

Palestine Refugees in the Near East (UNRWA) have contributed results from studies of Palestinian refugees across the region.

26 (40%) of 65 abstracts presented at the Cairo conference came from the West Bank, ten (15%) from the Gaza Strip, 18 (28%) jointly from the West Bank and Gaza Strip, five (8%) from Lebanon, and five (8%) from UNRWA. International collaboration remains strong, involving researchers from 30 universities on four continents and in 14 countries. Not surprisingly, in view of travel restrictions, international collaboration was a feature of only three of ten abstracts from the Gaza Strip, compared with 15 of 26 from the West Bank.

39 (60%) of 65 abstracts presented at the Cairo conference were about studies of primary data. 25 (38%) were about the increasing use of secondary, often routine, data to assess health need and to audit services. Descriptive epidemiological studies, usually involving population or patient surveys, remain the most common type of study, but about a fifth of studies were qualitative, capturing the experiences of patients or professionals. The number of clinical audits, to measure clinical activity in hospitals and community clinics, is increasing. Evaluations of interventions are still unusual.

LPHA has grown by providing the challenge, opportunity, and support needed for Palestinian researchers to produce and present research findings at a high level. The LPHA's first aim of presenting and publishing research findings is being achieved—faster and in greater numbers than anyone expected.

The number of young researchers augurs well for the future. Although international partnerships are still important, there is an increasing number of academic and service partners within the oPt. Peer review and capacity building within the oPt have been key features of these changes, helping to increase the number of high-quality studies describing and explaining the health and health care of Palestinian people.

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1 UN General Assembly. Resolution adopted by the General Assembly. 67/19. Status of Palestine in the United Nations. Dec 4, 2012. <http://unispal.un.org/unispal.nsf/28ead5e67368b9ea852579180070e4d6/19862d03c564fa2c85257acb004ee69b70?openDocument> (accessed Oct 25, 2013).

## Palestinian health research

Published Online  
 December 5, 2013  
[http://dx.doi.org/10.1016/S0140-6736\(13\)62234-5](http://dx.doi.org/10.1016/S0140-6736(13)62234-5)

2.7 million Palestinians live in the West Bank (including 404 000 in East Jerusalem), occupied Palestinian territory (oPt), and 1.7 million in the Gaza Strip, oPt; an estimated 5.1 million Palestinians live in Arab countries, mainly Jordan, Lebanon, and Syria (many now refugees again in Lebanon); and 1.4 million Palestinians live in Israel, where they comprise about 20% of the population.<sup>1,2</sup> 5 million Palestinians are registered as refugees, defined by the UN Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) as “persons whose normal place of residence was Palestine during the period 1 June 1946 to 15 May 1948, and who lost both home and means of livelihood as a result of

the 1948 conflict”.<sup>3</sup> Nearly a third of refugees still live in refugee camps.

The West Bank has been under Israeli military occupation since 1967. The Palestinian Authority controls 22% of the land and has access to 13% of the water. In 2012, about 350 000 Jewish settlers lived in 118 officially recognised settlements in the West Bank, while an estimated 200 000–300 000 Israelis lived in settlements in East Jerusalem.<sup>4</sup> The Gaza Strip is one of the most densely populated areas in the world. It was invaded by the Israeli army in 2008–09, attacked again in 2012, and has been under economic siege since 2006. Both the West Bank and Gaza Strip are chronically

underdeveloped, despite substantial economic aid, mainly from the USA and European Union. Since 2008, the West Bank and the Gaza Strip have been governed separately. These circumstances are extraordinary, both as determinants of Palestinian health and as contexts for health development, and provide the background to research in health and health care of Palestinians.

Because the *Lancet* Series Health in the Occupied Palestinian Territory was published only a few weeks after the end of Operation Cast Lead early in 2009, there was no reference to the Israeli invasion of the Gaza Strip. During the first *Lancet* Palestinian Health Alliance (LPHA) conference in 2010, however, two population-based surveys were presented, documenting the health status of the population in the Gaza Strip,<sup>5</sup> and survivors of non-fatal injuries. Later, a case report of the clinical effects of white phosphorus on civilians was published in *The Lancet*,<sup>6</sup> and followed up with a Cochrane review of the management of phosphorus burns.<sup>7</sup>

Other research studies on the oPt were reported in the *Lancet* series Research in the Occupied Palestinian Territory in 2010–12. The research included specific aspects of the military occupation, such as the clinical consequences and legality of delaying pregnant women at checkpoints, interviews with recently released long-term Palestinian prisoners in the West Bank, and an investigation by the local WHO office of the extent and experience of Israeli permits restricting Palestinian access to hospital care. The experiences of children and adults with cancer have also been described.

Health issues raised in the *Lancet* series Research in the Occupied Palestinian Territory 2010–13 (97 abstracts) include the hazards of childbirth for both mother and child. Routine data for the epidemiology of neonatal mortality, low birthweight, and structural birth defects were analysed. The focus of research in maternal health was not only on the experience of women during childbirth at the time of the Israeli invasion of the Gaza Strip in the winter of 2008–09 and the extent of clinical events including near misses (eg, pre-eclampsia, and pre-partum and post-partum haemorrhage) in pregnant women, but also on women's choice and use of different health services, their experience and preferences about vaginal examinations, variation in the clinical management of genitourinary infections, and trends in fecundability, place of birth, and sex selection.

Results of nutritional surveys of children and adolescents show not only current concern about child stunting but also concern about the development of obesity, diabetes mellitus, and cardiovascular diseases in the future. Modelling of routine data led to the development and testing of predictions about the rising prevalence of diabetes. The results of a mixed-method audit of diabetic clinics in the West Bank show that there is much to do to improve the quality of care. Colleagues in UNRWA used large databases to review practice in clinics across the region in drug procurement, diabetes and hypertension control, contraceptive use, and the efficiency of health centres.

With life expectancy at 71 years for men and 74 years for women, health research in the oPt is starting to address both the challenges of non-communicable diseases and health problems affecting elderly people, such as depression.

For studies in hospital settings, case-note reviews were used to audit outcomes of cardiac surgery, plasmapheresis, and the extent of nosocomial infections in an intensive care unit, whereas interviews were used to assess parental experience of paediatric intensive care.

A long-term collaboration since 1994 between the Universities of Oslo (Oslo, Norway), Birzeit, and Hebron (both West Bank, oPt), in general and occupational epidemiology, led to a series of studies of the metabolic syndrome, mental health, and the effects of pesticides on farmers, chemicals on hairdressers, and shift work on nurses. In other environmental studies, the focus was on industrial pollution in the West Bank and water quality in the Gaza Strip.

In abstracts from Lebanon, the continued neglect, plight, and health and social problems of Palestinian refugees, with little change in recent decades, is reported. These studies include one of the very few randomised controlled trials of a community-based intervention to promote youth mental health.

In three separate exploratory studies of the factors determining positive mental health during conflict and adversity, the focus was on adolescents and children in the West Bank and adults in the West Bank, including East Jerusalem, and Gaza Strip. Further work has sought to develop new measures of mental health status and social suffering related to political violence that are sensitive to Palestinian language

and culture. In addressing the issue of human resilience during adversity, this research in the oPt is of international relevance.

In one of the abstracts in the *Lancet* series 2012, attention was drawn to the very high levels of development assistance for health that had been given to organisations in the oPt by international donors. There had been little evaluation of the effectiveness and value of this expenditure. There were no studies of the effectiveness of the many types of psychosocial intervention for Palestinians in the West Bank and Gaza Strip with mental health problems.

Not surprisingly, in view of the few abstracts from the first LPHA meetings, there have been gaps—eg, in the *Lancet* Series 2009 and 2010, there were few studies of disability, congenital or acquired, and little clinical research, from primary or secondary care. However, these gaps are being filled.

The LPHA has helped to stimulate, support, and publicise a wide range of research on the health and health care of Palestinian people, responding to their extraordinary circumstances and experiences and applying scientific rigour to the description, analysis, and solution of health problems. As Richard Horton, Editor of *The Lancet*, noted in his address at the Beirut conference, research is not only a way of obtaining clear answers to clear questions, it is also a basis for values-based advocacy, and pursuing social justice and peace. With measured doubt and firm resolve, the LPHA pursues these twin objectives.

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