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ADULT MORTALITY IN THE ERA OF HIV/AIDS: THE ARAB COUNTRIES OF WESTERN ASIA AND NORTHERN AFRICA *

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A. INTRODUCTION

Over the past 50 years or so, the Arab countries of West Asia and North Africa have witnessed unprecedented declines in mortality- a phenomenon that has resulted in a remarkable increase in their population size. Under conditions of moderate to high fertility, the marked reduction in mortality led to unusually high growth rates and hence to rapid increases in population size.

In terms of demographic and development indicators, the Arab region is characterized by sharp contrasts. It contains countries with relatively large populations as well as countries with very small populations. Some of the countries are highly urbanized, some are virtually city states, while in others less than 50 per cent reside in urban areas. Literacy rates of adults, particularly women, vary within a wide range. Total fertility rates ranging from 2.6 to 3.0 births per woman are found in only 3 of the 22 countries in the region, while in 9 countries total fertility rates range from 5 to 7 births per woman. The average expectation of life at birth is still below 60 years in 5 countries. In 2001, levels of per capita gross national product were well in excess of US$ 10,000 in 6 countries but below US$ 3,000 in 7 countries.

These variations in socio-economic and demographic characteristics are the product of historical, social, economic and political developments. The diverse political structures and philosophies in the Arab countries under which recent developmental efforts have been moulded, facilitate in some instances, and slow down in other, adaptation to changing lifestyles, development and effective management of human and natural resources, and adoption and effective utilization of innovative technologies, including those affecting, directly or indirectly, family formation and health.

This paper reviews recent levels and trends in mortality conditions and the possible impact of AIDS in the Arab region of West Asia and North Africa. Twenty two countries/territories are considered in this study: 12 in Western Asia (Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Occupied Palestinian territory, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, and Yemen), and 6 in Northern Africa (Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Sudan, and Tunisia). To complete the picture of the mortality transition in the Arab region, 4 more countries are included in the analysis, 3 in Eastern Africa (Comoros, Djibouti and Somalia), and one in Western Africa (Mauritania).

The development of this paper is basically in three sections, reviewing respectively levels and trends in life expectancy at birth, sex differentials in life expectancy, and association between gross national product and levels of expectation of life at birth, child mortality and adult mortality.

B. DATA SOURCES

There are few countries in the Arab region where the most reliable information on mortality, deriving from *complete* death registration systems combined with population censuses of high quality, is available. In its place is information on mortality from a wide variety of sources; incomplete vital registration corrected for estimated under-registration; single round retrospective inquiries in censuses or surveys about household deaths in some fixed time period; comparisons of age distributions in two successive censuses; and, most prominently, retrospective questions on censuses or surveys regarding the survival of children and, occasionally, of other kin (United Nations, 1982).

Life expectancy at birth is the most common index of mortality conditions and estimates of it are available for all the countries considered. The life expectancy at birth, which is not influenced by a population's age distribution, measures the expected number of years a new-born male or female would live if he or she were subject at each age to the male or female age-specific death rates recorded in some specified period.

Data on mortality conditions for this analysis are drawn from the United Nations (2001) World Population Prospects 2000 Revision and the United Nations (2003) World Population Prospects 2002 Revision. Only for about one-third of the countries in the region, the predominant basis for estimates of life expectancy is information from vital registration systems or official national life tables. But for more than half of the countries considered, the predominant basis for estimates of life expectancy is an estimate of child mortality and the assumption of an age pattern of mortality from a family of model life tables (United Nations, 2001).

C. Levels and Trends in Life Expectancy at Birth

Table 1 depicts the spectacular increases in life expectancy at birth that have occurred in the Arab region in the past 50 years or so. The overall picture is one of sustained increases in survivorship in virtually every country in the Arab region between 1950-1955 and 2001. These substantial declines in mortality have been triggered by the increased use of antibiotics, insecticides, vaccinations, and also by the internationally sponsored disease control and sanitation programmes, (Omran and Roudy, 1993).

Between 1950-1955 and 2001, life expectancy in the Arab region increased from 41.8 to 64.9 years for males and from 43.8 to 68.2 years for females. The greater gains for women widened the gap in life expectancy between men and women from 2.0 to 3.3 years. For both sexes combined, life expectancy in the Arab region increased from 42.8 years in 1950-55 to over 66.4 years in 2001, a gain of 23.6 years, or 55 per cent.

Furthermore, by 2001, the level of the life expectancy in the Arab region was more or less similar to the world's average but it was higher than the level shown for the less developed regions by 2.5 years. The figures in table 1 also indicate that the mortality differentials between the Arab region and the more developed regions narrowed, so that by 2001 the difference in life expectancy between the two groups amounted to 9 years instead of the 23.4 year difference that existed in 1950-1955.

The figures in table 1 indicate that not only has the region's life expectancy increased during the period 1950-2001, but all the countries in the region have also recorded major gains in life expectancy. The most rapid decline in mortality during the period 1950-2001 was exhibited by Oman, with a 98.4 per cent increase in life expectancy, or 35.8 years. It should be noted however that the initial level of life expectancy in Oman was so low– only 36.4 years.

The Gulf States form a distinct pattern of transition; they have made major strides in reducing mortality in recent decades. Revenues from oil have bought the populations of these countries a high standard of living and high-quality medical care, which emphasizes preventive as well as curative medicine. Furthermore the bulk of the population resides in urban areas, facilitating access to medical care.

Life expectancy in the Gulf States increased rapidly and reached higher levels than in the other Arab states in the region. In Saudi Arabia– the most populous Arab country in the Gulf, life expectancy rose during the period 1950-55 and 2001 from 39.1 to 70.7 years for males, and from 40.7 to 73.3 years for females.

It should be noted that the entry of large numbers of foreign workers into the Gulf states after 1973– accounting for between one-fourth and four-fifths of the population in the small Gulf states– affected both fertility and mortality rates in several ways. One important consequence was skewed demographic statistics, because most of the foreigners were young males. Thus excluding the foreign workers from the denominator of birth and death rates dramatically alters the value of both rates (Omran and Roudy, 1993).

Table 2 reflects in sharper focus the significance of the mortality decline in the region during the second half of the twentieth century. In 1950-1955, Lebanon registered the highest life expectancy at birth at 56 years and only two other countries had an expectation of life at birth above 50 years, while 5 countries had life expectancies at birth below 40 years. By 2001, life expectancy at birth was higher than 70 years in 12 countries/territory, comprising 23 per cent of the region's population, around 68-69 years in three countries, accounting for 46 per cent of the region's population, and between 52 and 60 years in only four countries.

The data in table 2 show that Kuwait leads the region with a life expectancy at birth of 76.3 years in 2001 (74.7 years for males and 78.8 years for females). After Kuwait, in second, third and fourth places, are United Arab Emirates, Bahrain and Lebanon, followed by 8 other countries with a life expectancy at birth higher than 70 years.

To control for the initial level of life expectancy, which, as noted above varied considerably among the region's countries in 1950-1955, an index of mortality decline employed by the Population Division of the United Nations (United Nations, 2001) was calculated by comparing the increase in life expectancy recorded by a given country between 1950-1955 and 2001 and the maximum gain judged possible. This procedure meant establishing the difference between maximum life expectancy experienced by a country in 2001 (namely, 81.3 years, corresponding to Japan) and the level experienced by the country under consideration in 1950-1955. Therefore, the index represents the portion of the maximum possible increase of life expectancy that has already been achieved. The higher the index, the closer a country came to achieving the maximum potential reduction of mortality (United Nations, 2001).

As table 3 shows, the mortality decline index for the region is 61 percent. Large relative gains amounting to more than 70 per cent of the maximum potential increase in life expectancy were recorded by 11 countries/territories, all of which had achieved life expectancies above 71 years in 2001. There follows 4 countries with gains amounting to between 66 and 69 per cent, which had achieved life expectancies ranging from 68 to 73 years in 2001. Thus almost four-fifths of the countries considered experienced increases in life expectancy amounting to at least 66 per cent of the potential maximum. At the other extreme, three countries (Iraq, Mauritania, and Sudan) which, together with Yemen, had in 2001 the lowest life expectancy levels in the region, only managed to realize between 36 and 43 percent of the maximum potential increase in life expectancy between 1950-1955 and 2001. In the case of Iraq, the low value of the index resulted mainly from a more recent increasing mortality, which caused life expectancy to drop by about 7 per cent from 1985-1990 to 2001.

The impressive mortality decline and the accompanying rise in life expectancy in the Arab region reflect a sharp drop in infant and childhood mortality (United Nations, 2001). Overall levels of life expectancy are strongly determined by mortality at young ages, especially when mortality is high. Consequently, the marked increases in life expectancy that occurred during the past 50 years or so in the Arab region reflect in large part sharp drops of mortality in childhood (United Nations, 2001).

The differences in life expectancy between the countries studied reflect major differences in health-care systems and socio-economic situations, particularly human and natural resources available for development and the effective management of such resources.

The dynamics that cause mortality rates to drop also reflect changes in the patterns of health and disease (Omran, 1971, 1983). The process of development results in a shift in disease patterns. As communicable diseases decline due to better living conditions and health services, more people survive to the older ages in which the chances of developing degenerative diseases are higher. This is further augmented by contemporary lifestyles that include smoking, higher-fat diet, more sedentary urban living, and more stress. Accordingly, the leading causes of deaths change from communicable diseases and malnutrition- which exact their heaviest toll on the young- to degenerative diseases and man-made causes

(such as accidents, occupational hazards, and environmental pollution)- which are more likely to afflict adults and the growing populations of older people (Horiuchi, 1999; Santow, 1999; United Nations, 2000).

In the Arab countries studied, health and social systems are being challenged to respond to communicable diseases as well as degenerative diseases. The fact that development efforts have spread unevenly within each country in the region has led to a situation in which both old and new disease patterns currently overlap.

D. Sex Differentials in Life Expectancy

As table 1 indicates, the increases in life expectancy at birth have been higher among females than among males in all but one country; consequently, sex differentials in life expectancy have tended to increase over the past 50 years or so, from a regional average of 2.0 years in 1950-1995 to an average of 3.3 years in 2001. The only exception to this pattern is Lebanon, where males have registered a fractionally higher gain in terms of life expectancy than females.

Sex differentials in life expectancy at birth in 2001 are shown in table 4 for 22 Arab countries/territories ranked according to size of the differential. As may be seen, in all Arab countries considered, life expectancy for females exceeds that for males. The average size of the female advantage in life expectancy is 3.3 years, with a range from 2.2 years in Yemen to 4.9 years in Qatar. In 2001, the difference between the two sexes ranges from 2.2 and 3.7 years in 16 countries, and from 4.0 to 4.9 years in the remaining 6 countries, compared with a difference of 4.2 years for the world, and as much as 7.4 years for the more developed regions. This small average gender gap in life expectancy in the Arab region relative to the more developed regions is due at least in part to higher levels of maternal mortality in several Arab countries.

The data in table 4 indicate that various combinations of male and female life expectancies can result in a similar sex differential in life expectancy. In Iraq and Lebanon, for example, the size of the sex differential in life expectancy is about 3.1 years. In Iraq, this difference arises from male life expectancy of 58.6 years and female life expectancy of 61.7 years, while in Lebanon the corresponding values are 71.7 years for males and 74.8 years for females. A similar situation is also observed for Tunisia and the United Arab Emirates, and for Egypt and Kuwait. In general, the figures in table 4 do not show a relationship between the level of life expectancy at birth by sex and the size of the sex differential in life expectancy. In fact, the ranking of the countries by size of the sex differential in life expectancy clearly shows that the widening of the gender gap in life expectancy at birth is not necessarily a concomitant consequence of mortality decline (United Nations, 1988).

The figures also show that countries in which life expectancy is above the regional average for one sex will also have above average life expectancy for the other sex. The converse is also true as shown by the level of life expectancy at birth for Iraq, Mauritania, Sudan and Yemen.

There are no precise explanations of the gender gap in life expectancy, but the gap has been described as ‘a geo-cultural phenomenon’, associated with a complex interplay of biological, social, and behavioural conditions (United Nations, 1988).

It is, however, to be expected that Arab countries will see a widening of the female/male difference in upcoming decades, along the lines of the historical trend in the more developed regions. One factor that may promote such a widening is education, which is positively related to survival. As women ‘catch up’ to men in terms of educational attainment, we might expect to see relative improvement in survival and health status.

E. Gross National Product and Mortality Conditions

1. Income and expectation of life

Life expectancy in the less developed regions is well known to be related to levels of socio-economic development (Caldwell, 1976; Caldwell and Caldwell, 2002; Preston, 1975 and 1985, United Nations, 1982). This section examines the inter-country relationships between socio-economic level, as measured by the gross national income in purchasing power parity per capita (PPPPC) and a number of indicators of mortality level in the Arab region in 2001.

In table 5, countries in the Arab region are ranked according to per capita income (PPPPC). The table also shows the ranking of expectation of life at birth relative to real per capita income (PPPPC) ranking. In group A, with per capita incomes over US$ 15,000, life expectancies in the range of 72-76 years have now been achieved. But it is also seen from table 5 that four of the five countries in the next two highest income level are characterized by life expectancies around 72 years, a level not much greater than those of countries with real per capita incomes down to about US$ 3,000. This suggests that life expectancy of 70 years is within reach for three of the ten countries with a lower life expectancy, namely, Algeria, Egypt and Morocco.

Lebanon and Occupied Palestinian territory are outstanding in their unusually high life expectancy in relation to their real per capita income. While Lebanon ranked only tenth from highest in PPPPC, it ranked fourth in life expectancy. Qatar and the Syrian Arab Republic provide another striking example. Both countries have very close life expectancy at birth, but Syria, which ranked fourteenth from highest in PPPPC, had in 2001 a real per capita income equivalent to only one-sixth of that of Qatar.

2. Income and adult mortality

Table 6 presents estimates of adult mortality as measured by the probability of dying between the ages of 15 and 60, or ${}_{45}q_{15}$ in standard life table notation, by sex, for countries in the Arab region, ranked by real per capita income (PPPPC), in 2001. In addition, the adult age group, 15-60 years, is divided into younger and older adults, and thus the table also shows values of ${}_{25}q_{15}$ (the probability of dying between ages 15 and 40) and ${}_{20}q_{40}$ (the probability of dying between ages 40 and 60).

Adult mortality risks vary within a wide range. Male ${}_{45}q_{15}$ ranges from a minimum of 87 per 1,000 in Kuwait to a maximum of 378 per 1,000 in Mauritania and Sudan. Female ${}_{45}q_{15}$ ranges from a minimum of 66 per 1,000 in Kuwait to a maximum of 317 per 1,000 in Mauritania. In all Arab countries considered, adult male mortality is higher than adult female mortality. Consequently, male-female differences in the probability of dying between the ages of 15 and 60 range from a minimum of 2 percentage points in Kuwait to a maximum of 9 percentage points in Sudan.

The female advantage persists even among younger adults where maternal mortality might be expected to make female mortality higher than male mortality. As may be seen from table 6, the probability of dying between ages 15 and 40 is higher among males than females in all but one country.

An examination of the relationship between younger and older mortality risks shows that, for females, a ${}_{25}q_{15}$ of 3 percent is associated with a ${}_{20}q_{40}$ of around 12 percent. For males, a ${}_{25}q_{15}$ of 3 percent is associated with a ${}_{20}q_{40}$ of about 18 percent. As Murray *et al.* (1992) pointed out, mortality risk of younger adults can vary independently of the mortality risk of older adults.

Table 7 summarizes the association between real per capita income and measures of mortality conditions. As may be seen, child mortality and adult mortality for low income countries are higher than

for high income countries. The relationship between child mortality and income is stronger than that between adult mortality and income. In both cases, however, the relationship is neither simple nor linear. Further, the relationship between adult female mortality and income is weaker than that between adult male mortality and income.

The relationships described here suggest that with the existence of an adequate public health base, individual economic levels are not nearly so important in determining mortality over most of the income range, particularly above a 2001 real per capita income of US$ 3,000.

F. IMPACT OF AIDS

It is estimated that by the end of 2001, more than 550,000 adults of reproductive age in the Arab region were living with HIV/AIDS, 80,000 of whom were infected in 2001 (UNAIDS, 2002). This gives an estimated adult prevalence rate of less than 0.2 percent. About one-third of adults living with HIV in the region are women. The estimated rate of new HIV infections in 15 to 49 year-old populations varies from one per several thousand in most countries in the region, to more than one per cent in the countries of the region with generalized epidemics (WHO, 2002). This low prevalence rate suggests that the demographic impact of HIV/AIDS on adult mortality in the Arab region at present is negligible.

The HIV/AIDS threat in the region may appear relatively modest when compared to other regions. However, this is due in part to under-reporting because of the stigma associated with the disease and to the inadequacy of surveillance systems in many countries. As the HIV epidemic is still relatively recent, infections are only beginning to emerge, however, the trend now is not only on the rise, but three countries (Djibouti, Somalia and Sudan) are already in a generalized epidemic situation and account for the majority of HIV infections estimated in the region, (WHO, 2002). Significant outbreaks of HIV infections among injecting drug users have occurred in about half the countries in the region, notably in North Africa (UNAIDS, 2002).

HIV/AIDS takes a heavy toll on productivity since the age group most susceptible to the infection is also the most productive. In 2001, about 90 per cent of all reported AIDS cases in the region were among people in the age group 15–49 years (UNAIDS, 2002).

It is commonly believed that the region's conservative sociocultural norms, and the relatively good health expenditures in some countries have helped to limit HIV spread. Nevertheless, the region faces tremendous challenges which have potential implications for the spread of HIV: war-related displacement of populations, rapid urbanization and poverty in certain countries, as well as a population structure in which the majority are young people. In addition, the Gulf States have hundreds of thousands of travellers and expatriate workers who enter and leave each year (WHO, 2002).

But appropriate surveillance data on HIV infections and behaviours are in short supply, capacities are still limited, and HIV/AIDS responses are still concentrated almost exclusively in the health sector. A tendency to exaggerate the protective effects of social and cultural conservatism also continues to hamper an adequate response. In the absence of greater candour, political commitment and improved prevention programmes, wider HIV/AIDS spread can be anticipated (UNAIDS, 2002).

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TABLE 1. LIFE EXPECTANCY AT BIRTH (LEB), BY SEX, IN ARAB COUNTRIES/TERRITORIES OF WESTERN ASIA AND NORTHERN AFRICA, 1950-55 AND 2001

	Life expectancy at birth (LEB) (years)						*Increase in LEBs between 1950-55 and 2001*		
	1950-1955			*2001*					
Country/Territory	*Males*	*Females*	*Both sexes*	*Males*	*Females*	*Both sexes*	*Males*	*Females*	*Both sexes*
Algeria	42.1	44.2	43.1	67.7	70.7	69.2	25.6	26.5	26.1
Bahrain	49.6	52.5	51.0	72.1	75.7	73.7	22.5	23.2	22.7
Comoros	39.5	42.0	40.7	58.8	61.6	60.2	19.3	19.6	19.5
Djibouti	31.5	34.5	33.0	44.9	47.3	46.1	13.4	12.8	13.1
Egypt	41.2	43.6	42.4	66.3	70.4	68.3	25.1	26.8	25.9
Iraq	43.1	44.9	44.0	58.6	61.7	60.1	15.5	16.8	16.1
Jordan	42.2	44.3	43.2	69.3	72.1	70.6	27.1	27.8	27.4
Kuwait	54.1	57.5	55.8	74.7	78.8	76.3	20.6	21.3	20.5
Lebanon	54.3	57.7	56.0	71.7	74.8	73.3	17.4	17.1	17.3
Libyan Arab Jamahiriya	41.9	43.9	42.9	70.4	75.0	72.4	28.5	31.1	29.5
Mauritania	34.0	37.1	35.5	50.3	53.5	51.9	16.3	16.4	16.4
Morocco	41.9	43.9	42.9	66.2	69.9	68.1	24.3	26.0	25.2
Oman	35.8	37.0	36.4	70.8	74.1	72.2	35.0	37.1	35.8
Occupied Palestinian territory	42.2	44.3	43.2	70.5	73.7	72.1	28.3	29.4	28.9
Qatar	46.7	49.3	48.0	70.1	75.0	71.8	23.4	25.7	23.8
Saudi Arabia	39.1	40.7	39.9	70.7	73.3	71.9	31.6	32.6	32.0
Somalia	31.5	34.5	33.0	45.5	48.5	47.0	14.0	14.0	14.0
Sudan	36.3	39.1	37.7	54.0	56.9	55.4	17.7	17.8	17.7
Syrian Arab Republic	44.8	47.2	46.0	70.2	72.7	71.5	25.4	25.5	25.5
Tunisia	44.1	45.1	44.6	70.5	74.5	72.5	26.4	29.4	27.9
United Arab Emirates	46.7	49.3	48.0	73.0	77.1	74.4	26.3	27.8	26.4
Yemen	32.0	32.3	32.1	58.3	60.5	59.4	26.3	28.2	27.3
Arab region	41.8	43.8	42.8	64.9	68.2	66.4	23.1	24.4	23.6
Less developed regions	40.2	41.8	41.0	62.2	65.6	63.9	22.0	23.8	22.9
More developed regions	63.6	68.6	66.2	71.7	79.1	75.4	8.1	10.5	9.2
World	45.2	47.9	46.5	64.6	68.8	66.7	18.4	19.9	19.2

Source. a) 1950-1955: United Nations (2001). World Population Prospects: The 2000 Revision, vol 1, Comprehensive Tables, New York, United Nations.
b) 2001: UNDP (2003): Human Development Indicators 2003.

TABLE 2. LIFE EXPECTANCY AT BIRTH (LEB) FOR BOTH SEXES BY RANK, ARAB COUNTRIES/TERRITORIES OF WESTERN ASIA AND NORTHERN AFRICA, 1950-1955 AND 2001

1950-1955				*2001*			
Country/Territory	*Rank*	*LEB*	*Country deviation from regional mean*	*Country/Territory*	*Rank*	*LEB*	*Country deviation from regional mean*
Lebanon	1	56.0	13.2	Kuwait	1	76.3	9.9
Kuwait	2	55.8	13.0	United Arab Emirates	2	74.4	8.0
Bahrain	3	51.0	8.2	Bahrain	3	73.7	7.3
				Lebanon	4	73.3	6.9
Qatar	4	48.0	5.2	Tunisia	5	72.5	6.1
United Arab Emirates	5	48.0	5.2	Libyan Arab Jamahiriya	6	72.4	6.0
Syrian Arab Republic	6	46.0	3.2	Oman	7	72.2	5.8
Tunisia	7	44.6	1.8	Occupied Palestinian territory	8	72.1	5.7
Iraq	8	44.0	1.2	Saudi Arabia	9	71.9	5.5
Jordan	9	43.2	0.4	Qatar	10	71.8	5.4
Occupied Palestinian territory	10	43.2	0.4	Syrian Arab Republic	11	71.5	5.1
Algeria	11	43.1	0.3	Jordan	12	70.6	4.4
Libyan Arab Jamahiriya	12	42.9	0.1				
Morocco	13	42.9	0.1	Algeria	13	69.2	2.8
Egypt	14	42.4	-0.4	Egypt	14	68.3	1.9
Comoros	15	40.7		Morocco	15	68.1	1.7
				Comoros	16	60.2	
Saudi Arabia	16	39.9	-2.9	Iraq	17	60.1	-6.3
Sudan	17	37.7	-5.1				
Oman	18	36.4	-6.4	Yemen	18	59.4	-7.0
Mauritania	19	35.5	-7.3	Sudan	19	55.4	-11.0
Djibouti	20	33.0	-9.8	Mauritania	20	51.9	-14.5
Somalia	21	33.0	-9.8				
Yemen	22	32.1	-10.7	Somalia	21	47.0	-19.4
				Djibouti	22	46.1	-20.3
Arab region		42.8				66.4	

Source. a) 1950-1955: United Nations (2001). World Population Prospects: The 2000 Revision, vol 1, Comprehensive Tables, New York, United Nations.
b) 2001: UNDP(2003).

TABLE 3. MORTALITY REDUCTION INDEX, ARAB COUNTRIES/TERRITORIES OF WESTERN ASIA AND NORTHERN AFRICA, 1950-1955 AND 2001

Country/Territory (Ranked according to life expectancy in 1950-1955)	*Life expectancy at birth*		*Mortality reduction index (per cent)*
	1950-1955	*2001*	
Lebanon	56.0	73.3	68.4
Kuwait	55.8	76.3	80.4
Bahrain	51.0	73.7	74.9
Qatar	48.0	71.8	71.5
United Arab Emirates	48.0	74.4	79.3
Syrian Arab Republic	46.0	71.5	72.2
Tunisia	44.6	72.5	76.0
Iraq	44.0	60.1	43.2
Jordan	43.2	70.6	71.9
Occupied Palestinian territory	43.2	72.1	75.8
Algeria	43.1	69.2	68.3
Libyan Arab Jamahiriya	42.9	72.4	76.8
Morocco	42.9	68.1	66.0
Egypt	42.4	68.3	66.6
Comoros	40.7	60.2	48.0
Saudi Arabia	39.9	71.9	74.9
Sudan	37.7	55.4	40.6
Oman	36.4	72.2	79.7
Mauritania	35.5	51.9	35.8
Djibouti	33.0	46.1	27.1
Somalia	33.0	47.0	29.0
Yemen	32.1	59.4	55.5
Arab region	42.8	66.4	66.8

TABLE 4. LIFE EXPECTANCY AT BIRTH AND THE SEX DIFFERENTIAL IN LIFE EXPECTANCY, IN YEARS, ARAB COUNTRIES RANKED BY SIZE OF THE SEX DIFFERENTIAL, 2001

		Life expectancy at birth in 2001			
Country/Territory	*Rank** (1)	*Both sexes* (2)	*Males* (3)	*Females* (4)	*Sex differential ((4)-(3))* (5)
Yemen	1	59.4	58.3	60.5	2.2
Djibouti	2	46.1	44.9	47.3	2.4
Syrian Arab Republic	3	71.5	70.2	72.7	2.5
Saudi Arabia	4	71.9	70.7	73.3	2.6
Comoros	5	60.2	58.8	61.6	2.8
Jordan	6	70.6	69.3	72.1	2.8
Sudan	7	55.4	54.0	56.9	2.9
Algeria	8	69.2	67.7	70.7	3.0
Somalia	9	47.0	45.5	48.5	3.0
Iraq	10	60.1	58.6	61.7	3.1
Lebanon	11	73.3	71.7	74.8	3.1
Mauritania	12	51.9	50.3	53.5	3.2
Occupied Palestinian territory	13	72.1	70.5	73.7	3.2
Oman	14	72.2	70.8	74.1	3.3
Bahrain	15	73.7	72.1	75.7	3.6
Morocco	16	68.1	66.2	69.9	3.7
Tunisia	17	72.5	70.5	74.5	4.0
United Arab Emirates	18	74.4	73.1	77.1	4.0
Egypt	19	68.3	66.3	70.4	4.1
Kuwait	20	76.3	74.7	78.8	4.1
Libyan Arab Jamahiriya	21	72.4	70.4	75.0	4.6
Qatar	22	71.8	70.1	75.0	4.9
Means**, 22 countries/territories		66.4	64.9	68.2	3.3

*Ranked according to size of sex differential in life expectancy in 2001 (column (5)).
**Weighted means.

TABLE 5. PARITY PURCHASING POWER PER CAPITA INCOME (PPPPCI) AND LIFE EXPECTANCY AT BIRTH, ARAB COUNTRIES/TERRITORIES OF WESTERN ASIA AND NORTHERN AFRICA, 2001

Income group 2001	*Country/Territory*	*Population (thousands) 2001*	*PPPPC 2001*	*Life expectancy at birth (LEB) 2001*	*PPPPCI ranking*	*Life expectancy ranking*	*Relative LEB ranking to PPPPCI ranking*
A. Over US$ 15,000	United Arab Emirates	2,654	20,530*	74.4	1	2	-1
	Qatar	575	19,844*	71.8	2	10	-8
	Kuwait	1,971	18,690	76.3	3	1	2
	Bahrain	652	16,060*	73.7	4	3	1
B. US$ 10,000-15,000	Oman	2,622	12,040*	72.2	5	7	-2
	Saudi Arabia	21,028	11,390	71.9	6	9	-3
C. US$ 5,000-10,000	Libyan Arab Jamahiriya	5,403	7,570*	72.4	7	6	1
	Tunisia	9,562	6,450	72.5	8	5	3
	Algeria	30,841	5,150	69.2	9	13	-4
D. US$ 3,000-5,000	Lebanon	3,556	4,640	73.3	10	4	6
	Jordan	5,051	4,080	70.6	11	12	-1
	Egypt	69,080	3,790	68.3	13	14	-1
	Morocco	30,430	3,690	68.1	12	15	-3
	Syrian Arab Republic	16,610	3,280	71.5	14	11	3
	Iraq	23,584	3,197**	60.1	15	16	-1
E. US$ 1,000-3,000	Occupied Palestinian territory	3,311	2,788*	72.1	16	8	8
	Sudan	31,809	1,970*	55.4	17	18	-1
	Mauritania	2,747	1,680	51.9	18	19	-1
F. Below US$ 1000	Yemen	19,114	790	59.4	19	17	2
Total/means (19 countries/territories)		280,600	4,523	66.4			

Source: PPPPC 2001: Derived from World Bank (2003), except for figures with an asterisk which were derived from UNDP (2003).

**Data for 1997: Arab Development Report (2003).

TABLE 6. PARITY PURCHASING POWER PER CAPITA INCOME (PPPPCI) AND MORTALITY, ARAB COUNTRIES/TERRITORIES OF WESTERN ASIA AND NORTHERN AFRICA, 2001

Income group and Country/ territory	*Probability of dying (per 1000)*							
	Under age 5 years		*Between exact ages 15 and40 years*		*Between exact ages 40 and 60 years*		*Between exact ages 15 and 60 years*	
	Males	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*
A. Over US$ 15,000								
United Arab Emirates	13	11	37	24	139	103	171	124
Qatar	17	15	39	19	135	107	169	125
Kuwait	12	10	23	11	68	57	87	66
Bahrain	9	7	26	14	100	76	123	89
B. US$ 10,000-15,000								
Saudi Arabia	30	27	46	25	154	93	193	115
Oman	24	22	43	23	147	87	182	106
C. US$ 5,000-10,000								
Libyan Arab Jamahiriya	31	29	47	28	155	94	194	118
Tunisia	33	27	37	25	142	95	174	117
Algeria	55	44	38	29	130	103	164	129
D. US$ 3,000-5,000								
Lebanon	34	28	47	29	165	114	204	140
Jordan	27	24	46	27	155	98	193	122
Egypt	46	44	40	28	176	122	210	147
Morocco	58	55	36	24	131	85	162	105
Syrian Arab Republic*	27	23	44	28	154	104	192	129
Iraq	122	111	68	52	204	136	258	180
E. US$ 1,000-3,000								
Occupied Palestinian territory	25							
Sudan	124	117	125	121	285	194	378	291
Mauritania	174	167	116	122	294	217	378	317
F. Below US$ 1,000								
Yemen	109	101	78	71	229	174	289	234

Source. Under 5 mortality and probability of dying between ages 15 and 60 (except for Occupied Palestinian territory): WHO (2002). Probabilities of dying between ages 15-40 and ages 40-60 were calculated from detailed life tables for the year 2000 published by WHO, and adjusted for 2001 assuming similar age pattern of mortality for both years.

TABLE 7. POPULATION AND MORTALITY INDICATORS, RANKED BY INCOME GROUP, ARAB COUNTRIES/TERRITORIES OF WESTERN ASIA AND NORTHERN AFRICA, 2001

Income group (number of countries)	*Population*		*PPPPCI* (US$)*	*Life expectancy (both sexes)**	*Probability of dying (per 1000)*				*Mortality reduction index** (per cent)*
					*Under age 5 years***		*Between exact ages 15 and 60 years***		
	Number (thousands)	*Per cent*			*Males*	FEMALES	*Males*	FEMALES	
A (4)	5,852	2.1	19,345	74.7	15	11	137	101	76.5
B (2)	23,650	8.4	11,462	73.0	27	24	187	110	77.3
C (3)	45,806	16.3	5,707	70.3	40	33	177	121	73.7
D (6)	148,311	52.8	3,648	67.5	52	47	203	137	64.7
E (3)	37,867	13.5	2,020	56.6	108	101	378	304	38.2
F (1)	19,114	6.8	790	59.4	109	101	289	234	55.5
Total/ means***	280,600	100.0	4,523	66.4	52	45	207	147	66.7

*Weighted averages.
**Unweighted averages.
*** 19 countries/territories.