLS estimated coefficients. In column 1, the dependent variable is *Difficulty reaching health facility*, a dummy variable which takes value 1 if the answer is "high difficult" or "low difficult" and zero if the answer is "no difficult". In column 2, the dependent variable is *(Log) Individual income* which is computed as the log of per-capita household income. In column 3 and 4, the dependent is *Physical impairment*$_{it}$ (see Table 2 for the definition). The sample includes individuals in SEFSec wave five and seven (t = 2013, 2018). In all regressions, robust standard errors are clustered at the individual level. *, **, *** indicate statistical significance at the 10, 5 and 1 percent level, respectively. Data sources: ICEWS, SEFSec.

medications. Lower income is also associated with poorer-quality housing[10] and dietary intake, and higher probability of risky behaviour. Taken together, these results indicate that the conflict - by reducing income - increases vulnerability and the probability of suffering from a physical impairment.

While the exact mechanisms underlying the effects of exposure to violence on high blood pressure are still debated in the medical literature, there is evidence that violence-induced elevated sympathetic nervous system activity (Wilson et al., 2004) and Post-traumatic Stress Disorder (PSTD) (Gerin et al., 2005; Tung et al., 2019) may play a role.[11] We cannot directly test for these channels due to data limitation. Yet, we interpret the large evidence showing that conflict exposure increases PSTD cases in the Gazan population as providing indirect support for this mechanism being at work (Ayer et al., 2017; Thabet et al., 2008; WHO , 2016).

5 | Conclusions

The Gaza-Israel conflict has been attracting much attention both in the media and among researchers in different disciplines. Yet its consequences on population health have been largely overlooked. Using longitudinal individual-level data combined with geo-localized data on conflict events, we show that higher conflict exposure worsens health conditions of people in the Gaza Strip: living in more conflict-affected localities increases the probability of having a physical impairment and high blood pressure. Two mechanisms contribute to explain the conflict-induced increase in the probability of having a physical impairment: conflict increases the difficulty to reach health facilities and decreases individual income. The conflict-induced increase in the probability of having high blood pressure is instead consistent with the development of PTSD due to the continuous exposure to conflict-related violent events. Our results suggest that individuals living in a conflict affected area - even if not being victims of a violent act – suffer large negative health effects which need to be accounted for not to underestimate the true effect of conflict on public health.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from PCBS. Restrictions apply to the availability of these data, which were used under license for this study. Data are available from the authors with the permission of PCBS.

ORCID

Michele Di Maio https://orcid.org/0000-0003-2622-6780
Valerio Leone Sciabolazza https://orcid.org/0000-0003-2537-3084

ENDNOTES

[1] The Gaza-Israel conflict started in 2006 and it is still on-going (see Assaf, 2014).

[2] Most of previous studies have investigated the Second Intifada (2000–2006) (Cali and Miaari, 2018; Di Maio and Nisticò, 2019) while only few have analysed the effect of the sequent phases of the conflict. Etkes and Zimring (2015) document the negative impact of the Israeli-imposed 2007 blockade on Gaza Strip economy. Bruck et al. (2019) show that the 2014 Gaza conflict reduced households' resilience capacity.

[3] The 2013 survey and the 2018 survey include the question: "Are you suffering from difficulties in vision, hearing, or movement?". The 2015 survey and the 2018 survey include the question: "Are you suffering from high blood pressure?".

[4] Measuring the intensity of conflict exposure by the number of conflict events occurred in a given area and a given time period is the common practice for empirical studies looking at the effect of conflict on various outcomes (see for instance Berman et al., 2017; Bertoni et al., 2019; and Tsujimoto and Kijima, 2020).

[5] Being a dropout may increase rebellion in adolescents and thus the number of conflict events (Di Maio and Nisticò 2019).

[6] This effect is not due to the direct impact of conflict-related violence on the individual. In the 2018 wave (the only one for which this information is available) only 0.02% of the individuals reports that the reason for suffering from physical impairment is having being victim of a conflict-related violent act.

[7] In addition to the Palestinian Authority, numerous other international organizations and NGOs provide assistance in the Gaza Strip (WHO, 2018).

[8] Additional analysis shows that for both health outcomes the results are driven by the effect of the conflict events: "use conventional military force"; "fight with small arms and light weapons"; "fight with artillery and tanks". These are the events with ICEWS identification code 19 (see Table A3). Results available upon request.

[9] WHO (2018) documents that the conflict reduced the health sector capacity damaging and destroying health facilities.

[10] Poor-quality housing is associated with various negative health outcomes, including injury (Krieger and Higgins, 2002).

[11] Allostatic load theory suggests that cumulative prolonged exposure to violent events (e.g. frequently hearing gunshots at night) may activate physiologic response pathways that lead to metabolic or autonomic dysfunction (McEwen, 1998).

REFERENCES

Amodio, F., Baccini, L., & Di Maio. M. (2020). Security, trade, and political violence. *Journal of the European Economic Association*, *19*(1), 1–37. http://dx.doi.org/10.1093/jeea/jvz060

Akresh, R., Lucchetti, L., & Thirumurthy, H. (2012). Wars and child health: Evidence from the Eritrean-Ethiopian conflict. *Journal of Development Economics*, *99*, 330–340.

Assaf, N. (2014). *West Bank and Gaza - Investment climate assessment: Fragmentation and uncertainty*. World BankWorld Bank Group

Ayer, L., Venkatesh, B., Stewart, R., Mandel, D., Stein, B., & Schoenbaum, M. (2017). Psychological aspects of the Israeli-Palestinian conflict: A systematic review. *Trauma, Violence, & Abuse*, *18*, 322–338.

Berman, N., Couttenier, M., Rohner, D., & Thoenig, M. (2017). This Mine Is Mine! How Minerals Fuel Conflicts in Africa. *American Economic Review*, *107*(6), 1564–1610.

Bertoni, E., Di Maio, M., Molini, V., & Nisticò, R. (2019). Education is forbidden: The effect of the Boko Haram conflict on education in North-East Nigeria. *Journal of Development Economics*, *141*, 102249.

Bundervoet, T., Verwimp, P., & Akresh, R. (2009). Health and civil war in rural Burundi. *Journal of Human Resources*, *44*, 536–563.

Brück, T., d'Errico, M., & Pietrelli, R. (2019). The effects of violent conflict on household resilience and food security: Evidence from the 2014 Gaza conflict. *World Development 119*, 203–223.

Calì, M., & Miaari, S. H. (2018). The labor market impact of mobility restrictions: Evidence from the West Bank. *Labour Economics*, *51*, 136–151.

Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). Psychological stress and disease. *JAMA*, *298*(14), 1685–1687.

Diggle, P., Heagerty, P., Liang, K., & Zeger, S. (2002). *Analysis of Longitudinal Data*. Oxford University Press.

Di Maio, M., & Nisticò, R. (2019). Effect of parental job loss on child school dropout: Evidence from the Occupied Palestinian Territories. *Journal of Development Economics*, *141*, 10237.

Etkes, H., & Zimring, A. (2015). When trade stops: Lessons from the Gaza blockade 2007-2010. *Journal of International Economics*, *95*, 16–27.

Gerin, W., Chaplin, W., Schwartz, J. E., Holland, J., Alter, R., Wheeler, R., Duong, D., & Pickering, T. G. (2005). Sustained blood pressure increase after an acute stressor: the effects of the 11 September 2001 attack on the New York City World Trade Center. *Journal of Hypertension*, *23*, 279–284.

Krieger, J., & Higgins, D. L. (2002). Housing and health: time again for public health action. *Am J Public Health*, *92*(5), 758–768.

Levy, B. S., & Sidel, V. W. (2016). Documenting the effects of armed conflict on population health. *Annu. Rev. Public Health*, *37*, 205–218.

Mansour, H., & Rees, D. I. (2012). Armed conflict and birth weight: Evidence from the al-Aqsa Intifada. *Journal of Development Economics*, *99*, 190–199.

McEwen, B. S. (1998). Stress, Adaptation, and Disease: Allostasis and Allostatic Load. *Annals of the New York Academy of Sciences*, *840*, 33–44.

Minoiu, C., & Shemyakina, O. N. (2014). Armed conflict, household victimization, and child health in Côte d'Ivoire. *Journal of Development Economics*, *108*, 237–255.

PCBS. (2011). *Migration survey in the Palestinian Territory*. Palestine

PCBS. (2016). *Socio-Economic & Food Security Survey 2014*. Palestine

Shilliday, A., & Lautenschlager, J. (2012). Data for a Global ICEWS. Available at https://dataverse.harvard.edu/dataverse/icews

Thabet, A. A., Tawahina, A. A., El Sarraj, E., & Vostanis, P. (2008). Exposure to war trauma and PTSD among parents and children in the Gaza Strip. *Eur Child Adolesc Psychiatry*, *17*, 191–199.

Tsujimoto, T., & Kijima, Y. (2020). Effects of conflict on child health: Evidence from the 1990–1994 Northern Mali Conflict. *Health Economics*. forthcoming. *29*(11), 1456–1474.

Tung, E. L., Johnson, T. A., O'Neal, Y., Steenes, A. M., Caraballo, G., & Peek, M. E. (2018). Experiences of community violence among adults with chronic conditions: Qualitative findings from Chicago. *J Gen Intern Med*, *33*(11), 1913–1920.

Tung, E. L., Chua, R. F. M., Besser, S. A., Lindau, S. T., Kolak, M., Anyanwu, E. C., Liao, J. K., & Tabit, C. E. (2019). Association of Rising Violent Crime With Blood Pressure and Cardiovascular Risk: Longitudinal Evidence From Chicago, 2014-2016. *American Journal of Hypertension*, *32*(12), 1192–1198.

Wilson, D. K., Kliewer, W., Teasley, N., Plybon, L., & Sica, D. A. (2002). Violence exposure, catecholamine excretion, and blood pressure nondipping status in African American male versus female adolescents. *Psychosomatic Medicine*, *64*, 906–915.

Wilson, D. K., Kliewer, W., & Sica, D. A. (2004). The relationship between exposure to violence and blood pressure mechanisms. *Current Science Inc*, *6*, 321–326.

WHO. (2016). *Report of a field assessment of health conditions in the occupied Palestinian territory*. World Health Organization.

WHO. (2018). *Health conditions in the Occupied Palestinian Territory*. World Health Organization.

World Bank. (2020). *Poverty and Shared Prosperity 2020: Reversals of Fortune*. World Bank.

Zachary, W., Heft-Neal, S., Bhutta, Z., Black, R., Burke, M., & Bendavid, E. (2018). Armed conflict and child mortality in Africa: a geospatial analysis. *The Lancet*, *392*,(Issue 10150), 857–865.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

How to cite this article: Di Maio M, Leone Sciabolazza V. Conflict exposure and health: Evidence from the Gaza Strip. *Health Economics*. 2021;1–9. https://doi.org/10.1002/hec.4364