West Bank Barrier Decreases Access to Schools and Health Services

Dima Qato, MPH;[1] Shannon Doocy, PhD;[1] Deborah Tsuchida;[2] P. Gregg Greenough, MD, MPH;[1] Gilbert Burnham, MD, PhD[1]

1. The Johns Hopkins University Center Refugee and Disaster Response, Baltimore, Maryland USA
2. Save the Children US, Washington, DC USA

Correspondence:
Shannon Doocy
Department of International Health
Johns Hopkins Bloomberg School of Public Health
Suite E8132
615 N. Wolfe Street
Baltimore, Maryland 21205 USA
E-mail: gburnham@jhsph.edu

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Abbreviations:
NGO = non-governmental organization
OCHA = United Nations Office for the Coordination of Humanitarian Affairs
WHO = World Health Organization

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Abstract

Introduction: In 2001, the Israeli government announced the construction of the West Bank barrier. The stated purpose of construction to prevent attacks by Palestinians on Israeli citizens. In a subsequent advisory opinion, the International Court of Justice decided the wall would block access to health care and education, and was "contrary to international law".

Research Focus: The Barrier, with its limited number of gates, has been criticized by humanitarian agencies for limiting access of Palestinians to employment, health care, and education, but was defended by the Israeli government as an important security measure.

Methods: A survey of key informants was conducted in May 2004 at 78 health facilities and 121 schools in the northern West Bank districts of Jenin, Qalqilya, and Tulkarem, in order to assess the impact of the Barrier on access and use of health and educational services.

Results: The Barrier negatively affected access to education and health care, in terms of statistically significant increases in distance and travel time to schools and health facilities. In several areas, service utilization, assessed by weekly visits to health facilities and student enrollment, was affected by barrier construction, although these findings were not statistically significant. A significant decrease in staff attendance was observed at health facilities and schools.

Conclusions: The Barrier may have long-term effects on access and utilization of health and educational services among Palestinians in the northern West Bank.

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Introduction

In July 2001, the Israeli government approved construction plans for a barrier separating the West Bank from Israel. The stated purpose of construction was to provide security for its citizens.[1,2] The first phase (completed in July 2003) is 188 km long, and affects the three northern West Bank districts of Jenin, Tulkarem, and Qalqilya which have 172 localities and a combined population of >500,000 people.[3] Because the route of the Barrier deviates from the 1967 border between the West Bank and Israel (the Green Line, one of the 1949 Armistice Lines), some 58 communities with >170,000 civilians in the northern West Bank either are trapped between the Barrier and the Green Line (designated "closed military zones"), encircled by its 10 meter-high wall segments, or are separated physically from their lands and livelihoods.[3] In addition to the established system of military checkpoints and roadblocks throughout the West Bank, humanitarian agencies, such as the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the United Nations Relief and Works Agency for Palestinian Refugees (UNRWA), and the Palestinian Environmental Non-Governmental Organization (NGO) Network (PENGON), have criticized the Barrier and its limited number of access gates for blocking access of Palestinians to work,

District	Health Facilities	School Facilities
Tulkarem	33	43
Qalqilya	17	39
Jenin	28	39
Total	78	121

Table 1—Distribution of sampled health and school facilities

health care, and education. In addition, the International Court of Justice has deemed the Barrier "contrary to International law" and found that Israel should cease construction and dismantle parts of Barrier already built.[4,5] The Barrier was reported to block access to primary, specialized, and emergency health services and has resulted in decreased immunization rates, hospital bed occupancy, hospital births, and post-natal care.[6,7] The purpose of this study was to determine if the first stage of Barrier construction had an effect on the ability of staff and beneficiaries to access health and educational facilities.

Methods

This study began in May 2004 and was intended to measure the impact of the Phase-I Barrier on access to health and educational services in the West Bank districts of Jenin, Tulkarem, and Qalqilya. Health facilities and schools were selected in a systematically random manner from complete lists of all health facilities and schools in the West Bank that were compiled by The World Health Organization (WHO) and the Educational NGO Network, individually. The OCHA classifies areas as "affected" or "non-affected" by the Barrier.[8] A stratified sample design was used, and health facilities and schools on the WHO and Educational NGO Network lists were sampled according to their status as "affected" or "non-affected". A total of 40% of health facilities and schools in all three districts were sampled.

Interviews were conducted with key informants at 78 health facilities that served 147 communities, and 121 schools with students from 130 communities. Key informants included physicians, nurses, community health workers, schoolmasters, or secretaries, who had been employed at the selected site for at least one year prior to the construction of the Barrier. Interviews were conducted in Arabic by trained interviewers that were experienced in qualitative surveys. The interviewers received additional training prior to the initiation of the study. Health outcome measures included: (1) changes in the average number of weekly visits to health facilities; (2) travel time to health facilities; (3) distance traveled to health facilities; and (4) health provider attendance. Educational access measures included: (1) changes in student enrollment; (2) student attendance; (3) teacher attendance; (4) travel time to school; and (5) distance traveled to school. Data were processed using SPSS 10.0 (SPSS Inc, Chicago, IL) and Stata 8.0 (Stata Corp, College Station, TX). The difference in indicators before and after Barrier construction was assessed using paired *t*-tests.

The Palestinian Ministries of Health and Education and the United Nations Relief and Works Agency approved the study. The study was reviewed and approved by the Committee of Human Research of the Johns Hopkins Bloomberg School of Public Health.

Results

The distribution of the responding health facilities and schools is in Table 1. Of the 92 health facilities and 129 schools, 78 (85%) and 121 (94%), respectively, agreed to participate. The outcome measures of access before and after Barrier construction and their tests for statistical significance are illustrated in Table 2.

Health Facilities

There was a decline in weekly visits after the construction of the Barrier among 56% (95% CI = 44–68%) of health facilities, with a mean decrease of 24 (95% CI = -63–15) visits per week. Tulkarem was the only district to report a statistically significant decrease in health facility visits, with an average decline of 33 (95% CI = -64–3) visits per health center per week ($p = 0.032$). Qalqilya and Jenin reported mean changes of -22 (95% CI = -190–146) and -14 (95% CI = -66–39) visits per facility per week. Although not all the communities sampled demonstrated statistically significant changes, in those communities trapped between the Green Line and Barrier or encircled by the Barrier, the health facilities had an average decline of 36 (95% CI = -108–37) visits per week as compared to a decline of 14 (95% CI = -51–24) visits per week in areas considered less affected.

Significant declines ($p < 0.05$) in staff attendance were reported in all three districts once the Barrier was completed. Distances and travel time to health facilities increased since the construction of the Barrier by factors of 1.5 and 2.5 times respectively; both statistically significant changes. The overall mean distance traveled to a health facility increased by 4.3 km (95% CI: 3.5–5.1 km) and the travel time increased by an average of 26 minutes (min) (95% CI = 22–30 min). The greatest reported mean increase in distance was 7.7 km (95% CI: 5.2–10.1 km) in Qalqilya district, and the greatest recorded mean increase in travel time to health facilities was 29 min in the Jenin district (95% CI = 22–35 min). For those accessing health facilities in Jenin city (n = 13), the travel time increased by a mean of 46 min (95% CI = 36–57 min). Complete loss of access to health centers as a result of the Barrier construction was reported by 7% (95% CI = 5–9%) of communities.

Schools

The decreases observed in student enrollment after the completion of the Barrier were not statistically significant. Of the three districts, Qalqilya reported the greatest change in student enrollment with an average decline of 16% (95% CI = -41–9%). However, attendance reported for staff and students were reduced significantly with mean attendance decreases of 7% (95% CI = -10 – -3%) and 2% (95% CI = -4–-1%), respectively. The increases in distance and travel time to schools after the Barrier was constructed were both statistically significant. The average distance increased from 1.5 km to 2.2 km ($p < 0.001$), however, only 25% (95% CI = 21–29%)

	Observations n		Mean ±SD	Mean Difference (95% CI)	Paired *t*-statistic
Health Facilities (n = 78)					
Weekly visits	71	Before	320.1 ±4.2	-24.0 (-62.8–14.7)	0.221
		After	296.1 ±13.4		
Regular staff attendance	72	Before	98.2 ±357.5	-7.7 (10.8–4.6)	<0.001
		After	90.5 ±362.9		
Distance (km)	437	Before	8.6 ±7.9	4.3 (3.5–4.1)	<0.001
		After	12.9 ±11.5		
Travel time (min)	423	Before	17.0 ±12.5	25.9 (22.1–29.6)	<0.001
		After	42.9 ±46.5		
Schools (n = 121)					
Number of students	108	Before	350.6 ±223.2	-6.3 (-18.0–5.5)	0.293
		After	344.4 ±213.0		
Student attendance (%)	88	Before	99.3 ±1.5	-2.4 (-3.4—1.3)	<0.001
		After	96.9 ±5.6		
Staff attendance (%)	77	Before	98.2 ±7.2	-6.6 (-10.3—2.9)	<0.001
		After	91.6 ±14.8		
Distance (km)	451	Before	6.2 ±6.9	1.5 (1.1–2.0)	<0.001
		After	7.8 ±9.5		
Travel time (min)	447	Before	14.6 ±10.8	11.2 (9.1–13.4)	<0.001
		After	25.8 ±28.8		

Table 2—Access and use of health and education services before and after Barrier construction (km = kilometers; min = minutes; SD = standard deviation)

of the communities reported a change in distance; travel time increased by an average of 11 min (95% CI = 9 –13). Increases in distance and travel time were greatest in the Jenin district with mean increases of 1.9 km (95% CI = 1.0–2.8 km) and 15 min (95% CI = 11–19 min) in time. Complete loss of access to schools was reported for 5% (95% CI = 3-8%) of communities.

Discussion

The decrease in access to health and educational services is of concern, even among measures for which the observed change was not statistically significant. When considered in conjunction with the deteriorating living standards and declining nutritional levels, this poses a substantial threat to the well-being of segments of the Palestinian population.[9,10] Of particular interest, Qalqilya City, where the walled Barrier completely surrounds the population of 43,000, the more comprehensive primary care clinics and the secondary hospital experienced an increase in patient volume. Clinics reported managing sicker patients for longer periods of time, and attributed the increased patient load to their inability to refer acute patients through the Barrier to tertiary and specialized centers in Jerusalem, Nablus, or Ramallah.

These findings suggest that issues of access and utilization for health facilities, school attendance, and staff availability should be monitored closely in this region in order to identify further deterioration. Although this paper concerns the effects of the Barrier on three of the 11 West Bank districts, if constructed as originally designed, the 622 km Barrier ultimately will affect health and education services access for 93,200 Palestinians.[6] Since the time this study was completed in 2004, 408 km of the total 721 km Barrier route has been completed and 168 km Wall has been constructed separating East Jerusalem from the rest of the West Bank. The humanitarian impact on health and education are discussed elsewhere.[12]

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The study has several possible limitations. Key informants may have been inaccurate in their measurements, provided time, distances, and attendance figures. Additionally, the study did not measure the population's isolation from health facilities and schools, which largely is dependent on the number and irregular hours of operation of the Barrier's access gates, as well as the degree to which people can move through them unimpeded.[9] The effects of measures to mitigate the impact of the Barrier, like mobile clinics, were not assessed in this analysis.

Conclusions

The first phase of the Barrier has had a negative impact on the access to health facilities and schools within communities isolated by the Barrier. Increases in distance and travel time for community members to travel to the schools and health facilities were noted. Significant decreases in student and staff attendance at schools and staffing at health facilities also were observed. A prolonged inability to adequately staff clinics and the increased distances and times to access care could have detrimental effects on curative and preventive patient outcomes.

Israel's construction of the West Bank Barrier has limited Palestinian access to health and education services. The Barrier has resulted in statistically significant increased distance and travel time between health and educational facilities and the communities they serve. The average number of weekly visits to health facilities and average school enrollment declined following Barrier construction, although not statistically significant. Immediate measures that will improve and restore access to health and education services are needed in communities that have been affected by the Barrier.

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Editorial Comments—"West Bank Barrier Decreases Access to Schools and Health Services"

Samuel Stratton, MD, MPH

UCLA School of Public Health and The David Geffen School of Medicine at UCLA, Los Angeles, California, USA, Health Disaster Management/Emergency Medical Services, Orange County Health Care Agency, Santa Ana, California, USA

Correspondence:
Samuel J. Stratton, MD, MPH
E-mail: sstratton@ochca.com

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The authors of "The West Bank Barrier Decreases Access to Schools and Health Services" are to be congratulated for an insightful and informative paper. Indirect effects of terrorism on individual health and well being have received little attention in the disaster literature. The authors show that counter-terrorism measures can affect the health of a community. While a government's responsibility to protect the immediate security and well-being of citizens and travelers is undeniable, an issue with counter-terrorism is to what degree individual access to health and education should be sacrificed.

At its essence, terrorism is the worst form of dehumanization, as it turns innocent people into mere targets.[1] Terrorism is a difficult global challenge; in fact the definition of terrorism is difficult for world leaders to agree upon: The United Nations has struggled with defining terrorism, while at the same time unconditionally condemning terrorism.[2] Terrorism is a world dilemma when one considers that those functioning as terrorist claim a legitimate basis for employing violence in pursuit of a perceived appropriate cause or aim. Further, governments countering terrorism often are drawn into actions that violate human dignity. In essence, both terrorism and subsequent efforts to counter-terrorism have developed a global culture that is willing to risk human rights.

Qato and co-authors effectively show the effects of a counter-terrorism barrier fence that separates populations. Their conclusions are specific to the West Bank, but demonstrate the need for further population health research and evaluation of the effects of counter-terrorism measures. As the authors imply: to what degree should a community accept denial of health and education in conducting counter-terrorism? The skills and tools used in disaster medical science are particularly appropriate for answering many of the questions that arise from terrorism and counter terrorism. Research methods used to study prolonged (complex) emergencies and refugee populations, are transferable to the study of the health effects of terrorism and anti-terrorism.[3] Analysis of access to medical care and social services, and the effects of travel restrictions will allow for identification and planning to address health impacts of counter-terrorism actions.

In effect, terrorism has become a global issue and consequently, the world population has become refugees from terrorism. Qato and co-authors have provided a concrete example of the importance for disaster researchers and planners to engage the complexities of the effects of terrorism and counter-terrorism.

With the results published in the Qato paper, the government of Israel has information that will allow for interdiction to address problems recognized in erecting the counter-terrorist barrier. This information will allow for efforts to address essential needs for the affected population and thereby, decrease support for terrorists. At the same time, studies of the overall protection of a community gained by an anti-terror effort such as the West Bank Barrier will help determine if such a community intrusion is effective and warrants the cost in loss of human services and health.

Future research into the effects of terrorism activity on human populations using the models that have been developed for disaster research will improve the understanding of the health effects of this global problem and further

efforts to effectively mitigate the hazard while limiting the losses of essential health services. While disaster medical research has recognized the importance of study of acts of terrorism such a blast injury, it is important that disaster science study the prolonged health effects of both terrorism and counter-terrorism to address the newest human disaster event, the global spread of terrorism.[3]

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