



A People in Danger

Effects on Health of the 2014 Israeli Offensive on the Gaza Strip



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Acknowledgments

This study is the result of joint efforts between the Institute of Community and Public Health (ICPH) at Birzeit University and the Economic and Social Commission for Western Asia (ESCWA). The lead authors are Rita Giacaman and Rula Ghandour (ICPH). Niveen Abu Rmeileh (ICPH), Marwan Khawaja, Rabih Bashour and Raffi Shirinian (ESCWA) provided technical support, and Tarik Alami (ESCWA) overall guidance. Data were provided by the Palestinian Central Bureau of Statistics (PCBS). The preliminary findings of this study were presented at the workshop on Palestine and the Occupation: Towards a Deeper Understanding and a Targeted Research Agenda, organized by ESCWA in Beirut on 25 and 26 November 2015.

Contents

P. 3 Acknowledgments

P. 7 Introduction

P. 9 1. Methodology

P. 13 2. Results

- P. 15 A. Sample characteristics
- P. 17 B. Socioeconomic situation
- P. 18 C. Food insecurity
- P. 19 D. Exposure to Israeli military violence during the 2014 offensive
- P. 20 E. Domestic violence
- P. 21 F. Chronic diseases, and physical and mental health
- P. 26 G. Regression analyses

P. 29 3. Discussion

P. 33 4. Conclusion

P. 43 Endnotes

P. 44 Bibliography

List of Figures

- P. 15 Figure 1. Main sample characteristics
- P. 16 Figure 2. Marital status indicators
- P. 16 Figure 3. Residence, refugee status and work
- P. 17 Figure 4. Selected poverty indicators
- P. 18 Figure 5. Selected indicators of food insecurity
- P. 19 Figure 6. Food insecurity levels
- P. 20 Figure 7. Exposure to Israeli military violence during the 2014 offensive
- P. 21 Figure 8. Exposure to domestic violence by type, age and sex
- P. 22 Figure 9. Reported chronic diseases
- P. 23 Figure 10. Self-rated health, and satisfaction with health and life before, during and after the 2014 offensive
- P. 23 Figure 11. Mental health rated as negative by selected associated factors
- P. 24 Figure 12. Moderate to high levels of distress by selected associated factors
- P. 24 Figure 13. Moderate to severe levels of human insecurity by selected associated factors
- P. 25 Figure 14. Causes of deprivation
- P. 26 Figure 15. Causes of suffering

P. 36 Annexes

- P. 36 I. Standard-of-living scale
- P. 37 II. Food insecurity scale
- P. 38 III. Exposure to domestic physical and psychological violence
- P. 39 IV. Mental health scale
- P. 40 V. Factor analysis with items included in the human insecurity and distress scales
- P. 41 VI. Multivariate binary logistic regression for chronic illness for people aged 30 years and above living in the Gaza Strip, 2014 N=1836
- P. 42 VII. Multivariate binary logistic regression for mental health for people living in the Gaza Strip, 2014 N=2954

Introduction

“Medicine is a social science, and politics is nothing more than medicine on a grand scale.”

Rudolf Virchow, nineteenth century German physician



Under Israeli military occupation since 1967, the Gaza Strip has been subjected to a near-total blockade since 2007 and to severe attacks by the Israeli military in recent years, the most intense of which took place in 2006, 2008, 2012 and 2014.¹ Policies of separation from the West Bank, and of isolation and containment, have also been in place for decades: closures began as early as 1991; they were intensified after 2000 during the Second Palestinian Uprising, and even more so after Hamas took over the Strip in June 2007 and the imposition of the blockade.² This situation has not only disrupted and sometimes destroyed the infrastructure and economy; it has also put people's lives under constant threat. With more than two thirds born following the Oslo Accords of 1993, most inhabitants of the Gaza Strip have been

living under chronic exposure to Israeli military violence³ and have suffered intense military attacks.

Most of the reports written on the repercussions of the summer 2014 Israeli offensive on the Gaza Strip have focused on emergency support and the documentation of infrastructural and economic damage. Some have undertaken specific assessments, examining the situation of children, women, health infrastructure or markets.⁴ All provided important tools to steer humanitarian responses and document the extent of the damage; however, the focus on specific sectors fails to depict the situation comprehensively.

Producing numerical accounts of destroyed structures and homes, of the killed and injured, and of those affected by diseases or disability is necessary, but insufficient to assess the impact of military offensives on the well-being and quality of life of the Palestinians. Protracted exposure to various types of military violence and prolonged suffering can have long-term health effects and eventually lead to death. Palestinians are not only subjected to violence; they also suffer from insecurity, uncertainty, humiliation and deprivation, all of which contribute to aggravate the short-term repercussions of military offensives.

This study examines some of the long-term consequences of occupation and violence on Palestinians in the Gaza Strip. It is based on a survey of the political, economic and social impact of the 2014 offensive as reported by Gazans themselves, and on data on their well-being and health. Health is a social construction, positively and negatively affected

by factors such as the economy, education, environment, housing and exposure to military and other forms of violence. Breaking disciplinary boundaries, the survey helped to understand some of the consequences of the most recent military offensive on the Gaza Strip and its effects on population health, in the context of protracted Israeli military occupation and blockade.

This paper is the first of a series, which will be produced based on the analyses of the 2015 survey data and other data sources. Its main

goal is to describe the effects of the 2014 Israeli offensive on Gaza, compounded with those of the previous offensives and the protracted blockade, on the health and well-being of adult Gazans (18+ years of age). The survey design, sample selection, field work, and data coding and entry, were carried out by the Palestinian Central Bureau of Statistics (PCBS), with technical assistance from the Economic and Social Commission for Western Asia (ESCWA) and the Institute of Community and Public Health (ICPH).

1. Methodology





1. Methodology



This study analyses data from the 2015 living conditions household survey, the first-ever panel household survey conducted by PCBS at the national level, designed as a panel to the 2013-2014 survey of the impact of occupation on the living conditions in the occupied Palestinian territory. The survey was implemented in the Gaza Strip and the West Bank between March and May 2015.

The survey sample consisted of three parts: (a) the original 2013 sample wave; (b) split households from the original 2013 sample; and (c) an additional refresher sample to compensate for an estimated 10 per cent attrition, including non-response. The final sample included a total of 7,503 households from the original 2013 wave (4,953 in the West Bank and 2,550 in the Gaza Strip), a refresher sample of 739 households (239 in the West

Bank and 500 in the Gaza Strip), and a split sample of 791 households (479 in the West Bank and 312 in the Gaza Strip). The total sample size was thus of 9,033 households, 3,362 of which were from the Gaza Strip.

The original 2013 sample was a stratified two-stage probability sample design, based on a sampling frame constructed from the 2007 PCBS population census. For the 2015 survey, a randomly selected adult aged 18 years or above was also chosen from each sampled household, thus introducing a third stage of selection to the original sample design.

Two separate instruments were used in the 2015 survey, a household instrument for household level items, and an individual questionnaire for adult-specific items such as health status and perception variables. All analyses reported in the study are based on weighted data for the Gaza Strip, with sampling weights consisting of both the cross-sectional base weights (the 2013 and refresher samples) and panel weights based on predicted probabilities of responding to the survey in the second wave.

For the purpose of this study, frequency distributions were inspected and tabulated. Some variables were recoded (based on frequency distributions, means and standard deviations), and cross tabulations were completed to enable the comparison of significant differences among groups. All bivariate results are significant at the $P < 0.05$ level.

Several scales were created to measure selected concepts, including standard of living, food insecurity, domestic exposure to physical and psychological violence, chronic disease,

mental health, distress, and human insecurity. A standard of living index (STL) was created, using questions related to the availability of different type of amenities at home (annex I). Cronbach's Alpha for this scale was 0.78. Any positive response was counted as "yes". An unweighted index was created from a range of 0 to 15 items. It was then recoded: 0-2 amenities at home corresponded to a low standard of living level; 3-6 amenities corresponded to a middle level; and 6-15 amenities corresponded to a high level. A food insecurity scale was created using a set of questions previously tested by PCBS (annex II). Cronbach's Alpha for this scale was 0.89. Any positive response was counted as "yes". A scale with a range of 0-9 was created using the count command (unweighted).

Two simple summation scales for exposure to domestic physical and psychological violence were constructed (unweighted) (annex III). Cronbach's Alpha for physical exposure to domestic violence was 0.89, and 0.67 for psychological violence. Any positive response was counted as "yes", and a scale of 0 to 14 was created for domestic physical violence, and of 0 to 3 for domestic psychological violence.

A chronic diseases variable was created based on specific chronic diseases reported by respondents as diagnosed by a doctor (hypertension, diabetes mellitus and heart disease). A yes/no variable was created for reports having one or more of these diseases recorded as "yes".

The mental health scale was created using the short version of the General Health Questionnaire (GHQ-12), an international instrument validated in Arabic.¹ Items included in the scale can be found in annex IV. Cronbach's Alpha was 0.82 for this scale. Responses of "worse than usual" or "much worse than usual"

were counted as "yes". A scale with a range of 0 to 12 was created using the count command (unweighted). Persons reporting four or more symptoms were classified as having negative mental health status.

The human insecurity and distress scales were developed by ICPH and validated in previous studies. These scales, as well as exposure to physical and psychological violence variables, were created using factor analysis (annex V). An explanatory factor analysis was conducted using principal component extraction with varimax rotation. Items with loadings of 0.4 or more were included in the factor's construction. Items were combined using the scores identified in the explanatory factor analysis, and the weighted average was calculated to create the four scales. Cronbach's Alpha was 0.81 for human insecurity, 0.88 for distress, 0.88 for physical exposure, and 0.8 for psychological exposure to violence. However, because the questions covering exposure to physical and psychological violence did not clearly indicate the source of violence (domestic and communal violence only as opposed to violence inflicted by the Israeli army as well), these scales were dropped from the analyses. New ones were created by selecting responses related exclusively to domestic violence (annex III).

Binary logistic regression analyses were conducted covering chronic diseases and mental health as dependent variables to check for confounders (annexes VI and VII).

The study, cross-sectional in nature, established associations not causation. It could not include all factors that might have influenced the findings. Finally, some of the results obtained cannot be explained using statistical methodologies alone and require further qualitative inquiries.

2. Results





2. Results

A. Sample characteristics

The survey sample included 2,819 persons aged 18 years and above, representing all adults in the Gaza Strip (figure 1. All differences between and within groups referred to in this study are statistically significant at the $P < 0.05$ level). Men and women were equally represented. The proportion of people under 30 years was high, at 48 per cent. Around 32 per cent reported having reached the post-secondary education level. Educational attainment varied by sex: 56 per cent of men reported having more than a high school education, compared with 45 per cent of women. Age was also an important factor: 40 per cent of people aged 30 to 59 reported having more than a high school education, compared with a low 4 per cent of people aged 60 and above, indicating a progress in educational attainment over time in the Gaza Strip.

Figure II shows that 68 per cent of the surveyed population reported being married; 27 per cent had never been married; and 5 per cent were widowed, divorced or separated. A high percentage (20 per cent) had been married under the age of 18 years. Thirty three per cent of women reported having been married before the age of 18, compared with only 3 per cent among men. No gender-related differences were recorded regarding the relation to the spouse, and 30 per cent reported being married to first cousins, a figure slightly higher than in the West Bank for women.¹ A high 57 per cent of the married persons reported that their spouse was from the community where they lived before their marriage. This survey was the first to include this variable, which is important as it may be one of the indicators of the localization of marriage, given restrictions on the movement of people and

Figure 1. Main sample characteristics (percentage)

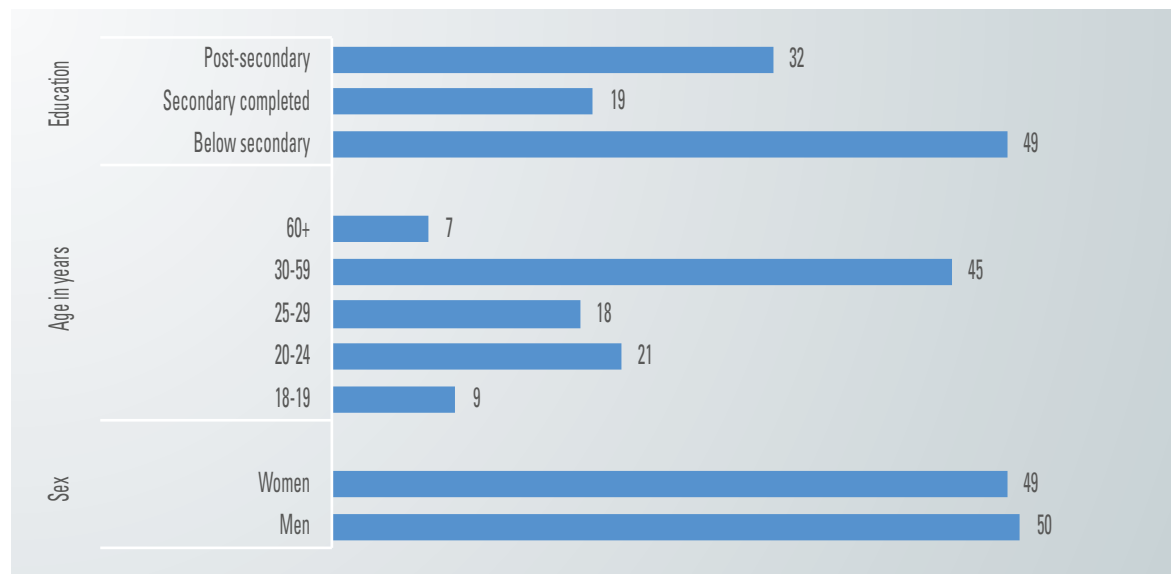
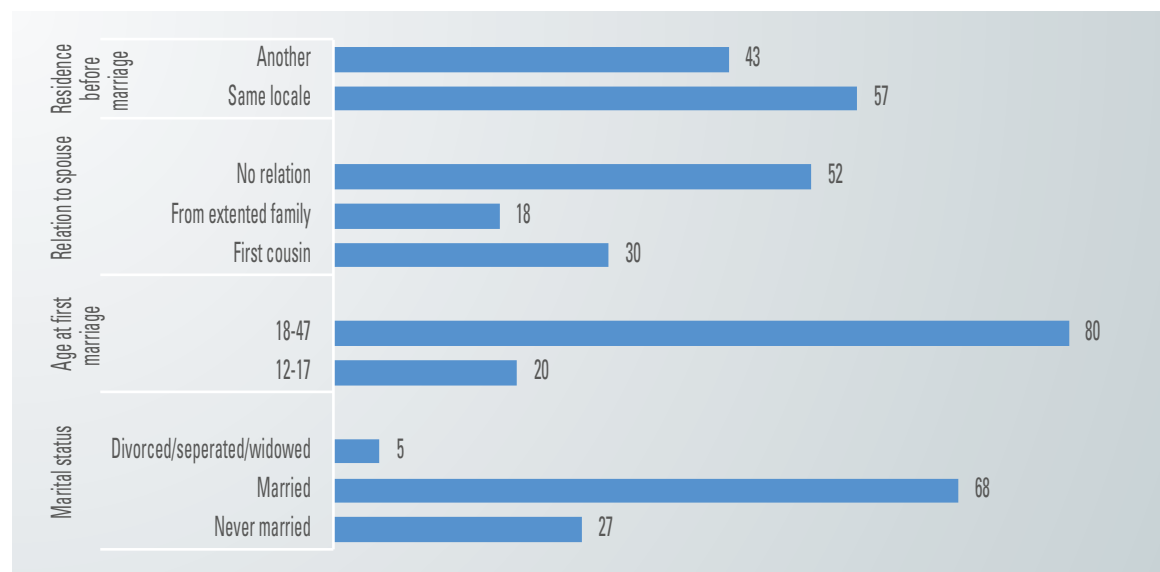
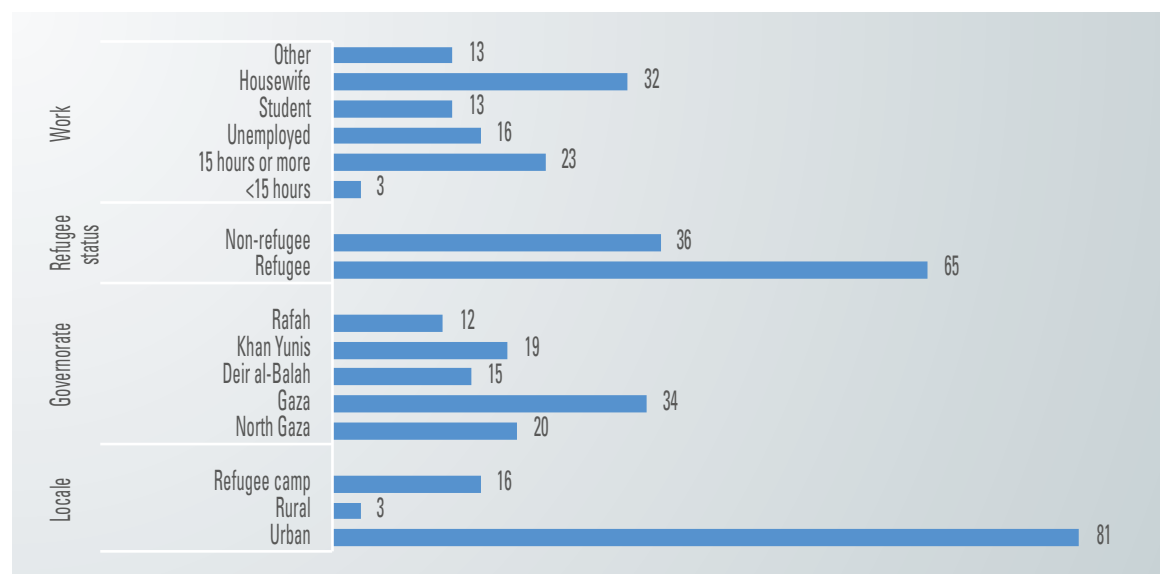


Figure 2. Marital status indicators (percentage)

goods within the West Bank and between the West Bank and Gaza. It is thus still impossible to establish time trends, but we postulate that occupation and the blockade affect all aspects of life, including marriage patterns. The inclusion of this variable in future PCBS surveys would allow the verification of this postulate.

Eighty-one per cent of respondents were living in urban areas, 16 per cent in refugee camps and 3 per cent in rural areas (figure 3). This distribution differs considerably from that of the West Bank, where over one third of the population lives in rural areas. Out of all respondents, 3 per cent reported working less than 15 hours daily, 23 per cent worked

Figure 3. Residence, refugee status and work (percentage)

15 hours or more, 16 per cent indicated being unemployed (searching for work), 13 per cent were students and 32 per cent housewives, while 13 per cent fell under “other,” including the retired and disabled. A disaggregation of data by gender showed that 38 per cent of men reported working, compared with only 9 per cent of women. Likewise, 27 per cent of men reported being unemployed compared with 6 per cent of women.² As expected, the 30 to 59-year-olds constituted the highest proportion of working people (30 per cent), and the 15 to 19-year-olds constituted the highest proportion of students (60 per cent).

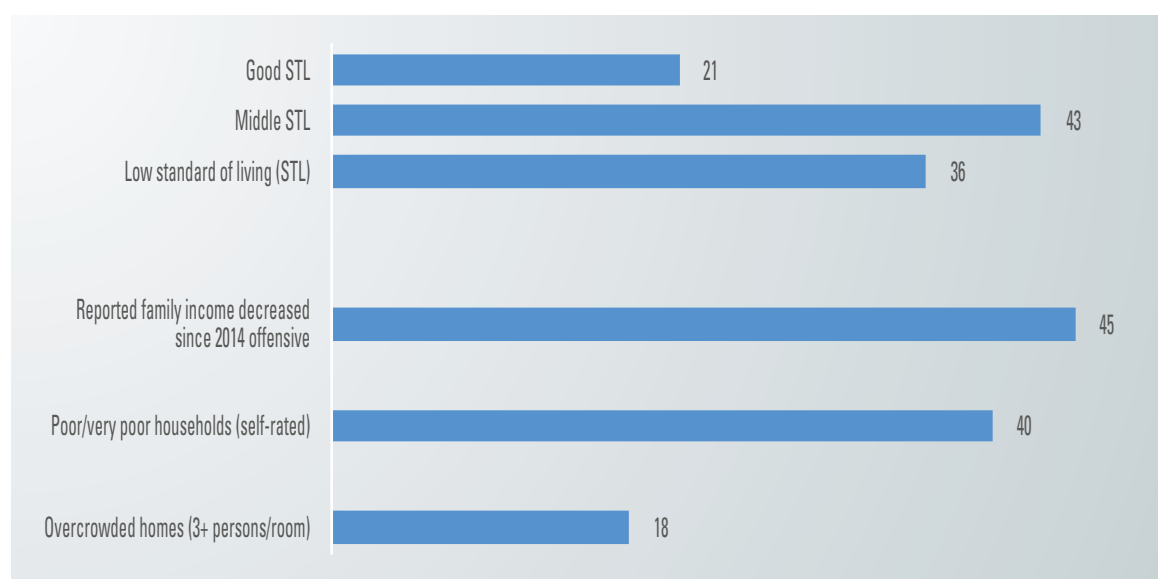
B. Socioeconomic situation

Gazan households were composed of 1 to 24 persons in 2014; 1 to 9 rooms were available per household, with a mean number of 3.65 rooms. Eighteen per cent of respondents reported living in overcrowded homes of three or more persons per room, which is an indicator of poverty. Forty per cent reported that their families were poor or very poor. Forty-five per cent reported a decrease of family income since the 2014 offensive, 4 per cent reported an increase, and

the rest unchanged income. As for the Standard of Living (STL) index, 36 per cent of respondents scored low, 43 per cent in the middle range, and 21 per cent had good STL levels. These variables will later serve to examine the relation between well-being/health and poverty.

The highest crowding level (three persons or more per room) was recorded in the Gaza Governorate, at 26 per cent, followed by 16 per cent in North Gaza, 14 per cent in Khan Yunis, 13 per cent in Rafah and 10 per cent in Deir al-Balah. While no differences were noted in household poverty levels by locale or governorate, 48 per cent of non-refugee respondents reported decreases in their family income since the 2014 offensive, compared with 44 per cent for refugees. More rural dwellers reported decreases in family income than people living in cities and refugee camps, but results were of borderline significance in that case. Fifty-one per cent of residents of the Gaza Governorate and Rafah reported decreases in family income since the 2014 offensive, compared with 46 per cent for residents of Khan Yunis, 39 per cent for Deir al-Balah and 37 per cent for North Gaza. Finally, 45 per cent of rural dwellers were in the low range of the

Figure 4. Selected poverty indicators (percentage)



STL, compared with 38 per cent for urban dwellers and, curiously, 26 per cent for refugee camp dwellers. Rural dwellers had also the lowest rates of good STL, at 16 per cent, while urban and refugee camps dwellers recorded 22 per cent each. Rural dwellers thus seem to be at a disadvantage in terms of standard of living.

C. Food insecurity

At the time of writing, PCBS data on food insecurity were still being analysed. A few basic indicators of food insecurity were selected for the purpose of this study, in order to study the relation between health and food insecurity for adults living in the Gaza Strip.

One adult per household was asked how many times during the previous 30 days their family had experienced the following: anxiety over food insufficiency (results showed that 64 per cent had experienced such anxiety 1 to 10 times in the previous 30 days); consumption of limited types of food (with 58 per cent having experienced such limitations); inability to consume their preferred foods (56 per cent); consumption of less food than needed (55

per cent); consumption of undesired foods (54 per cent); absence or insufficiency of food (44 per cent); consumption of less meals per day (43 per cent); going to bed hungry (13 per cent); and at least one household member having not eaten all day (with 11 per cent of households having experienced this 1 to 10 times in the previous 30 days) (figure 5).

To facilitate the analysis, responses to these nine interrelated questions were converted into a scale, which led to the following results: 20 per cent of households reported not having experienced any of these situations and thus not suffering from food insecurity; 24 per cent experienced 1 to 3 types of situations and thus suffered from mild food insecurity; 32 per cent experienced 4 to 6 types and thus suffered from moderate food insecurity; and 24 per cent experienced 7 to 9 types and thus suffered from severe food insecurity (figure 6). The above results are comparable to the December 2015 data of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) on the population of the Gaza Strip, according to which 72 per cent of the populations was classed as food insecure or vulnerable to food insecurity.³

Figure 5. Selected indicators of food insecurity (percentage)

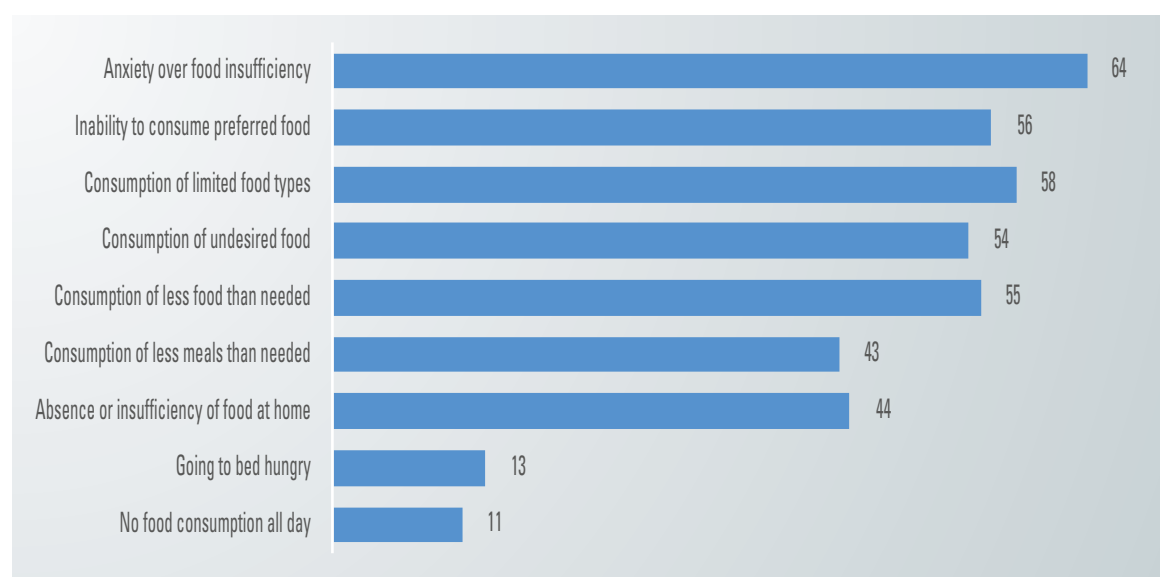
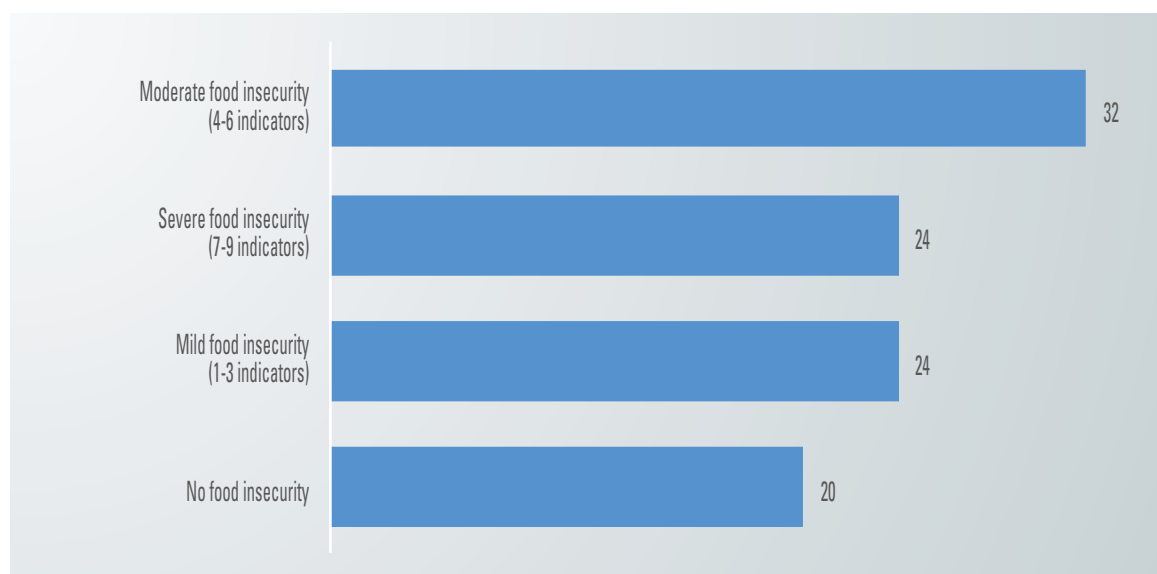


Figure 6. Food insecurity levels (percentage)

Results showed that food insecurity declined with age, with 18 and 19 per cent of respondents aged 18-29 and 30-49 respectively reporting no food insecurity, compared with 27 per cent of those aged 50 years and above. This correlation may be due to the higher levels of unemployment among youth. Higher levels of food insecurity were found in urban areas and refugee camps, where only 19 per cent of respondents reported no food insecurity, compared with 38 per cent in rural areas. Indeed, rural dwellers can produce their own food, while urban and camp dwellers are dependent on the food produced in the rural areas or food aid.

Twenty-eight per cent of residents in Khan Yunis reported no food insecurity, compared with 21 per cent in Gaza, 19 per cent in Deir al-Balah and only 14 per cent in North Gaza.

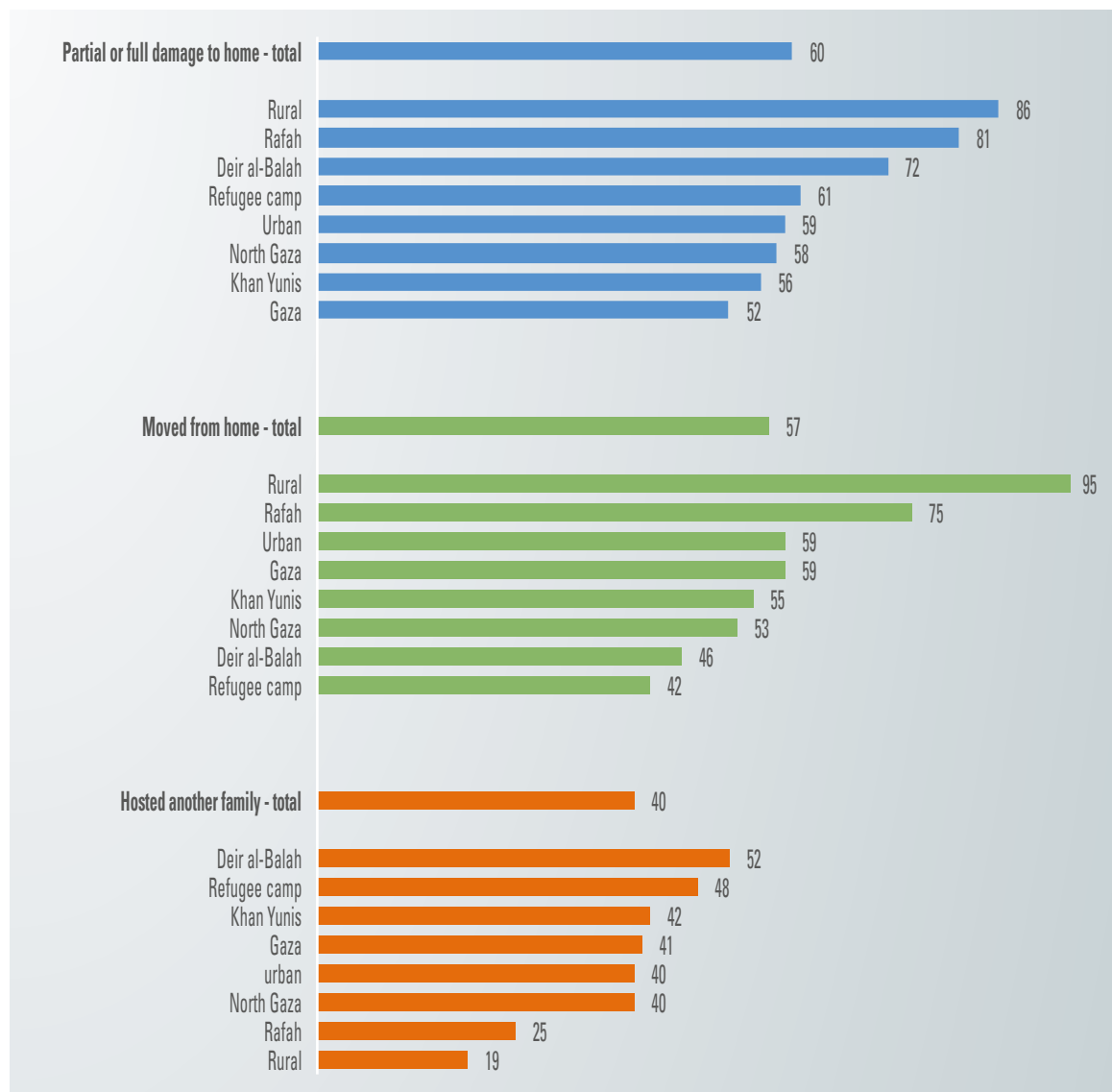
D. Exposure to Israeli military violence during the 2014 offensive

In addition to death, injury and disability, reported in many assessments, types of exposure to Israeli military violence include

partial and full destruction of homes, displacement (to escape death and injury), and sheltering others. Figure 7 shows significant variations according to governorate and locale.

A high 60 per cent of respondents reported partial (55 per cent) or total (5 per cent) damage to their homes as a result of the 2014 offensive, with the highest levels of home destruction in rural areas at 86 per cent. Residents of the Rafah Governorate reported the highest levels of home destruction, at 81 per cent, and residents of Gaza the lowest, at 52 per cent. Overall, 57 per cent had to leave their homes during the offensive, with a very high 95 per cent for rural dwellers, indicating serious risk on rural areas, and a relatively lower 42 per cent for refugee camps. Seventy-five per cent of Rafah Governorate residents left their homes, compared with 46 per cent of Deir al-Balah residents. Overall, 40 per cent of households hosted another family during the offensive, with 48 per cent in refugee camps and only 19 per cent in rural areas, which is due to the fact that the large majority of rural dwellers were themselves displaced. More than half of Deir al-Balah households hosted other families

Figure 7. Exposure to Israeli military violence during the 2014 offensive (percentage of population of each governorate/locale)

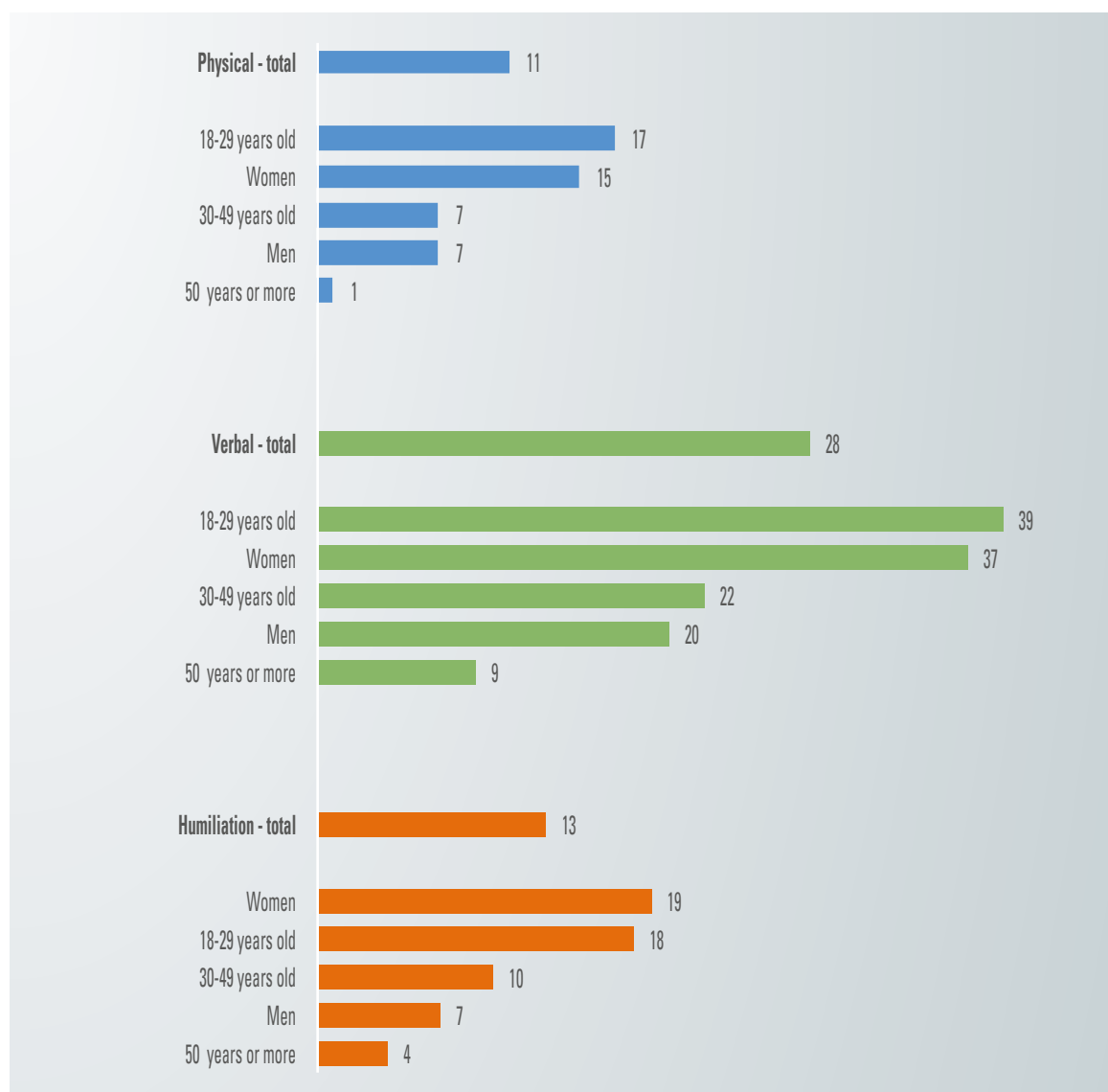


(52 per cent), compared with only a quarter of Rafah households (25 per cent), as Rafah, along with rural areas, was largely destroyed.

These results, revealing the severe living conditions of civilians during the 2014 Israeli offensive on Gaza, especially in rural areas and the Rafah Governorate, will serve to analyse the links between health conditions and the broader context in which people live.

E. Domestic violence

Persons aged 18 years and above were asked if they had been exposed during the previous 12 months to acts of physical and/or psychological violence, and/or humiliation, committed by family members. Overall, 11 per cent reported exposure to one or more types of physical violence, 28 per cent to one or more types of psychological violence, and 13 per cent to humiliation (figure 8).

Figure 8. Exposure to domestic violence by type, age and sex (percentage)

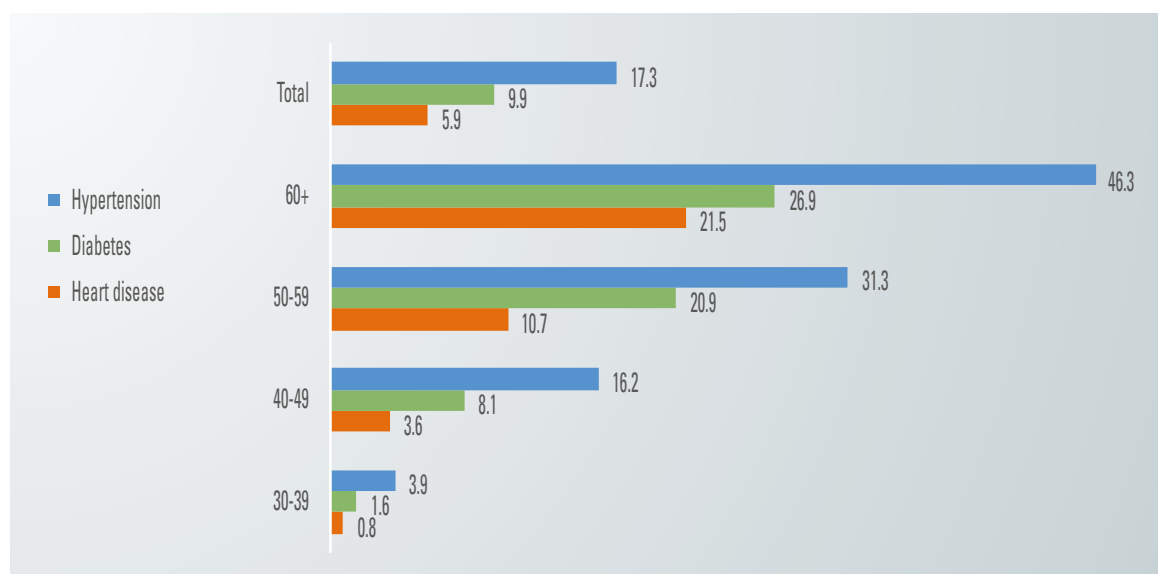
Young persons (18-29) and women reported high levels of exposure to all three types of acts of domestic violence, mostly committed by older men. The findings can be related to the prevailing patriarchal social structures, which entail the control of men over women, but also of older men over younger ones.

These results will enable the analysis of associations of different types of violence and the links between exposure to violence and health.

F. Chronic diseases, and physical and mental health

1. Chronic diseases

Only 7 per cent of survey respondents reported having no health insurance at all. The rest was insured through the Government, the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) or private insurance

Figure 9. Reported chronic diseases (percentage of adults aged 30 years and above)

companies, or through a combination of several sources. A screening of the health situation of persons aged 30 years and more, the age at which chronic diseases usually start to affect people, revealed a high prevalence of such diseases, with 17 per cent of respondents suffering from hypertension, 10 per cent from diabetes mellitus and 6 per cent from heart disease.

The prevalence of chronic diseases rose with age, and more women suffered from hypertension (21 per cent) than men (14 per cent), but no sex-related differences were found for diabetes mellitus and heart disease. No differences were recorded according to locale or governorate. Educational levels did seem to affect the results, as higher levels of chronic diseases were found among persons with a lower educational level. However, the education factor seemed less important than age.

2. Self-rated health, and satisfaction with health and life

Figure 10 shows generally low levels of self-rated health and satisfaction with life and health. Time comparisons reveal an

important issue: there was a major increase in the proportion of people reporting less than good health (62 per cent) and low satisfaction with health (50 per cent) and life (72 per cent) during the 2014 offensive, as expected. These figures declined after the offensive to 31, 27 and 44 per cent respectively, but remained higher than the levels registered before the offensive. Results thus seem to confirm that the effects of the 2014 offensive are enduring.

3. General mental health and well-being

The 12-item General Health Questionnaire (GHQ), an international screening tool for the assessment of general mental health status and well-being, was adopted in the survey. Overall, 32 per cent of respondents had a negative mental health status/well-being, as they reported suffering from four symptoms or more (figure 11). Rising age was an important factor: 25 per cent of the 18-29 year-olds reported being in a negative mental health status, compared with 38 and 40 per cent of persons aged 30-49 years and 50 years and above, respectively. The figures declined with rising education levels: 41 per cent of those not having reached secondary education reported being in a negative mental health status, compared with

Figure 10. Self-rated health, and satisfaction with health and life before, during and after the 2014 offensive (percentage of people with less than “good” reports)

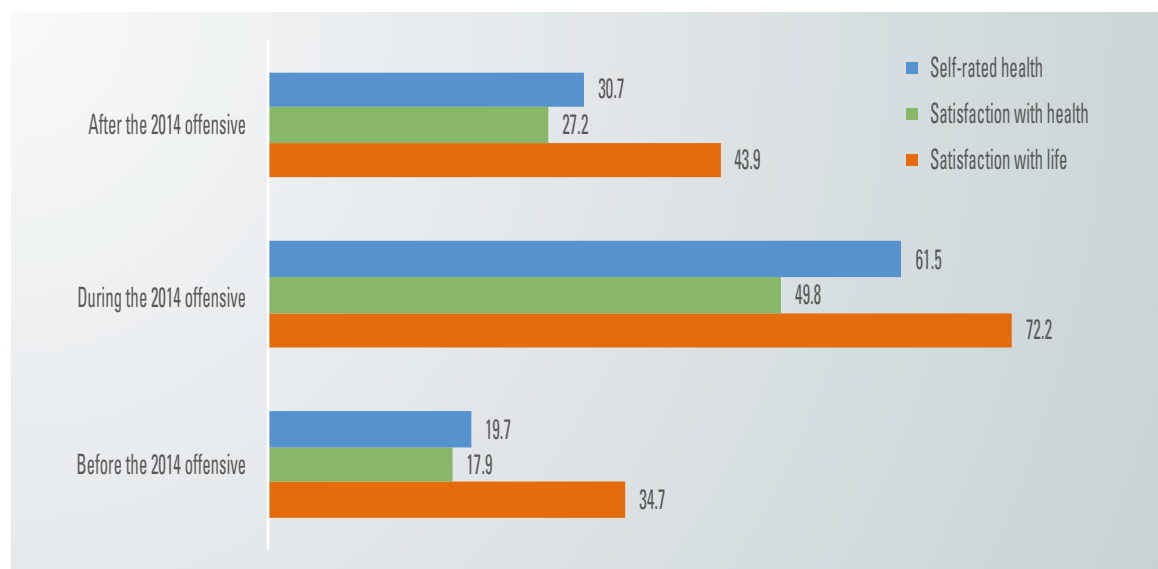
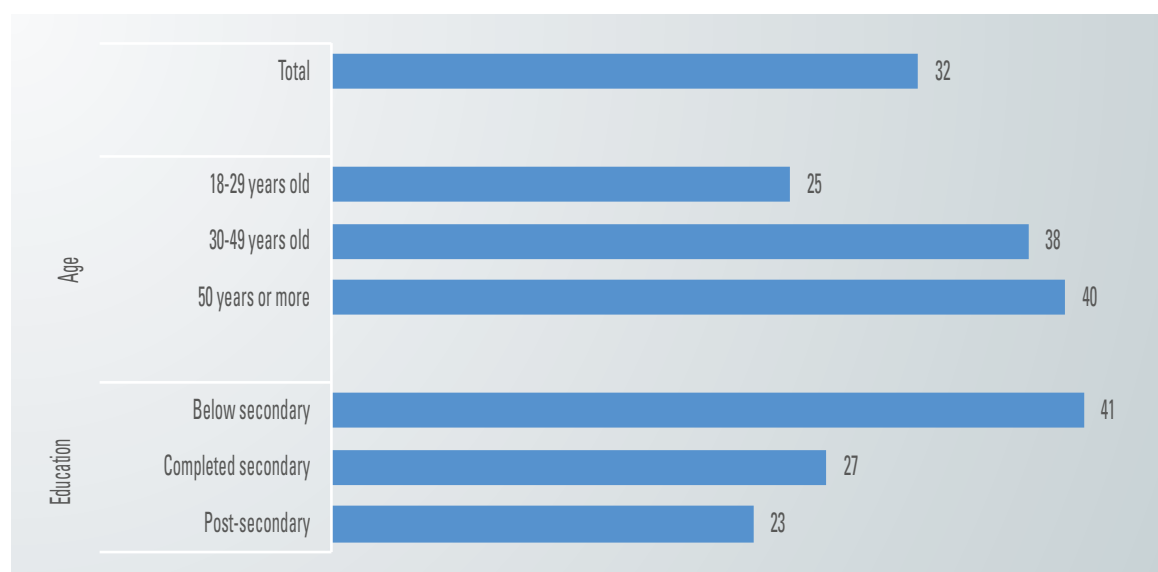


Figure 11. Mental health rated as negative by selected associated factors (percentage)

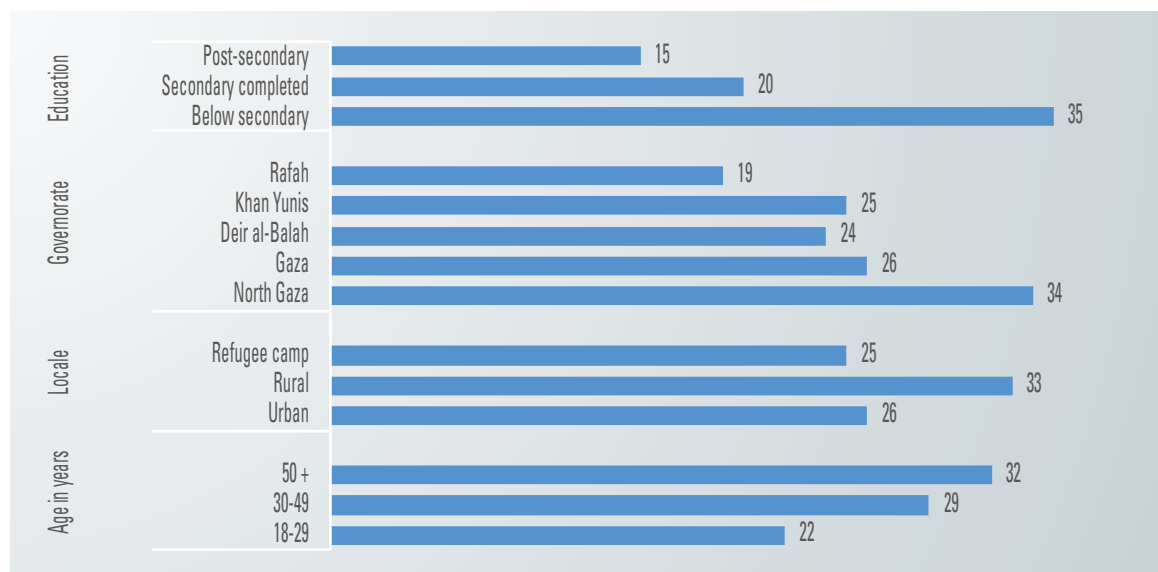
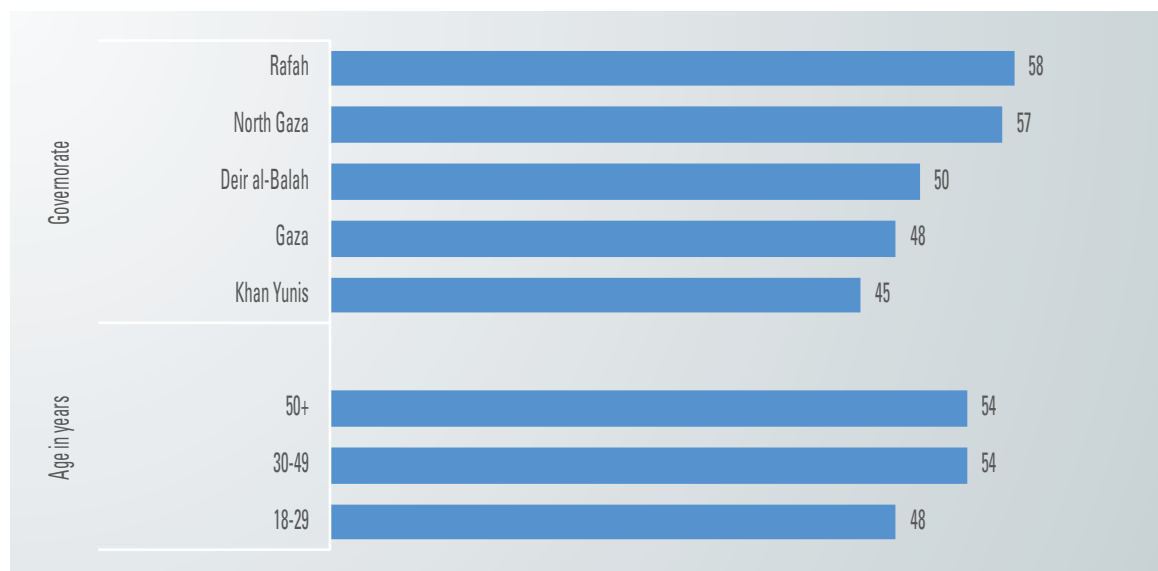


27 per cent of those who completed secondary schooling and 23 per cent of those with post-secondary education. These results remained significant even after controlling for age. In other words, both rising age and declining education levels affected the mental health status negatively. No significant correlations could be found with

the sex, locale (urban, rural, refugee camp) or governorate factors.

4. Distress

Overall, 26 per cent of respondents reported moderate to high levels of distress (figure 12).

Figure 12. Moderate to high levels of distress by selected associated factors (percentage)**Figure 13.** Moderate to severe levels of human insecurity by selected associated factors (percentage)

No sex-related or mental health-related differences could be recorded. Reports of moderate to high distress levels rose with age: from 22 per cent for youth aged 18-29 years, they increased to 29 per cent for persons aged 30-49 years and 32 per cent for persons aged 50 years and above, suggesting that chronic and repeated

exposure to violence may have a cumulative impact on health and well-being, compounded with that of the natural ageing process. Distress was also correlated with the education level: 35 per cent of those not having reached secondary education reported moderate to high distress, compared with 20 per cent of those who

completed secondary education and 15 per cent of those having reached the post-secondary level. The results remained significant even after controlling for age, and are consistent with the results of the general mental health indicator.

Rural dwellers registered the highest level of moderate to severe distress, 33 per cent, compared with 26 per cent for urban dwellers and 25 per cent for refugee camp dwellers. The result for rural dwellers should be further investigated; it may be linked to the destruction of rural eastern villages such as Khuza'a, the breadbasket of the Gaza Strip, during the 2014 offensive. As expected, the highest level of moderate and severe distress, 34 per cent, was reported in North Gaza, which was hit hard by the Israeli onslaught, followed by 26, 25 and 24 per cent for Gaza, Khan Yunis and Deir al-Balah respectively, and with a comparatively low 19 per cent for Rafah.

5. Human insecurity

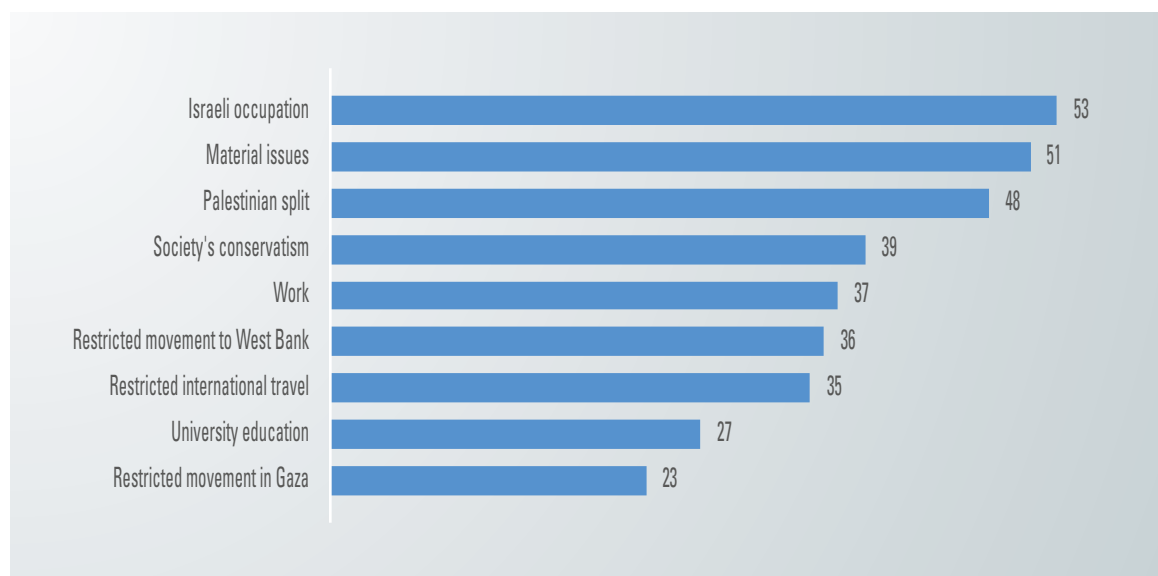
Human insecurity levels were high, with 51 per cent of respondents reporting moderate to severe insecurity (figure 13). Insecurity levels rose with age, with 49 per cent for 18 to 29-year-olds compared with 54 per cent

for persons aged 30 years and above. This suggests that chronic and repeated exposure to violence do have a cumulative effect over the life course. The correlation between human insecurity and education levels was inconsistent after controlling for age, and will therefore not be reported on. No differences were recorded in human insecurity levels by sex, just as in distress levels, suggesting that people of both sexes respond similarly to war trauma. While some differences were noted in human insecurity levels by locale, with higher levels in rural areas, the results were not statistically significant. In consistency with results on previous indicators, North Gaza respondents reported a high 57 per cent of moderate to severe human insecurity, compared with 50 per cent for Deir al-Balah, 48 for Gaza and 45 per cent for Khan Yunis. The high 58 per cent recorded in Rafah may be due to the destruction of the underground tunnels linking the Gaza Strip to Egypt, which had begun at the time of the survey field work.

6. Deprivation and its sources

Fifty-six per cent of surveyed persons reported that they felt deprived. Differences in

Figure 14. Causes of deprivation (percentage)



responses by age and sex were of borderline significance, whereas locality was significant, as the proportion of persons suffering from deprivation rose from 55 per cent for urban dwellers, to 59 per cent for refugee camp dwellers and 60 per cent for the rural population. These results suggest that relief actions should first target rural then refugee camp dwellers.

Among causes of deprivation, 53 per cent of persons underlined the Israeli occupation; 51 per cent material issues (deprivation from food, money, housing, etc.); 48 per cent the Palestinian political split; 39 per cent society's conservatism; 37 per cent lack of work; 36 per cent restricted movement to the West Bank; 35 per cent restricted travel abroad; 27 per cent lack of access to university education; and 23 per cent restricted movement within the Gaza Strip (figure 14).

7. Suffering and its causes

Surveyed persons were asked if suffering was part of their lives, and a high 84 per cent answered affirmatively. No sex or age-related differences were identified, and locale was of

borderline significance, with rural dwellers reporting the highest levels of suffering, at 90 per cent, compared with 84 per cent of urban dwellers and 80 per cent of refugee camp dwellers. Important differences were noted between governorates: Rafah respondents reported the highest levels of suffering, at 91 per cent, followed by North Gaza, at 89 per cent, Gaza, at 82 per cent, Deir al-Balah, at 81 per cent, and Khan Yunis, at 78 per cent. Asked about the causes of their suffering, 78 per cent of respondents highlighted the Israeli blockade; 77 per cent the 2014 offensive; 77 per cent the Israeli occupation; 76 per cent the Palestinian split; 74 per cent nepotism (presumably interfering with well-being and survival); 73 per cent global policies towards Palestinians; and 60 per cent the social restrictions imposed by Palestinian society (figure 15).

G. Regression analyses

Reports on chronic diseases were combined into one scale to create one dependent variable and check for confounders, in other words find out which of the various

Figure 15. Causes of suffering (percentage)



demographic, socioeconomic and political/military investigated factors had a significant effect on health. Overall, 12 per cent of the respondents aged 30 years and more reported having 1-3 chronic diseases (hypertension, diabetes mellitus and cardio-vascular disease) diagnosed by a doctor.

A multivariate binary logistic regression analysis was performed. Regression results (annex VI) showed that chronic diseases were associated with age: persons aged 40-49 years were four times as likely to report having chronic diseases as those aged 30-39 years; persons aged 50-59 years were 13 times as likely to report them as those aged 30-39 years; and persons aged 60 and above were almost 34 times as likely to report them as persons aged 30-39 years. Results also showed that men were at a lower risk of suffering from chronic illnesses compared with women.

Poverty was identified as a significant factor: people living in poor or very poor households were 1.6 times as likely to suffer from chronic illnesses as people living in better-off households. In contrast, people reporting a lower standard of living (affordability but also way of life) were less likely to report these diseases compared with those with a high standard of living, which requires further investigation. The only governorate-related difference identified was the following: people living in Khan Yunis were less likely to report chronic diseases compared with residents of North Gaza.

Exposure to Israeli military violence was also found to be associated with reports of chronic diseases: people who had hosted families fleeing their homes during the 2014 offensive were 1.44 times as likely to report chronic

diseases as people who had not; and the people who fled their homes were 1.47 times as likely to report chronic diseases as those who had not.

Regression results revealed significant associations between mental health status and age, with younger persons (18-29 years old) less likely to report a negative mental health status than people aged 50 years and above (annex VII). People not having completed secondary education were 1.27 times more likely to report negative mental health status than those having reached post-secondary education. Age did not interfere in the effects of education on mental health. Poor and very poor families were 1.3 times more likely to report negative mental health status than better-off families. Families whose income decreased after the 2014 offensive were 1.25 times more likely to report negative mental health status than those with unchanged or increased income. Persons in food-insecure households were 1.46 times more likely to report negative mental health status than those whose families were not food insecure. Persons who fled their homes during the offensive were 1.26 times more likely to suffer from negative mental health status than those who did not.

Additional factors identified as negatively affecting mental health were exposure to physical domestic violence, but not to verbal violence or humiliation (with people exposed to such violence 1.79 times as likely to report negative mental health status as people who were not); distress (4.74 times as likely); human insecurity (1.62 times as likely); deprivation (1.73 times as likely); and suffering (1.64 times as likely).

3. Discussion





3. Discussion

This study focused on the health and living conditions of persons aged 18 years and above a few months after the 2014 Israeli offensive on the Gaza Strip. It first described these conditions, then identified associations between two health status indicators, one on physical health (chronic diseases diagnosed by a doctor), and the other on mental health (using the GHQ-12, an international instrument validated in Arabic¹ and used in the region² and elsewhere).

A total of 2,819 persons were included in the analysis, representing all adult men and women living in all governorates and locales of the Gaza Strip. Out of those, 65 per cent reported themselves as refugees. The majority, namely 81 per cent, lived in urban areas, 16 per cent in refugee camps and only 3 per cent in rural areas. Gazans appeared to be well educated, with 32 per cent reporting to have reached post-secondary education. Yet, a total of 16 per cent were unemployed, 27 per cent for men and 6 per cent for women. Eighteen per cent reported living in overcrowded homes of three persons or more per room; 40 per cent reported their families as being poor or very poor; and 45 per cent reported that their family income had decreased since the 2014 offensive. Only 20 per cent reported no food insecurity at all, 24 per cent reported mild, 32 per cent moderate and 24 per cent severe food insecurity.

High levels of exposure to Israeli military violence were reported, with 60 per cent suffering from the partial or total damage of their homes, 52 per cent having fled their home and 40 per cent having hosted another family during the offensive. On domestic violence, 11 per cent reported having been exposed to physical violence in the previous

12 months, 28 per cent to verbal violence and 13 per cent to humiliation. The link between military and domestic violence should be examined in future studies.

Overall, 12 per cent of persons aged 30 years and above reported suffering from at least one of the following three chronic diseases, hypertension, diabetes mellitus and cardiovascular disease, diagnosed by a doctor. In addition, 32 per cent reported negative mental health/well-being, 26 per cent moderate and high levels of distress, 51 per cent moderate to severe human insecurity, 56 per cent feelings of deprivation, and a high 84 per cent reported that suffering was part of their lives.

The results of regression analysis with the chronic diseases variable set as the dependent variable established that reports of such diseases rose with age, with men at a lower risk than women, which is consistent with the literature on the subject.³ Chronic diseases were also significantly associated with poverty. The prevalence of these non-communicable diseases is rising at alarming rates and they are among the top killers in the Arab region.⁴ Residents of Khan Yunis had fewer reports of such chronic diseases than residents of North Gaza, which requires further investigation.

Importantly, exposure to Israeli military violence, including hosting families who were forced to leave their homes or fleeing one's own home, were also associated with reports of chronic diseases. However, whether the link between these diseases and this type of violence is due to direct exposure with stress leading to disease,⁵ or to the interruption of services during offensives⁶ and the ongoing blockade, or both, should be further

investigated. In the Gaza Strip, the ongoing choking blockade and repeated offensives over a short span of time have made medications unavailable and impeded health-care services in providing adequate care to the population in many ways.⁷

Thus, older persons, women more than men, poor persons and those subjected to Israeli military violence should be targeted first for health-related action, which cannot be restricted to the provision of shelter and emergency assistance during and in the aftermath of offensives.

Moreover, independent effects of age and education were found on mental health, with people aged 50 years and above and those with less education reporting higher levels of negative mental health compared with the better educated and the 18-29 year-olds. These results correspond, to some extent, to findings in the literature on age,⁸ and to those on education which is thought to enhance labour-market productivity and income growth for both men and women,⁹ thereby possibly improving the mental health status.

Coming from poor and very poor families and experiencing a decrease in family income after the offensive significantly affected mental health negatively. This result is in conformity with findings in the literature, which provides strong arguments for the existence of a link between poverty, depression, anxiety, and (even) mental illness. In fact, it has been postulated that serious mental illness is a disease of poverty, that action against deprivation and poverty can be a powerful public health measure to combat mental illness,¹⁰ and that mental disorder should be grouped with other diseases associated with poverty.¹¹

Food insecurity was also associated with negative mental health, as were distress,

human insecurity, exposure to Israeli military violence and physical domestic violence, feelings of deprivation, and suffering; and results were consistent with the findings of other studies. Food insecurity has been associated not only with adverse physical but also mental health.¹² Economic insecurity, a component of human insecurity, was also associated with psychological distress and non-specific physiological illness.¹³ A study conducted in the Gaza Strip following the 2008-2009 Israeli offensive on Gaza demonstrated a negative association between health-related quality of life, another measure of well-being, and human insecurity.¹⁴ Another study conducted in the occupied Palestinian territory found that four measures of health and suffering were associated with human insecurity and resource inadequacy,¹⁵ which is in consistency with the findings herein.

Likewise, the literature has reported on the connection of deprivation and relative deprivation with a higher probability of death, worse self-rated health and increased probability of what is called risky health behaviour.¹⁶ A strong link was found between suffering and negative mental health. Indeed, social (and political) suffering as a unifying concept which, in the case of the Gaza Strip, is rooted in political and other structural causes, including the way in which society is organized can encompass all the problems people endure. With traumas and pain eventually giving rise to health conditions, health can be considered a social indicator¹⁷ and, in this case, a political indicator as well. Finally, the results identify low levels of education, poverty, food insecurity, human insecurity, deprivation, suffering, and exposure to military and physical domestic violence as priorities for corrective actions to improve living conditions and, consequently, the mental health status of the residents of the Gaza Strip.

4. Conclusion





4. Conclusion

Death, disability and disease are the obvious and immediate consequences of military violence on human beings. This study, assessing and re-conceptualizing the impact of military offensives on the physical and mental health of survivors, uncovers the less obvious, “the wounds of the inside”

For decades, most Palestinians, and especially the inhabitants of the Gaza Strip, have been exposed to the stress of military occupation, blockade and other threats to their survival as individuals, families or entire communities. There is evidence that stress contributes to a variety of diseases, including cardiovascular ones,¹ and that stressors can lead to physiological changes inducing immune dysfunction.² In other words, stress has an impact on psychological and physical well-being, on the short and long terms.³ The failure to take into consideration cumulative traumas linked to stress could lead to an underestimation of the disorders it may cause.⁴ This study did not only attempt to capture the impact of exposure to Israeli military violence at a certain point in time; it also pondered the cumulative aspect of traumas that people in the Gaza Strip have endured over the years.

A life event framework can help understand how exposure to stress over the life course can lead to disease.⁵ The case of the residents of the Gaza Strip, most of whom have been

exposed to chronic stress with periods of acute intensification throughout their life, illustrates the importance of such notions as cumulative trauma and pervasive threats in understanding the impact of military offensives on health.

This study highlights the need to take into consideration military violence against individuals and entire communities when researching health. It stresses that continued exposure to violence has a long-term impact on health and psychosocial consequences. Yet, the individualized medicalization of collective suffering supported by many reveals an inadequate understanding of the possible effects of military violence on health. Indeed, many humanitarian responses to the repeated devastations of the Gaza Strip, and actions undertaken in Palestine in general, are problematic, as they tend to pathologize the suffering related to military offensives, and limit humanitarian responses to medications and psychosocial therapies. Political and social responses should instead be found to tackle the political and social causes of mass suffering and ill health. Bearing in mind the findings of the present study, the real remedies would be the immediate lifting of the blockade, the reconstruction of the Gaza Strip and, above all, of people’s lives. Gazans are a people in danger. They should obtain public recognition and justice.

Annex I

Standard-of-living scale

The following items were included in the scale:

1. Private car.
2. Water heater.
3. Automatic washing machine.
4. Vacuum cleaner.
5. Microwave.
6. Gas/electric stove.
7. Heater.
8. Home library.
9. Phone line.
10. Computer (PC).
11. Computer (laptop).
12. Smart mobile phone.
13. Air conditioner.
14. IPAD/tablet.
15. Television (LCD/LED/SD screen).

Annex II

Food insecurity scale

The following questions were included in the scale:

During the past 30 days, how many times did you experience the following:

1. Worrying about the unavailability of sufficient food for your family members.
2. Family members not being able to eat the desired food because of insufficient resources.
3. Family members being forced to eat specific types of food because of insufficient resources.
4. Family members being forced to eat unpreferred food because of insufficient resources.
5. Family members being forced to eat smaller amounts of required food because of unavailability.
6. Family members eating less meals because of insufficient resources.
7. Unavailability of food at home because of unavailability of resources to buy food.
8. One or more family members forced to sleep without eating (while hungry) because of food insufficiency.
9. One or more family members forced to not eat all day because of food insufficiency.

Annex III

Exposure to domestic physical and psychological violence

The following items were included in the scale:

Physical exposure:

1. Throwing things that may hurt you.
2. Twisting arm or pulling hair.
3. Aggression resulting in scars, wounds, joint pain.
4. Pushing with force.
5. Attacking with a knife, paper cutter, hatchet or any other similar sharp tool.
6. Hitting on the head leading to fainting.
7. Hitting using less sharp tool (belt, stick or the like).
8. Suffocating or attempting to suffocate.
9. Holding strongly.
10. Slapping in the face.
11. Breaking a bone.
12. Burning.
13. Kicking.
14. Biting.

Psychological exposure:

1. Insulting and humiliating.
2. Shouting or screaming.
3. Saying improper words to provoke anger.

Annex IV

Mental health scale (GHQ-12)

The following items were included in the scale:

1. Are you able to concentrate on your work as usual?
2. Do you find it difficult to sleep because you are worried or anxious?
3. Do you feel that you are playing a useful role in the lives of the people around you?
4. Are you capable of making your decisions as usual?
5. Do you feel that you are unable to overcome your problems?
6. Do you feel that you are under constant pressure?
7. Do you feel happy and satisfied while you do your work?
8. Do you feel that you are able to face/deal with your problems?
9. Do you feel sad or unhappy?
10. Have you lost your self-confidence?
11. Do you consider yourself useless?
12. Are you able to feel reasonably happy despite the situation?

Annex V

Factor analysis with items included in the human insecurity and distress scales

Human insecurity

Cronbach's Alpha: 0.81

1. To what extent does your family fear for your personal safety?
2. To what extent do you fear for yourself in your daily life?
3. To what extent do you fear for your family in your daily life?
4. To what extent do you worry about/fear not being able to provide your family with daily life necessities?
5. To what extent do you worry about/fear losing your source of income or your family's source of income?
6. To what extent do you worry about/fear losing your home?
7. To what extent do you worry about/fear losing your land?
8. To what extent do you worry about/fear displacement and migration?
9. To what extent do you worry about/fear the chaos in the Palestinian society?
10. To what extent do you feel worry about/fear the future for yourself and your family?

Distress

Cronbach's Alpha: 0.88

1. To what extent do you feel anxious?
2. How frustrated/down did you feel?
3. To what extent did you feel unable to act?
4. To what extent did you feel humiliated?
5. To what extent did you feel lonely?
6. To what extent did you feel worried?
7. To what extent did you feel grief?
8. To what extent did you feel angry?
9. To what extent did you feel bored and fed up with life?
10. To what extent did you feel unable to control important things in your life?
11. To what extent did you feel unable to cope with the things that you had to do?
12. To what extent did you feel unable to perform your daily activities?

Annex VI

Multivariate binary logistic regression for chronic illness (hypertension, diabetes mellitus and cardio-vascular disease) for people aged 30 years and above living in the Gaza Strip, 2014 N=1836

		Odds ratio	95 per cent confidence interval		P-value
			Lower	Upper	
Age	30-39	1.00			
	40-49	4.13	2.68	6.36	0.00
	50-59	12.88	8.22	20.20	0.00
	60 or more	23.79	14.74	38.40	0.00
Sex	Female	1.00			
	Male	0.63	0.46	0.86	0.00
Governorate	North Gaza	1.00			
	Gaza City	0.77	0.51	1.16	0.20
	Deir al-Balah	1.02	0.62	1.65	0.95
	Khan Yunis	0.61	0.38	0.98	0.04
	Rafah	0.67	0.40	1.13	0.13
Poverty	Middle or well off	1.00			
	Poor or very poor	1.60	1.13	2.27	0.01
Standard of living	High (6 to 15 items)	1.00			
	Low (0 to 2 items)	0.53	0.33	0.85	0.01
	Middle (3 to 6 items)	0.66	0.44	0.99	0.04
Hosted another family/members during the offensive	No	1.00			
	Yes	1.44	1.06	1.96	0.02
Moved from home during the offensive	No	1.00			
	Yes	1.47	1.07	2.04	0.02

Variables entered into the model: age, sex, education, locale, governorate, poverty, standard of living, food insecurity, hosting others during the offensive, moving during the offensive, home damage during the offensive, physical exposure to domestic violence, verbal exposure to domestic violence, humiliation, distress, human insecurity, deprivation, and suffering.

Annex VII

Multivariate binary logistic regression for mental health (at least four symptoms on the GHQ-12 scale) for people living in the Gaza Strip, 2014
N= 2954

		Odds ratio	95 per cent confidence interval		P-value
			Lower	Upper	
Age	50 years and more	1.00			
	18-29 years	0.48	0.36	0.64	0.00
	30-49 years	0.92	0.70	1.21	0.54
Education	Post-secondary	1.00			
	Below secondary	1.27	1.01	1.60	0.05
	Secondary completed	1.00	0.75	1.33	0.98
Poverty	Middle or well off	1.00			
	Poor or very poor	1.30	1.05	1.60	0.02
Family income after the offensive	Unchanged or increased by 4 per cent	1.00			
	Decreased	1.25	1.03	1.51	0.02
Food insecurity	No	1.00			
	Yes	1.46	1.10	1.95	0.01
Moved from home during the offensive	No	1.00			
	Yes	1.26	1.04	1.54	0.02
Exposure to domestic physical violence	No	1.00			
	Yes	1.79	1.27	2.52	0.00
Distress	No	1.00			
	Yes	4.74	3.85	5.85	0.00
Human insecurity	No	1.00			
	Yes	1.62	1.34	1.97	0.00
Deprivation	No	1.00			
	Yes	1.73	1.41	2.13	0.00
Suffering	No	1.00			
	Yes	1.64	1.23	2.18	0.00

Variables entered in the model: age, sex, education, locale, standard of living, poverty, family income, food insecurity, moving from home during the offensive, physical exposure to domestic violence, verbal exposure to domestic violence, humiliation, distress, human insecurity, deprivation, and suffering.

Endnotes

Introduction

1. Dubbed by Israel “Summer Rain” and “Autumn Clouds” (2006); “Cast Lead” and “Hot Winter” (2008); “Pillar of Defense” (2012); and “Protective Edge” (2014).
2. Roy, 2012.
3. Israeli military violence in this context refers to military operations by the Israeli army, the blockade on the Gaza Strip, and shooting incidents along the border between the Strip and Israel and in maritime areas along the Gaza coast.
4. Some of these studies are available from <http://www.humanitarianresponse.info/operations/occupied-palestinian-territory/assessments>.

Chapter 1

1. Daradkeh, Ghubash and El-Rufaie, 2001.

Chapter 2

1. Data on first cousin marriage among women

in the West Bank were included in the 2010 Family Health Survey undertaken by PCBS (unpublished).

2. These figures correspond to the percentages of responses on the working status for the population sample and do not reflect unemployment figures as defined in International Labour Organization classifications.
3. OCHA, 2015b.

Chapter 3

1. Daradkeh, Ghubash and El-Rufaie, 2001.
2. Saab and others, 2005; Khawaja and others, 2009.
3. Daradkeh, Ghubash and El-Rufaie, 2001; Yang and others, 2010.
4. Jabbour and others, eds., 2012.
5. Cohen, Janicki-Deverts and Miller, 2007.
6. Ratnayake and others, 2014.
7. OCHA, 2013.
8. Teachman, 2006.
9. Hill and King, 1995.

10. Poole, Higgo and Robinson, 2014.
11. Patel and Kleinman, 2003.
12. Siefert and others, 2001.
13. Catalano, 1991.
14. Abu-Rmeileh and others, 2011.
15. McNeely and others, 2014.
16. Eibner and Evans, 2005; Stimpson and others, 2007.
17. Kleinman, Das and Lock, 1996.

Chapter 4

1. De Kloet, Joëls and Holsboer, 2005.
2. Eibner and Evans, 2005.
3. Kraaij, Arensman, and Spinhoven, 2002.
4. Turner and Lloyd, 1995; Wright, 1998.
5. Gottlieb, 1997.

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