

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

### ARTICLE DETAILS

|                            |  |
|----------------------------|--|
| <b>TITLE (PROVISIONAL)</b> | Health expectancy in the occupied Palestinian territory: estimates from the Gaza Strip and the West Bank - based on surveys from 2006 and 2010 |
| <b>AUTHORS</b>             | Brønnum-Hansen, Henrik ; Qlalweh, Khaled; Duraidi, Mohammed  |

### VERSION 1 - REVIEW

|                        |   |
|------------------------|---|
| <b>REVIEWER</b>        | WATT, GRAHAM<br>UNIVERSITY OF GLASGOW, GENERAL PRACTICE<br><br>I was a co-author for the Lancet series on Palestinian Health in 2009 and am a Trustee of the UK Charity, Medical Aid for Palestinians (MAP) |
| <b>REVIEW RETURNED</b> | 05-Jul-2012   |

|                                  |  |
|----------------------------------|--|
| <b>RESULTS &amp; CONCLUSIONS</b> | <p>The results merit more discussion in terms of the contrasting economic experiences of Gaza and the west bank during the study period.</p> <p>The findings are interesting but not dramatic. Comparison with HLE rates with neighbouring Arab populations would be useful</p>  |
| <b>GENERAL COMMENTS</b>          | <p>This paper describes demographic changes in Palestinian adults in Gaza and the West Bank between 2006 and 2010, focusing on life expectancy and healthy life expectancy.</p> <p>The data sources, including national health surveys with high response rates, are good.</p> <p>I am not a demographer nor a statistician, but the general approach is familiar and is said to be the first occasion on which healthy life expectancy has been estimated for an Arab population - which means that comparisons with neighbouring countries, which were such a useful aspect of the quoted Lancet series, are unfortunately not possible.</p> <p>The authors have not resisted the temptation to include a history lesson for readers who are not familiar with the situation in the Occupied Palestinian Territory or the Palestinian diaspora. Some of this is unnecessary, in terms of the aims of the paper.</p> <p>The interest and importance of the paper stems from the internationally significant and extraordinary nature of the situation in the OPT. I was surprised that the authors make so little mention (only one sentence mentioning differences in "abnormal living circumstances") of the contrasting fates of Gaza and the West Bank after the general election of 2006, following which Gaza has been subjected to a tight economic and military siege, while the West</p> |

|  |  |
|--|--|
|  | <p>Bank has been the recipient of substantial development aid. The West Bank economy has of course also been constrained by military occupation, movement controls and settlement expansion, but the economic strangulation has not been as severe as in Gaza. These contrasting situations seem relevant to the comparison of health trends in the two populations. I agree with the authors that the military invasion of Gaza in 2008/9 was probably too late to have had much effect on general health trends between 2006-10. (In their literature review, the authors have missed a recent study of health in Gaza in 2010 - Abu-rmeileh et al. Health-related quality of life of Gaza Palestinians in the aftermath of the winter 2008-09 Israeli attack on the Strip. European Journal of Public Health 2011;1-6: doi: 10.1093/eurpub/ckr131)</p> <p>The three leading causes of death comprised only 42% all deaths. What else did people die of?</p> <p>Child and infant mortality rates are described in the methods but not the results, and do not seem relevant to a paper on adults (although the stalling of the decline in infant mortality was one of the main findings of the Lancet series, that is not the subject of this paper)</p> <p>One wonders to what extent trends in hypertension rates were affected by trends in ascertainment i.e. an artefactual explanation.</p> <p>The paper states that over a quarter of Palestinians have been imprisoned at some time since 1967. Surely this needs some qualification, by gender, age and/or location. It seems a huge number.</p> <p>The main finding is that the prevalence of disease increased in men and decreased in women. The conclusion attributes this to lifestyle factors and the impact of military occupation, without clarifying or discussing that the nature, and presumably the effects, of military occupation have been very different in Gaza and the West Bank during the period under study.</p> |
|--|--|

|                        |  |
|------------------------|--|
| <b>REVIEWER</b>        | <p>Professor Carol Jagger<br/> AXA Professor of Epidemiology of Ageing<br/> Newcastle University<br/> United Kingdom</p> <p>No competing interests</p> |
| <b>REVIEW RETURNED</b> | 01-Aug-2012  |

|                                  |  |
|----------------------------------|--|
| <b>RESULTS &amp; CONCLUSIONS</b> | <p>The results are not discussed in the light of other countries. Alos health expectancies at age 20 and 60 are not as standardly reported so readers would not have a sense of whether the results are 'good' or 'bad'. As a minimum they could be compared with similar health expectancies (maybe not exactly the same question) for EU27 and perhaps more importantly the max and min in Europe.</p> |
|----------------------------------|--|

|                        |                                       |
|------------------------|---------------------------------------|
| <b>REVIEWER</b>        | <p>Robine, Jean-Marie<br/> INSERM</p> |
| <b>REVIEW RETURNED</b> | 10-Aug-2012                           |

**GENERAL COMMENTS**

Summary of the paper: Life expectancy without chronic disease decreased for Palestinian men, especially at age 60, between 2006 and 2010. During the same time, life expectancy without chronic disease increased for Palestinian women but only before age 60. However in all cases life expectancy with the four most common chronic diseases increased but much more strongly for men than for women. Interpreting these results, totally opposite for men and women, is quite challenging.

Comments: This paper focusing on the health status of the Palestinian people living in the occupied territory is particularly welcome.

The observed gaps between Gaza Strip and the West Bank are quite small compared to usual gaps observed among regions of the same country. But here only to regions are compared.

Main remarks:

Purpose of the paper: "*The purpose of this study was to estimate expected lifetime with or*

*without chronic disease among Palestinians living in the Gaza Strip and the West Bank and to*

*evaluate changes that have taken place over the past five years.*" This purpose should be indicated in the abstract.

Number of participants: It is said "*The surveys consisted of 13 238 households in 2006 and 15 355 households in 2010. The household response rates were 88.0% in 2006 and 89.4% in 2010. The present study included adults aged 20 or above from the two surveys: 17 034 and 38 071 participants respectively.*" These figures, double number of participants in 2010 for about the same number of households, raise big issues as they mean 1.5 participants (20 years old and over) per household in 2006 versus 2.5 in 2010. Such a large change should be explained and discussed. We can easily imagine a higher participation of the households' members in 2010, introducing less healthy participants with specific differential between genders, etc. In other words the above figures without explanation undermine the paper. What about the household size in the Territories and how many are 20 years and older? Are census data available on this point?

Chronic diseases: May be the prevalence of the common chronic diseases is not the best indicator to summarize the health status of a population as this prevalence tends to increase with increased life expectancy, increased wealth and increased health literacy. What about disability or mental health? In several European countries life expectancy with chronic diseases stagnated or even decreased in the recent years by contrast to life expectancy and disability-free life expectancy. The choice of the indicator should be discussed. Many papers discussed this point.

#### Discussion

Longevity gap: *“As in other populations, Palestinian women live longer than Palestinian men and endure a greater number of years with health problems.”* But the longevity gap is much smaller than in other populations...

Changes since the mid 1990's: *“Health status has not improved satisfactorily since the mid-1990s, and the health services have remained in stasis.”* It is difficult for the reader to interpret this statement in absence of relevant figures (life expectancy, etc.).

Comparison with other countries: As written *“Coordination with and the simultaneity of the*

*Pan Arab Project for Family Health furthermore enables future comparisons of health expectancy between populations in the Arab countries.”* It is obvious that comparison will help readers to understand the Palestinian health situation. At least life expectancy at age 20 for the neighbouring countries, Lebanon, Syria, Jordan, Egypt as well as Israel, which are available for 2006 and may be 2010(?), will be helpful.

The impact of military occupation: Reading the paper and looking at the Figures, it is not clear how the military occupation contributes to the results although it can hardly improve the health conditions of the Palestinian population. You should be quite nuanced when introducing the section of the discussion dealing with the military occupation.

Typos.

|  |  |
|--|--|
|  | Typo in this title: Fig 2 Change between 2006 and 2010 in life expectancy and expected lifetime at age 20 with the four most frequent chronic diseases in the occupied Palestinian territories |
|--|--|

### VERSION 1 – AUTHOR RESPONSE

Response to reviewers:

Reviewer: Graham Watt

This paper describes demographic changes in Palestinian adults in Gaza and the West Bank between 2006 and 2010, focusing on life expectancy and healthy life expectancy.

The data sources, including national health surveys with high response rates, are good.

I am not a demographer nor a statistician, but the general approach is familiar and is said to be the first occasion on which healthy life expectancy has been estimated for an Arab population - which means that comparisons with neighbouring countries, which were such a useful aspect of the quoted Lancet series, are unfortunately not possible.

Answer: We aim to remedy this deficiency by presenting selected structural indicators for the neighboring countries, including a new Figure 1.

The authors have not resisted the temptation to include a history lesson for readers who are not familiar with the situation in the Occupied Palestinian Territory or the Palestinian diaspora. Some of this is unnecessary, in terms of the aims of the paper.

Answer: We think that the international society is undersupplied with information about the life circumstances in the Gaza Strip and the West Bank, but we follow the request to reduce the text.

The interest and importance of the paper stems from the internationally significant and extraordinary nature of the situation in the OPT. I was surprised that the authors make so little mention (only one sentence mentioning differences in "abnormal living circumstances") of the contrasting fates of Gaza and the West Bank after the general election of 2006, following which Gaza has been subjected to a tight economic and military siege, while the West Bank has been the recipient of substantial development aid. The West Bank economy has of course also been constrained by military occupation, movement controls and settlement expansion, but the economic strangulation has not been as severe as in Gaza. These contrasting situations seem relevant to the comparison of health trends in the two populations. I agree with the authors that the military invasion of Gaza in 2008/9 was probably too late to have had much effect on general health trends between 2006-10. (In their literature review, the authors have missed a recent study of health in Gaza in 2010 - Abu-rmeileh et al. Health-related quality of life of Gaza Palestinians in the aftermath of the winter 2008-09 Israeli attack on the Strip. *European Journal of Public Health* 2011;1-6: doi: 10.1093/eurpub/ckr131)

Answer: We think that it would be somehow speculative to assign explanations for a differential impact of the economic and military situation. Although the "abnormal living circumstances" in the two regions differs the situation is bad in both areas and simply a catastrophe if the population didn't receive help from outside. It might help if we could elaborate further on the life circumstances in the Gaza Strip and the West Bank, but it would go against the request not to "include a history lesson for readers".

The three leading causes of death comprised only 42% all deaths. What else did people die of?

Answer: We added more to the list of causes of death.

Child and infant mortality rates are described in the methods but not the results, and do not seem relevant to a paper on adults (although the stalling of the decline in infant mortality was one of the main findings of the Lancet series, that is not the subject of this paper)

Answer: Right you are. This was just to explain how the complete life tables were constructed. We added a few words to clarify this.

One wonders to what extent trends in hypertension rates were affected by trends in ascertainment i.e. an artefactual explanation.

Answer: We have added "although it might partly reflect trends in ascertainment" to the statement.

The paper states that over a quarter of Palestinians have been imprisoned at some time since 1967. Surely this needs some qualification, by gender, age and/or location. It seems a huge number.

Answer: No doubt that it is a huge number. For the aims of the paper it is not important whether the number is 20% or 25%. What is important is the impact on population health. The readers are referred to "Nashif E. Palestinian Political Prisoners: Identity and Community. New York: Routledge, 2008" and "El Sarraj E, Punamaki RL, Salmi S, et al. Experience of torture and ill-treatment and posttraumatic stress disorder symptoms among Palestinian political prisoners. J Trauma Stress 1996;9:595–606." on the reference list.

We have changed the wording of the sentence to "Since 1967, a lot of Palestinians, mostly young men, have been imprisoned on political grounds and have suffered various health problems following their release."

The main finding is that the prevalence of disease increased in men and decreased in women. The conclusion attributes this to lifestyle factors and the impact of military occupation, without clarifying or discussing that the nature, and presumably the effects, of military occupation have been very different in Gaza and the West Bank during the period under study.

Answer: We believe that it is beyond the scope of this paper to clarify the different impact on population health of the military occupation of the West Bank versus the blockade of the Gaza Strip and the differences in the relieving effects of the humanitarian aid from the outside world. Thus, we restrict the discussion to only present selected and important characteristics such as smoking prevalence and unemployment rate in the two areas.

Reviewer: Professor Carol Jagger

The results are not discussed in the light of other countries. Alos health expectancies at age 20 and 60 are not as standardly reported so readers would not have a sense of whether the results are 'good' or 'bad'. As a minimum they could be compared with similar health expectancies (maybe not exactly the same question) for EU27 and perhaps more importantly the max and min in Europe.

Answer: We have added results for 65-year-old Europeans (and separately from selected Eastern European countries) based on the Minimum European Health Module question about long-standing

illness and placed the estimates side by side with estimates for 65-year-old Palestinians based on the chronic disease question asked in the Palestinian Family Health Survey 2006.

Reviewer: Jean-Marie Robine

Summary of the paper: Life expectancy without chronic disease decreased for Palestinian men, especially at age 60, between 2006 and 2010. During the same time, life expectancy without chronic disease increased for Palestinian women but only before age 60. However in all cases life expectancy with the four most common chronic diseases increased but much more strongly for men than for women. Interpreting these results, totally opposite for men and women, is quite challenging.

Comments: This paper focusing on the health status of the Palestinian people living in the occupied territory is particularly welcome.

The observed gaps between Gaza Strip and the West Bank are quite small compared to usual gaps observed among regions of the same country. But here only two regions are compared.

Main remarks:

Purpose of the paper: "The purpose of this study was to estimate expected lifetime with or without chronic disease among Palestinians living in the Gaza Strip and the West Bank and to evaluate changes that have taken place over the past five years." This purpose should be indicated in the abstract.

Answer: We have followed the suggestion.

Number of participants: It is said "The surveys consisted of 13 238 households in 2006 and 15 355 households in 2010. The household response rates were 88.0% in 2006 and 89.4% in 2010. The present study included adults aged 20 or above from the two surveys: 17 034 and 38 071 participants respectively." These figures, double number of participants in 2010 for about the same number of households, raise big issues as they mean 1.5 participants (20 years old and over) per household in 2006 versus 2.5 in 2010. Such a large change should be explained and discussed. We can easily imagine a higher participation of the households' members in 2010, introducing less healthy participants with specific differential between genders, etc. In other words the above figures without explanation undermine the paper. What about the household size in the Territories and how many are 20 years and older? Are census data available on this point?

Answer: Thank you for directing our attention to this important detail! The explanation is that only in a subsample (7056 households) of the 2006 survey questions on chronic diseases were asked. We added this to the text.

Chronic diseases: May be the prevalence of the common chronic diseases is not the best indicator to summarize the health status of a population as this prevalence tends to increase with increased life expectancy, increased wealth and increased health literacy. What about disability or mental health? In several European countries life expectancy with chronic diseases stagnated or even decreased in the recent years by contrast to life expectancy and disability-free life expectancy. The choice of the indicator should be discussed. Many papers discussed this point.

Answer: You might be right that chronic disease is not the best indicator. However, we think that disability-free life expectancy is a more relevant indicator for an ageing population. We have discussed this in the manuscript.

## Discussion

Longevity gap: "As in other populations, Palestinian women live longer than Palestinian men and endure a greater number of years with health problems." But the longevity gap is much smaller than in other populations...

Answer: Yes, this is an unusual observation. We added some comments in the discussion section.

Changes since the mid 1990's: "Health status has not improved satisfactorily since the mid-1990s, and the health services have remained in stasis." It is difficult for the reader to interpret this statement in absence of relevant figures (life expectancy, etc.).

Answer: This is just the statement in the reference paper (ref 30). We hope that the added figures to the manuscript help.

Comparison with other countries: As written "Coordination with and the simultaneity of the Pan Arab Project for Family Health furthermore enables future comparisons of health expectancy between populations in the Arab countries." It is obvious that comparison will help readers to understand the Palestinian health situation. At least life expectancy at age 20 for the neighbouring countries, Lebanon, Syria, Jordan, Egypt as well as Israel, which are available for 2006 and may be 2010(?), will be helpful.

Answer: We have included data for the neighboring countries.

The impact of military occupation: Reading the paper and looking at the Figures, it is not clear how the military occupation contributes to the results although it can hardly improve the health conditions of the Palestinian population. You should be quite nuanced when introducing the section of the discussion dealing with the military occupation.

Typos.

Typo in this title: Fig 2 Change between 2006 and 2010 in life expectancy and expected lifetime at age 20 with the four most frequent chronic diseases in the occupied Palestinian territories

Answer: Thanks!

## VERSION 2 – REVIEW

|                        |   |
|------------------------|---|
| <b>REVIEWER</b>        | WATT, GRAHAM<br>UNIVERSITY OF GLASGOW, GENERAL PRACTICE<br><br>I was a co-author for the Lancet series on Palestinian Health in 2009 and am a Trustee of the UK Charity, Medical Aid for Palestinians (MAP) |
| <b>REVIEW RETURNED</b> | 11-Sep-2012   |

|                         |   |
|-------------------------|---|
| <b>GENERAL COMMENTS</b> | On page 16 the previous reference to a quarter of Palestinians having been imprisoned has been changed to " a lot of Palestinains". I think this is too imprecise. maybe it should say "an unknown number". Otherwise I am content that the previous comments have all be addressed |
|-------------------------|---|