International Journal on Ageing in Developing Countries

Volume 6, No. 2, 2021

Special Issue
Population Ageing in the Middle East and North Africa

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International Journal on Ageing in Developing Countries

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Editorial

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Introduction

The *World Population Prospects 2019* (United Nations, 2019) reported that not only all countries are experiencing an increase in their numbers and percentages of older persons, some nations are experiencing such a drastic increase at a much faster pace. The world's population continues to grow, albeit at a slower pace than at any time since 1950, owing to reduced levels of fertility. From an estimated 7.7 billion people worldwide in 2019, the medium-variant projection indicates that the global population could grow to around 8.5 billion in 2030, 9.7 billion in 2050, and 10.9 billion in 2100. It is noteworthy that with a projected addition of over one billion people, countries of sub-Saharan Africa could account for more than half of the growth of the world's population between 2019 and 2050, and the region's population is projected to continue growing through the end of the century. By contrast, populations in Eastern and South- Eastern Asia, Central and Southern Asia, Latin America and the Caribbean, and Europe and Northern America are projected to reach peak population size and to begin to decline before the end of this century. Two-thirds of the projected growth of the global population through 2050 will be driven by current age structures and would occur even if childbearing in high-fertility countries today were to fall immediately to around two births per woman over a lifetime. This is true because the large population of children and youth in such countries will reach reproductive age over the coming few decades and begin to form families and bear children of their own.

In the 1980s, the World Bank (2005) proposed a new approach to group country specifications and research orientations along regional lines and across continents. Hence, they produced the Middle-East and North Africa (MENA) countries, the Arab counties of the Middle East and North Africa, as a unit for analysis and evaluations in international comparisons, assuming that they shared similar social characteristics such as religion, ethnicity, demography and culture (von Kondratowitz, 2013). These countries include Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza, and Yemen (World Bank, 2020). Since then, many international organisations have adopted this approach, reshuffling their indicator systems accordingly and remodeling their political bodies. The region covers a vast geographical area extending from Morocco to Iran and encompasses all Middle Eastern

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countries so that researchers have consistently rejected the World Bank's assumption that member states are similar in terms of social, economic, cultural and religious dimensions. For instance, Parkash and colleagues (2015) urged the political, economic, and social leadership in the MENA region to re-define and modernise the social policy programmes that create a sustainable and healthy ageing population. They concluded that:

> The success in global aging is a good barometer of medical, social, and economic advances. However, population aging also presents special challenges to health care systems, social insurance and pension schemes, and existing models of social support. It affects economic growth, disease patterns and prevalence, and fundamental assumptions about growing older [...] Addressing the health care and economic needs of increasing numbers of elderly will also require a delicate balancing act with the needs of other populations as well as political courage to support often very expensive programs. The time to provide such measures is now because the cost of missing this opportunity will be high.
>
> Parkash, et al., 2015, p. 10-11

The United Nations (2015) also reported that in the Middle East 30% of older people obtain a pension, whilst in North Africa the pension coverage is almost 37%. The populations that live in the MENA region have traditional cultural values. At the heart of the population's cultural values is a strong emphasis on family, and more importantly, admiration for older people. However, what has become evident in recent times is the way in which family structures are changing, in part due to the neo-liberalisation. Citing Parkash and colleagues once again,

> Faced with a different kind of the realities of present day living conditions, several families are not able to properly look after their elderly resulting in sending the elderly to nursing homes … However, the political ruling classes still assume that families will take care of their own elderly. The changes in this setup of socio-economic patterns demands for provision of long-term care as an important part of health care structure...
>
> Parkash et al., 2015, p. 9

The rise in the older population in the MENA region has also had significant ramifications for the expenditure and structure of health and social care. One imposing feature is that chronic, non-communicable diseases are replacing infectious diseases. It has been calculated that non-communicable diseases make up 47% of the Middle East's illnesses and estimated to rise to 60% by 2020 (United Nations, 2015). As Hajjar and colleagues observed,

> In a recent survey in nine Arab countries, the percentage of older adults suffering from at least one chronic disease ranged from 13.1% in Djibouti to 63.8% in Lebanon, with a rate of 45% in the majority of countries. Cancer rates vary in the

> region, with elevated rates of lung and bladder cancer noted among men in Tunisia, Algeria, Jordan, Egypt, and Lebanon, and of breast cancer among women in Israel and Lebanon: age-standardized-rate (ASR) 91.9 and 71, respectively.
>
> Hajjar et al., 2013, p. 12

Sibai and colleagues (2014) noted that mental health data in the MENA region is lacking and that depression is the most prevailing psychiatric complication amongst the older population. In terms of population ratios, "over 50 percent in Tunisia, 35 percent in Saudi Arabia and 23 percent in Jordan and Lebanon" are affected (ibid. : 36). At the same time, a high portion of suffers are diagnosed as having Alzheimer's disease. As they noted:

> In the Middle East and North Africa (MENA) region, the estimated number of people with dementia is expected to grow exponentially from 1.2 million in 2010 to over 2.5 million in 2030 (Alzheimer's Disease International, 2009). Epidemiological studies on dementia in Arab populations have rarely been reported. A single prevalence study among people 60 years and older in the Assiut province of Egypt revealed an overall prevalence of clinically diagnosed dementia of about 5 percent, increasing to 19 and 25 percent, respectively, among men and women aged 85 years and older".
>
> Sibai, et al., 2014, p. 36

Across the MENA region there are a number of support groups and associations that support older persons with particular health concerns (Halsall & Cook, 2017). However, Hussein and Ismail (2016) noted that in the Arab states there is more work required on policy initiatives to set up a sustainable and official long-term care provision to support people who provide for elderly and disabled family members. Thus, the authors called for more emphasis on joined up thinking with governments in the with region and policy makers.

Reviewing the current state of ageing welfare in MENA in light of the above international strategic directions leads to a number of policy ideals, especially since while some countries in MENA are experiencing a slow to moderate pace of ageing at the moment, this pace is expected to rapidly increase across the region in the coming decades. Hence, it is imperative that nations in MENA include at least one institutional arrangement on ageing, either a governmental department or a national committee. Here, it is commendable that such countries as Iraq, Kuwait, Morocco and Tunisia have developed both governmental bodies and national committees on ageing. Countries must make a real effort to mainstream ageing policy by including ministries of transport, women or family affairs, planning or statistics, and social security or pensions in addition to the customary health ministries. Civil society organisations and non-governmental organisations, including academics, must also be roped in to participate with the government in developing policies and implementing programmes through such coordinating bodies. National committees on ageing are to be mandated with the roles of planning, collaboration, coordination, monitoring and evaluation of ageing programmes, as well as including advisory and technical support, and resource mobilisation. In the past five years, there has been a global surge in updated national strategies and plans of action on ageing and the MENA region should not be an exception. Admirably, countries

such as Iraq, Kuwait, and Tunisia have issued new strategies on ageing, but many other countries remain without such a policy framework. Unfortunately, research infrastructure remains scarce in the MENA region, some even not updating their census data for decades. The presence of research institutes and data repositories on ageing are required so that data collection for national reports does not remain a pervasive challenge. The absence of government research infrastructure must not remain a key barrier, so that national conferences on ageing become an annual event.

Much more policies that encourage older persons to participate in the labour market are required since in many countries they continue to work as an economic necessity, particularly in low- to middle-income countries where social and economic security systems are relatively weaker. It is however noteworthy that in some countries, such as Morocco, older persons are encouraged to participate in the workforce in order for the society to benefit from their accumulated skills and experiences. Social security policies and support programmes should target older persons living in rural areas who also tend to be experiencing at-risk-of-poverty lifestyles. Literacy policies and programmes that include older persons within wider national strategies are another must. Lifelong learning programmes are essential to provide older persons with opportunities to pursue positive and active ageing lifestyles. It seems that only one lifelong learning programme targeting older adults aged 50 years and over, exists in the region, the University for Seniors at the American University of Beirut in Lebanon. A key indicator of the level of development and its impact on wellbeing is certainly the capacity to provide enabling and supportive environments that ensure ease of mobility for older persons and promote ageing-in-place. Policies moving towards this end include age-friendly public transport, access to streets and buildings, clubs for older persons. home care, volunteer carers, surrogate family programmes, meals-on-wheels and mobile care units. Although under-researched, isolation, abuse and violence towards older persons is an area of potential concern in the region. Despite the profound respect for older persons in MENA societies, their mistreatment, when present, remains a hidden problem, frequently cloaked by family secrecy. Programmes targeting the health of older persons within primary care centres are to be more widespread so that screening programmes for noncommunicable diseases and awareness-raising campaigns become more common. Subsidising or free medications for older persons, and policies and programmes for disables persons of all ages, are other steps in the right direction, and ministries of health must be attentive not to underrepresent mental health and nutrition in policies and programmes for older persons.

Finally, geriatrics should not remain a new field in the MENA region - since only Kuwait, Lebanon, Morocco, and Tunisia seem to recognise geriatrics as a specialty - so that a workforce trained in the care of older persons, including geriatricians, gerontologists and social workers, remains largely lacking. One anticipates a number of hurdles to providing adequate health care for older persons. These tend to include a lack of political will and legislation, lack of human and financial resources, the absence of guidelines for old-age homes and the rising cost of medical and health-care services. Moreover, the absence of universal health coverage remains the main concern and most pressing barrier to the well-being of older persons.

This special edition of the *International Journal on Ageing in Developing Countries* derives from the recent publication *Population ageing in the Middle East and North Africa: Research and Policy Implications*. Five chapters for this book have been chosen by the editors to be published in its open access journal so as to guarantee a wider and more freely dissemination of its contents. The first article, 'Ageing in the Middle-East and North Africa: Demographic and health trends' (Abdulrazak Abyad) discusses how older adults in the MENA region are expected to increase in numbers and as a percentage. With an increasing prevalence of non-communicable diseases and their associated risk factors and consequences, the emerging health profile of older Arabs is reflecting that of older adults in the West. Future care for older persons will also require, according to the WHO, models of both formal and informal care and support systems. The second article, 'Egypt' (Hala S. Sweed and Manar Maamoun), emphasises that since Egypt is facing a combination of socio-economic, political and security challenges, all efforts must be united to take advantage of demographic dividend which is projected to be followed by an economy downturn as population ageing always bring a decreasing young workforce to support older persons in their retirement. Ageing welfare should thus become incorporated within national social and economic strategies, policies and action.

The third article, 'Saudi Arabia' (Mohammed A. Basheikh and Hashim Balubaid), points that only a small percentage of older adults in the Kingdom receives high-quality health care but as future projections have revealed there will be a need to implement adequate comprehensive services for ageing persons that includes primary, secondary, and tertiary care services. Such a system will need to respond to the needs of the older adults through both community services and institutional facilities. The fourth article, 'Maghreb Countries' (Sonia Ouali Hammami and Salem Bouomrani), addresses the ageing situation in Tunisia, Morocco, and Algeria. The authors conclude that, unfortunately, demographic ageing has received limited attention at the political level in most Maghreb countries, even though ageing has been an emerging trend with increasingly socio-economic aspects and important policy implications. Whilst some governments have introduced community care services, ageing remains the profoundly challenging. The final article, 'Jordan' (Lana J. Halaseh) argues that the key to changing the society is to start off from building a culture of equity and justice. She decrees that since the smallest unit as the family institution, educating the younger generations and grandchildren is the most important tool in changing the attitudes and perceptions towards our older persons. Jordanian culture has a high level of social support, which in turn, contributes to assist the setting up of successful interventions in gerontological and geriatric care.

At the same time, this issue contains two book reviews - namely *Population change in Europe, the Middle-East and North Africa: Beyond the demographic divide* (Matthijs et al., 2015) reviewed by Nikolai Botev and *Rural elderly and their quest for health* (Jadhav, 2018) reviewed by Nidhi Gupta.

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Ageing in the Middle-East and North Africa: Demographic and health trends

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Abstact. The world is ageing rapidly (United Nations Development Programme [UNDP], 2016). The population of the Middle East and North Africa (MENA) is no exception, with older adults in the Arab world are expected to increase in number and as a percentage of the general population. All MENA countries are likely to undergo marked changes from 2025, with those aged above sixty-four years representing the largest age group by 2050. The percentage of older persons in the MENA is expected to increase, and will create enormous demands on the health care system. As yet, there are no national plan for universal and equal access in Arab countries that explicitly includes older people. The high prevalence of non-communicable diseases and disability among older adults suggests that this segment of the population needs specialized health care. Preventive geriatric medicine and the establishment of national geriatric curricula are greatly needed to promote 'healthy ageing' in all Arab countries. Having more accurate estimates of trends in the burden of disease and in health-care provision and use among older Arabs would inform evidence-based policies for older persons, their families and caregivers.

Keywords: *Middle East and North Africa (MENA), ageing population, policy, health care.*

Introduction

The population of the world is ageing rapidly, both in its absolute numbers and in its percentage relative to the younger population (United Nations Department of Economic and Social Affairs [UNDESA], 2019). In 2018, for the first time in history, persons aged 65 years or over, worldwide outnumbered children under age five. Projections indicate that by 2050 there will be more than twice as many persons above 65 as children under five. By 2050, the number of persons aged 65 years or over globally will also surpass the number of adolescents and youth aged 15 to 24 years. This is shaped mostly by levels of fertility and mortality, which have declined almost universally around the globe. Moreover, it is expected that in 2050 the 1.5 billion people aged 65 years or over worldwide will outnumber adolescents and youth aged 15 to 24 years (1.3 billion).

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Globally, approximately 9% of people were aged 65 or over at the end of 2019 (UNDESA, 2019). The proportion of older persons in the world is projected to reach nearly 12% in 2030, 16% in 2050 and it could reach nearly 23% by 2100. Europe and Northern America have the most aged population in 2019, with 18% aged 65 or over, followed by Australia / New Zealand (16%). Both regions are continuing to age further. Projections indicate that by 2050 one in every four persons in Europe and Northern America could be aged 65 years or over. A previous estimate revealed that more than half (58%) of all people who are 65 years and older live in developing nations. The world's older population experiences a net increase of 1.2 million each month, 80% of which occurs in low-income world nations (United Nations Development Programme [UNDP], 2016). Moreover, as in the west, the growth rate is fastest for the oldest old; those most likely to have chronic diseases and be in need of health services (UNDESA, 2019).

The number of people above age 80 years is growing even faster than the number above age 65. In 1990 there were just 54 million people aged 80 or over in the world, a number that nearly tripled to 143 million in 2019. Globally, the number of persons aged 80 or over is projected to nearly triple again to 426 million in 2050 and to increase further to 881 million in 2100. By 2050, it is anticipated that six countries will also have more than 10 million people aged 80 years or over, namely China (99 million), India (48 million), the United States of America (30 million), Japan (17 million), Brazil (10 million) and Indonesia (10 million). Together, these 6 countries will account for 57% of all persons aged 80 or more in the world (UNDP, 2015). Moreover, whereas the overall numbers of males and females globally are about equal, women outnumber men at older ages owing to their longer average life expectancy. In 2019, women comprise 55% of those aged 65 years or over and 61% of those aged 80 years or over globally.

Population trends and challenges in the Middle East and North Africa (MENA)

The Middle East and North Africa (MENA) is one of the cradles of civilization and of urban culture. Judaism, Christianity, and Islam originated in the region. The influence of MENA spreads beyond its rich oil fields. It seizes a tactically significant geographic position between Asia, Africa, and Europe. There are major demographic changes affecting the MENA Region. These changes will offer social and economic opportunities or some powers and harshly challenge others. The populations of more than 50% of the countries will increase by more than a third (some by more than two-thirds) by 2025, placing additional stresses on vital natural resources, services, and infrastructure. Two-thirds of these countries are in Sub-Saharan Africa; most of the outstanding fast-growing countries are in the Middle East and South Asia (Abyad & Hammami, 2019). Since 2011, the region has experienced an eruption of conflict in several Arab countries. What was termed the 'Arab Spring' led to a series of wars and conflict in countries such as Syria, Iraq, Libya and Yemen. Domestic strife and foreign intervention have led to "failed states" across the region (Müller et al., 2016; Kinsman, 2016).

As the Region enters the third millennium the rapid population growth intensifies the challenges that it will face. The population of the MENA has increased fivefold since the 1950s, from just under 110 million in 1950 to 569 million in 2017 (UNDESA, 2017). Notwithstanding mostly declining rates of fertility, absolute population numbers are expected to further double

to over 1 billion inhabitants by 2100, according to medium variant projections (ibid.). By the end of the century, therefore, there will be more people in the MENA region than in China, whose population is expected to continue to shrink to just over one billion; and more than in Europe, the population of which is expected to recede by approximately 10% by 2100. Right now, the population growth rate is most minimal in Lebanon (0.73%) and most noteworthy in Iraq (3.1%). The diminishing pattern of population development is required to proceed for the following couple of decades where the development rate is assessed to achieve a negative value in Algeria, Bahrain, Lebanon, Morocco, Oman and Tunisia in the year 2050. Of all nations, Saudi Arabia has demonstrated the most honed diminish in Population development rate from 6.0% in 1980 to 2.1% in 2010 and is relied upon to diminish much further to 0.4% by 2050.

Contrasted with developed nations, the majority of inhabitants in the Middle East is youthful. The level of the Population beyond 65 years old in MENA is evaluated at 4.7% (of an aggregate Population of 336 million) as indicated by the World Bank (2012) report. The range shifts from under 2% in the United Arab Emirates (UAE) to about 10% in Lebanon. As a result of declining fertility, the youth bulge peaked in North Africa in the 1970s and in the Middle East in the 1990s (Cammett et al., 2015). In the foreseeable future this youth bulge will remain high. The Arab Human Development Report of 2016 concluded that the current Arab youth population is "the largest, the most well educated and the most highly urbanized in the history of the Arab region" (UNDP, 2016). In 2015, around half of the total population were under the age of twenty-four, and more than 60% under thirty years old (UNDP, 2016). This presents a number of challenges to authorities including unemployment rates, conflict and civil unrest, especially in developing countries where the capacity to create educational and employment opportunities and possibilities for political participation are restricted. Education rates increase the likelihood of inclusion in 'legitimate' labour market activity, whilst preventing youth from engaging in unlawful activity (Grogger, 1998).

The MENA region is a diverse and heterogeneous region where politics and religion pervade most aspects of life including health care. The region has witnessed a major amelioration in health over the past few decades. This has resulted in rapid increases in life expectancy, most outstandingly Lebanon improved the life expectancy from sixty-seven to around eighty years in the period from 1990 to 2015 (United Nations Economic and Social Commission for Western Asia, 2017). This success is secondary to marked improved in healthcare services with access to modern medical technology in both Lebanon and the entire region (ibid.). The improved health situation, the declining fertility and mortality rates will result in an increase in demographic ageing. The ageing of the population, coupled with the return migration to other regions, and the emigration of working age populations, have further augmented the old age dependency ratio (Saxena, 2013). This ratio represents the dependency burden relative to economically active age groups, understood as the proportion of the population aged sixty-five years or older in relation to those of working age (15 to 64 years old). There is a clear increase in dependency levels of MENA countries from 1950 to 2015, and as projected through to 2100. In 2015, Israel, Tunisia, Turkey and Lebanon had the highest proportions of residents over sixty-five years, relative to the populations of working age. From 2050, Iran, Turkey, Lebanon and Oman are anticipated to see the highest increases in the old age dependency

burden from among MENA countries. Tunisia for example, is projected to see its old age dependency ratio increase from 6.9% in 1980 to 15% by 2025, and further to 54 % of the population by 2100.

Notwithstanding further amelioration in fertility and mortality rates, the six Gulf Cooperation Council (GCC) countries are projected to witness levels of ageing reduced mostly by the high levels of working-age immigration - despite expected decreases in migration rates. Qatar– with its high levels of migrant workers - is anticipated to see its dependency ratio increase only marginally, from 2.1% in 1980 to around 2.9% by 2025. As in the GCCs, the increase of old-age dependency ratios in Yemen and Somalia are slow, though for different reasons. Rates here are projected to decrease instead, due to the higher fertility and mortality rates still compelling population growth rates. Regardless of the above, all MENA countries are likely to undergo marked changes from 2025, with those aged above sixty-four years representing the largest age group by 2050. The percentage of older persons in the MENA is expected to increase with improvement of health care delivery in the area. The projection is that in 35-40 years, the youthful masses will work their way up the population pyramid, and the geriatric population in the Middle East will surge. This will lead to the rectangularization of the pyramid. Population projections reveal a threefold increase of older persons from 4.1% in 2010 to close to 12% in 2050. Yet, paralleled to the West (13.2 % in North America and 18.5 % in Europe in 2010) the region rests fairly young. Presently, Lebanon and Tunisia have the highest percentage of older people (65+) (7.3% and 7.0%, respectively). By the year 2050, the percentage of older persons will exceed 20 % in 6 out of the 22 MENA countries, and will range between 12% and 19% in 9 others.

Not surprisingly, as in ageing populations elsewhere, the fastest rate of growth will be in the very old. The World Health Organization (WHO) (2011) estimates that from 2000 to 2050, the rate of growth of the population above age 65 is projected to be 4-5%, and the average annual growth rate of the oldest (85 years and older) will exceed five% in eleven Arab countries. In countries like Lebanon, the proportion of older persons is already relatively high and will double by the year 2050. Other countries such as Qatar, Kuwait, and the United Arab Emirates (UAE) should anticipate a fivefold or greater increase in the proportion of their geriatric population and should allocate resources accordingly. In the whole MENA Region, it is expected that the older population will triple (Table 2.1) (WHO, 2011; UNDP, 2015).

Therefore, the region will develop rapidly ageing populations within the next few decades. The countries which have much lower levels of economic development and access to adequate health care than more developed countries, will be hard-pressed to meet the challenges of more older people, especially as traditional family support systems for older persons are breaking down. Policymakers in the Middle East need to invest soon in formal systems of old-age support to be able to meet these challenges in the coming decades (Abyad, 2015). Older persons are at high risk for disease and disability; this population ageing will place urgent demands on developing-country health care systems, most of which are ill-prepared for such demands. It is apparent that the problems of the frail older persons and development of geriatric programmes and understanding of geriatric principles are international problems (WHO, 2000; Abyad, 2017).

Table 1: Current and projected percentages in the MENA of old and oldest-old populations

Countries	Percentage of Population 65+			Percentage of Population 80+		
	2010	2030	2050	2010	2030	2050
World	7.7	11.6	15.6	1.6	2.3	4.1
Algeria	4.6	9.0	19.1	0.7	1.2	3.7
Bahrain	2.1	9.0	25.4	0.3	0.6	4.3
Comoros	2.7	3.7	5.9	0.4	0.3	0.7
Djibouti	3.3	4.8	8.0	0.3	0.6	1.0
Egypt	5.0	8.7	14.2	0.7	1.4	2.8
Iraq	3.3	3.7	6.8	0.4	0.5	1.0
Jordan	3.9	5.6	12.8	0.5	0.9	2.2
Kuwait	2.5	5.2	16.1	0.3	0.5	2.2
Lebanon	7.3	12.0	21.0	1.1	1.8	4.6
Libya	4.3	7.9	17.4	0.6	1.4	3.3
Mauritania	2.7	3.9	6.6	0.2	0.3	0.7
Morocco	5.5	10.5	17.7	0.8	1.4	3.7
Oman	2.5	8.3	22.5	0.5	0.8	3.6
Palestine	2.7	4.0	7.1	0.3	0.6	1.2
Qatar	1.0	4.3	21.2	0.1	0.3	3.5
Saudi Arabia	3.0	6.4	15.1	0.6	0.9	2.2
Somalia	2.7	3.2	3.8	0.3	0.3	0.5
Syria	3.9	7.3	12.8	0.6	1.1	2.9
The Sudan	3.6	4.7	7.5	0.4	0.6	1.1
Tunisia	7.0	12.1	21.4	1.2	1.8	4.6
UAE	0.4	6.3	28.0	0.1	0.2	4.2
Yemen	2.6	3.2	5.6	0.3	0.4	0.7

Source: United Nations Department of Social and Economic Affairs, (2017).

Health transitions

The MENA Region is passing through the 'Health Transition Phase', which is characterised by an unprecedented increase in both number and proportion of adults and older persons. Improvement of health care has been achieved by a combination of technical advances, social organization, health expenditure, and health education (Abyad, 1994, 1995a, 1995b, 1996, 2001, 2019). Rapid urbanization and industrialization are occurring across the MENA countries. The epidemiological consequences of these changes will lead to an increased rate of death from cancer and circulatory disorders. In addition, an increase in chronic disorders of old age and ageing itself, will create enormous demands on the health care system. As yet, there are no satisfactory geriatric care services available for older persons. Different countries in the region have started different programmes which tend to be rudimentary and fragmented with no programmes available on a national level (ibid.).

Once among the highest on the planet, MENA's fertility rate has been declining for quite a long time, to a great extent as a result of deferred marriages and the utilization of contraception. Nonetheless, a background marked by high fertility has brought about a

growing number of women of reproductive age (15 - 49 years). This number (for the area in general) expanded from 84 million in of 2000 to 119 million in 2015, and is anticipated to increment further, arriving at 147 million in 2030 and 169 million in 2050 (UNDESA, 2017). This demographic process, known as momentum, will prompt an enormous number of births in 2050 contrasted with 2000, despite the fact that the normal number of births per woman is declining (ibid.). Both the beginning and pace of fertility decrease is anticipated to shift generally over the region. In 2000, fertility in the MENA found the middle value of around 3.3 children per woman and none of the nations had fertility rates underneath the substitution level of 2.1 children per woman (however Tunisia, Iran and Lebanon were close). By 2015 in any case, fertility had tumbled to simply underneath three children for every woman in the district in general and to or beneath substitution level in six nations: Bahrain (2.1 children per woman), Kuwait (2.0), Qatar (1.9), UAE (1.8), Lebanon (1.7) and Iran (1.7). By 2030, half of the MENA countries will have total fertility rates at or below replacement level.

National under-five mortality rates between 1990 and 2015 in the area diminished by between just shy of 50% in Algeria, Djibouti, and Iraq to roughly 75% in Tunisia, Lebanon, Egypt, Iran, and Oman, and are presently (starting at 2016) extending from around 65 deaths for each 1,000 live births in Sudan and Djibouti to under 10 deaths in Qatar, Kuwait, Lebanon, UAE and Bahrain (United Nations Inter-Agency Group for Child Mortality Estimation, 2017). The number of under-five deaths in the region will continue to decline over the coming decades. Life expectancy at birth for the world reached 72.6 years in 2019, an improvement of more than eight years since 1990. Life expectancy in the least developed countries lags 7.4 years behind the global average, due largely to persistently high levels of child and maternal mortality and, in some countries, to violence and conflicts or the continuing impact of the HIV epidemic (table 2).

The Region shows wide variations in their life expectancy ranging from as high as 79 years in Lebanon to 75 years in Kuwait, 73 years in Egypt, to 64 years in Yemen and Sudan and as low as 54 years in Somalia. In contrast, people in some developing countries like Swaziland are not expected to live on average for more than 50 years. The future pace of increment in life expectancy is probably going to change between nations, with solid inconsistencies being relied upon to continue until mid-century. The best situation is anticipated for Lebanon, where life expectancy is anticipated to reach 85 years by 2050, trailed by Oman, Qatar, Morocco, UAE, Algeria, Iran, Tunisia, and Bahrain, all of which have anticipated life expectancies of over 80 years. Indeed, Syria would join this group, if it were to pursue pre struggle patterns (UNDESA, 2017). On the other hand, the anticipated life expectancy at birth in 2050 will be only around 70 years in Djibouti, Yemen and Sudan.

The MENA region has just entered a period of exceptionally low dependency ratios. This economically beneficial situation will last until around mid-century, after which the dependency ratio will rise again as a consequence of the ageing of the population. In the coming decades, a remarkably huge extent of MENA countries will move into their most profitable years, opening up the potential for a demographic dividend. The most positive time frame for the area in general will be between now and 2040, when the dependency ratio will drop as low as 50 dependents (youngsters under 15 years and older individuals 65 and over)

for each 100 people of working age (15-64 years). The dependency ratios will rise again in the second half of the century, because of a quickly developing portion of older people in the population, and the window of opportunity for benefitting from the demographic dividend will start to close. Another significant demographic transition experienced in the area identifies with relocation. Migration contributes either emphatically or adversely to the old age dependency ratio of nations. In the previous ten years, the area's migrants have dramatically increased, and it has progressed toward becoming host to the world's quickest developing coercively dislodged and worldwide transients (Connor, 2016). Relocation for financial objectives and place of refuge from local clashes or occupation have moved the area's migrant communities 120% to a sum of 54 million, or 13% of the whole (ibid.). The demographic dynamics of these risings vary inconceivably from nation to nation, as do the associated repercussions. Where migration has been vigorously age and sex particular, gender and dependency ratio have been affected likewise. In Gulf States, most of the local populations (exactly 88 % in the UAE, 75% in Qatar and 74% in Kuwait) contain for the most part worldwide migrant workers. Saudi Arabia pulls in the most noteworthy number of universal migrant specialists in the region, approximately 33%. The to a great extent male transient workforce, likewise twists local gender ratio, work advertised cooperation figures and national birth rate measurements (UNDESA, 2015).

The MENA Region includes some of the oldest urban civilizations; it stands out amongst the most urbanised worldwide (56%) (United Nations Habitat, 2012). The urban areas developed by more than four times from 1970 to 2010 and will dramatically increase again in the following forty years. Driven by an assortment of factors including financial improvement, movement to oil-rich nations and struggle, wide varieties exist crosswise over Arab nations with some encountering an abnormal state of urbanisation, for example, the GCC nations (urbanisation in Bahrain, Kuwait, Qatar, Saudi Arabia and the UAE ranges from 82.1 % to 98.7%). The procedure of urbanisation, be that as it may, will contrast altogether crosswise over sub-areas.

The Gulf sub-area as of now has significant levels of urbanization – in excess of 80% in Kuwait and near 10% in Qatar. Mashreq nations and the least developed nations (LDCs) of the MENA region, for example, Mauritania, Sudan and Yemen have lower paces of urbanisation, albeit urban occupants are as yet expected to increment quicker than their provincial population, and to epitomize the bulk by 2050. Urbanization can likewise have consequences for an ageing population, where joint family bolster structures are regularly less firm when contrasted with those in rural districts, in this manner expanding the weight upon national social security frameworks. Essentially, declining rural populations may impact horticultural import reliance proportions and related worries about nourishment power and nourishment security. The projection is that in 35-40 years, the youthful masses will work their way up the pyramid, and the geriatric in the MENA will surge. Not surprisingly, as in ageing populations elsewhere, the fastest rate of growth will be in the very old. Ageing contributes to a contracting workforce accessible to support the dependent older persons. Nonetheless, with reasonable foreknowledge, sound monetary approaches, and political solidarity, the present structure of the Middle East can be transformed into a demographic reward.

Table 2: Life expectancy at birth (years) (2015)

Rank	State/Territory	Total	Male	Female
	Global average	70	67	73
Developed Countries				
1	Japan	83.74	80.91	86.58
2	Italy	83.31	80.00	86.49
3	Switzerland	82.84	80.27	85.23
43	United States	78.88	76.47	81.25
Regional Countries				
5	Israel	82.64	79.59	85.61
44	Lebanon	78.86	77.14	80.87
48	Qatar	77.89	77.10	79.68
55	United Arab Emirates	76.67	76.02	78.23
58	Bahrain	76.38	75.58	77.42
60	Oman	76.33	74.66	78.85
76	Iran	75.06	73.98	76.22
78	Turkey	74.84	71.53	78.12
83	Tunisia	74.60	72.30	77.04
89	Kuwait	74.28	73.34	75.56
93	Saudi Arabia	74.08	72.82	75.47
98	Jordan	73.79	72.21	75.52
100	Morocco	73.61	72.60	74.62
110	Palestine	72.65	70.74	74.66
114=	Libya	71.47	68.79	74.41
120	Egypt	70.84	68.71	73.05
129	Syria	69.51	63.98	76.26
130	Iraq	69.19	66.99	71.44
159	Yemen	63.51	62.18	64.88
162	Sudan	63.08	61.60	64.60
165	Mauritania	62.77	61.29	64.25
189	Somalia	54.88	53.28	56.51
Developing Countries				
194	Nigeria	52.29	51.97	52.61
197	Côte d'Ivoire	50.97	50.21	51.85
199	Central African Republic	49.53	47.83	51.25
201	Eswatini (Swaziland)	49.18	49.69	48.54

***Source*:** United Nations Department of Economic and Social Affairs, (2015).

This demographic dividend alludes to a transition from a high birth rate to a low birth rate together with increased life expectancy (low death rate) as the developing nation progresses into an industrialized economic system. For a brief timeframe in a country's history (typically lasting 20-40 years), the young dependent (age 1 to 14 years) enter the workforce at a

comparable or faster rate than the old dependent (over 65 years) exit it into retirement. A sizeable part of younger people who are healthy, educated, and employed are capable of contributing to the national economy, thus the term 'dividend'. Amid this 'window of opportunity', the geriatric cohort tend to increase without a corresponding increase in the support ratio or the cost of dependent care; in fact, the dependency ratio may shrink. The window of opportunity, however, does not last forever. In time, the age distribution changes once more. As the growing middle-aged and older moves into the dependent age bracket, they are no longer replaced by younger productive cohorts due to descending fertility rates. As in other regions in the world, the Middle East is also experiencing marked changes in its health-related issues. Once dominant infectious diseases are now being replaced by chronic non-communicable diseases, which comprise 47% of the region's burden of disease, and is anticipated to rise to 60% by 2020 (Khatib, 2004). Hence, with the ageing of the Region's Arab population, maintaining health and independence in old age will become increasingly challenging.

Human development in the MENA region

The UNDP's Human Development Index (HDI) has captured human progress, combining information on people's health, education and income in just one number. Despite overall progress, large pockets of poverty and exclusion persist in the Region. Inequality and conflict are on the rise in many places. Between 2012 and 2017, the conflicts in Syria, Libya and Yemen contributed to these countries' slipping down the HDI, due to significant declines in their life expectancy or economic setbacks. It will take years, if not decades for them to return to pre-violence levels of development. The 2018 Update presents HDI values for 189 countries and territories with the most recent data for 2017. Of these countries, 59 are in the very high human development group, 53 in the high, 39 in the medium and only 38 in the low. The global HDI value in 2017 was 0.728, up about 21.7% from 0.598 in 1990. Across the world, people are living longer, are more educated and have greater livelihood opportunities. The average lifespan is seven years longer than it was in 1990, and more than 130 countries have universal enrolment in primary education. During the period between 2005 and 2017 Lebanon, Jordan and Libya experienced different degrees of progress toward increasing their HDIs. Lebanon's 2017 HDI of 0.757 is the same as the average of 0.757 for countries in the high human development group and above the average of 0.699 for countries in Arab States. From Arab States, countries which are close to Lebanon in 2017 HDI rank and to some extent in population size are Jordan and Kuwait, which have HDIs ranked 95 and 56 respectively.

In the Region countries with very high human development included Israel with the highest HDI with a position at 22, UAE ranked 34 followed by Qatar, Saudi Arabia, Bahrain, Oman and Kuwait at 56. Whereas countries with high human development, were topped by Turkey, followed by Mauritius, Lebanon, Algeria, Jordan, Tunisia, Libya, Egypt and Palestine. In the medium human development parts, one finds Iraq and Morocco. In the low human development, one finds Syria, Sudan, Yemen and South Sudan. In recent years, other countries had setbacks as new challenges emerged and conflicts erupted. Between 2012 and 2017 Libya, the Syrian Arab Republic and Yemen had falling HDI values and ranks—the direct effect of violent conflict. Although Lebanon is not directly involved in violent conflict, it has

suffered spill overs from the conflict in the Syrian Arab Republic, hosting more than a million Syrian refugees. In 2012 the Syrian Arab Republic ranked 128 on the HDI, in the medium human development group. But after years of conflict it dropped to 155 in 2017, in the low human development group, due mainly to lower life expectancy.

Health care services

The Madrid Plan calls on governments to take steps to achieve universal and equitable access to health care and to tackle social and economic inequality based on age, sex or other grounds (United Nations, 2002). The main challenge for health services policies and programmes in most Arab countries is their affordability and accessibility, which is of particular relevance to the older population. Older people may face age discrimination in the provision of services because their treatment may be perceived to be less worthy than the treatment of younger persons.

Wars and conflicts that are endemic in a number of countries of the region and the more recent 'Arab Spring' struggles lead to fragile health care systems and curtail access to services and basic amenities, further compounding the challenges faced by vulnerable populations. Overall, there is no national plan for universal and equal access in Arab countries that explicitly includes older people. Even in countries where healthcare services are nominally universal and free (e.g., GCC states, Jordan, Iraq, Libya, Tunisia, Algeria, and Syria), it is unknown whether they are made specifically available to older persons. For example, even if accessible, older rural residents with limited mobility are particularly likely to have difficulty reaching service providers.

The high prevalence of non-communicable diseases and disability among older adults suggests that this segment of the population needs specialized health care. Similar to most cultures around the world Arab culture places tremendous respect on elders and family support obligations in old age (Sinunu et al., 2009), most older Arab adults live at home and receive care from their children, spouses, or other close relatives. To date, in most Arab countries, the number of institutionalized older adults remains low (Al-Shammari et al., 2000; Boggatz & Dassen, 2005; Margolis & Reed, 2001), but specific figures of the institutionalized proportion are not available. For example, in the UAE, the approximate incidence of institutionalization among older people is 7-14 per 1000 people aged 65 and older, which is nearly six times lower than U.S. levels (Margolis & Reed, 2001). Recent reports indicate that members of the family are increasingly unable to care for their vulnerable elder family members, particularly those with the most severe disabilities (Sinunu et al., 2009).

Overall, although ageing has been a problem in wealthier countries for a long time, in some Arab countries it has only recently become an issue. For instance, in all Arab countries there is a lack of specialization and teaching in geriatric medicine (Al-Shammari et al., 2000; Chemali et al., 2008; Keller et al., 2002; Margolis et al., 2003; Youssef, 2005). Furthermore, nursing homes, if available, are ill-prepared for older residents (Hafez et al., 2000), and only those individuals belonging to the middle or high social class can afford to put their elders in long-

Table 3: Countries by Human Development Index

	Country	HDI	LE	SDG	GNI
Developed World -Very High Development					
1	Norway	0.953	82.3	12.6	68,012
2	Switzerland	0.944	83.5	13.4	57,625
13	United States	0.924	79.5	13.4	54,941
Middle East & North Africa					
22	Israel	0.903	82.7	13.0	32,711
32	Cyprus	0.869	80.7	12.1	31,568
34	United Arab Emirates	0.863	77.4	10.8	67,805
37	Qatar	0.856	78.3	9.8	116,818
39	Saudi Arabia	0.853	74.7	9.5	49,680
43	Bahrain	0.846	77.0	9.4	41,580
48	Oman	0.821	77.3	9.5	36,290
56	Kuwait	0.803	74.8	7.3	70,524
64	Turkey	0.791	76.0	8.0	24,804
65	Mauritius	0.790	74.9	9.3	20,189
80	Lebanon	0.757	79.8	8.7	13,378
85	Algeria	0.754	76.3	8.0	13,802
95	Jordan	0.735	74.5	10.4	8,288
95	Tunisia	0.735	75.9	7.2	10,275
108	Libya	0.706	72.1	7.3	11,100
115	Egypt	0.686	71.7	7.2	10,355
119	Palestine	0.706	73.6	9.1	5,055
120	Iraq	0.685	70.0	6.8	17,789
123	Morocco	0.667	76.1	5.5	7,340
155	Syrian Arab Republic	0.536	71.0	5.1	2,337
167	Sudan	0.502	64.7	3.7	4,119
178	Yemen	0.458	65.2	3.0	1,239
187	South Sudan	0.388	57.3	4.8	963
Developing countries					
76	Sri Lanka	0.770	75.5	10.9	11,326
188	Central African Republic	0.367	52.9	4.3	663
186	Niger	0.354	60.4.5	2.0	906

SDG =Mean Year of Schooling
LE= Life Expectancy at birth
SDG= Mean Years of schooling
GNI Gross national income per capita in $

HDI score between 8 and 0.953 Very High Human Development
HDI score between 0.7 and 0.798 High Human Development
HDI score between 0.556 and 0.699 Medium Human Development
HDI score less than 0.546 Low Human Development

***Source*:** United Nations Department of Social and Economic Affairs, (2015).

term formal treatment (Sinunu et al., 2009). Due to the lack of sufficient geriatric services, older people are generally treated by general internists or physicians and are admitted to acute care hospitals in the GCC countries (Al-Shammari et al., 2000; Margolis & Reed, 2001). Most older adults argue that advanced home services are inadequate or unavailable (Youssef, 2005) and that there is a lack of social and economic support for caregivers (Atallah et al., 2005). The health care system must align to improve the situation in guaranteeing that multifaceted older patients are furnished with care that is streamlined and intelligible. There is a need for enhancement of education and training, increments in enlistment and retention, and the advancement of new models of care (Abyad, 1996, 2001, 2008a, 2008b). The WHO has distinguished a 'Sustainable Development Goals index threshold' of 4.45 doctors, nurses and midwives per 1000 individuals, to guarantee a health workforce of adequate density to achieve the objectives of the SDGs (WHO, 2016). There is significant difference between MENA nations regarding the quality of their health services providers. Eleven out of 19 nations had satisfied the base WHO guideline for health service provision outlined above by 2015, with the most elevated density of health service providers being in Qatar (9.4 per 1,000 occupants) and Libya (8.0).

The contribution of social visitation and integration to the well-being of Arab elders is an interesting observation from research in the region. Studies suggest that continuing social interaction and belonging to a strong social network is a major factor contributing to effective ageing among the region's elders and may be viewed as even more important than optimal. The family traditions that exist in Arab culture make nursing homes and institutions of old age the last choice for most families and only when all care options fail. Consequently, in countries of the region, the proportion of institutionalized older people remains very small (< 5 per thousand older people), except for Lebanon (13 per thousand older people). This is in clear contrast to the percentage of older persons receiving formal care in institutions in Europe, ranging between 9 % in Italy and 32% and 35% in Sweden and Belgium, respectively (Aziza & Brodsky, 2003).

While nursing homes remain very scarce in Djibouti, Iraq, Libya, Morocco, Oman, Saudi Arabia, the Sudan, Syria, Tunisia and Yemen (less than 0.4 per 10,000 persons older than 65), the number of nursing homes in proportion to the size of the older population is highest in Palestine, Lebanon and Bahrain (close to 1.9, 1.6 and 1.1 per 10,000 persons older than 65, respectively). Qatar, Jordan and Egypt (ranging from 0.4 to 0.6 per 10,000) follow this. Countries with high numbers of nursing homes have reported high numbers of day-care centres, with Bahrain at the top of the list (3.4 per 10,000 people over 65), followed by Lebanon (1.9), Palestine, Qatar and Egypt (range 0.5-0.6). The quality and affordability of nursing homes in Arab countries is one of the main concerns. Older people's programmes also represent class distinctions, and the well-to-do clearly benefit from the superior homes. Clubs are a luxury that can only be afforded by the wealthy. In fact, programmes are not well known to the community's older people and their caregivers (Regional Mapping, 2012). One of the few and earliest such programmes for older people in the region is the 'Mobile Units' system in Bahrain. It was launched under the authority of the Ministry of Social Affairs by the National Committee on Ageing in October 1994 and eventually passed on to the Ministry of Health in August 2007. Currently, there are ten mobile units, each consisting of a team of

Table 4: Estimated number of health service providers (doctors, nurses and midwives) for each scenario by country

Country or Area	Health service providers in 2015 (estimated using 2000-2015 trend)	WHO threshold met, 2015	Health service providers 2030 if trend maintained	Health service providers in 2030 if all countries meet WHO Standard
Algeria	179,600	Yes	277,643	277,643
Bahrain	7,405	Yes	14,430	14,430
Djibouti	1,722	No	3,971	5,041
Egypt	222,877	No	507,323	532,868
Iran	256,562	No	360,656	395,442
Iraq	106,135	No	294,346	294,346
Jordan	65,596	Yes	87,096	87,096
Kuwait	30,192	Yes	40,465	40,465
Lebanon	37,375	Yes	32,085	32,085
Libya	49,893	Yes	62,023	62,023
Morocco	76,005	No	142,498	181,888
Oman	31,137	Yes	49,733	49,733
Qatar	23,313	No	31,532	31,532
Saudi Arabia	224,889	No	311,679	311,679
Sudan	129,660	Yes	307,055	307,055
Syria	63,368	Yes	149,614	149,614
Tunisia	53,114	No	70,289	70,289
UAE	55,789	No	76,605	76,605
Yemen	65,686	Yes	174,120	174,120
MENA	1,680,318	No	2,993,163	3,093,952

* The State of Palestine is excluded from the analysis due to the lack of available data.

***Source*:** World Health Organization Global Health Workforce Statistics [online database] & United Nations Department of Economic and Social Affairs (2017).
Note: Data from 2000 to 2015 was used for estimation. If density is higher than the WHO minimum standard in 2030, the forecasted number of health service providers is reported.

health and social workers, including family physicians, physiotherapists and dieticians, providing nursing, medical and social care and advice to older persons and their caregivers at home. The units are financed by the National Committee on Ageing, the Red Crescent Society and by the State-owned Social Insurance Organization.

In the Region there is a need for a central shift in the focus of clinical care for older people. Rather than managing numerous diseases and symptoms in a disjointed fashion, the emphasis should be on interventions that optimize older people's physical and mental capacities over their life course and that enable them to do the things they value. WHO believe strongly that in order to reach healthy ageing there is a need to focus on the goal of maintaining intrinsic

capacity and functional ability across the life course. Recently they proposed the *Integrated Care for Older People* model (ICOPE). The model stresses the need to integrate gerontological and geriatric care within the community. At the Regional level there was a consultation meeting in Beirut that explained the model for the academicians and key persons from the EMRO Region.

Delivering age-friendly, integrated health-care services in the region will necessitate a change in the way health systems are planned. Services will have to be oriented around the needs of older people rather than around the needs of the services themselves. Furthermore, the new system will have to serve older people with a high and stable level of intrinsic capacity, those with a declining capacity and those whose capacity has deteriorated to the point where they require the care and support of others (WHO, 2016). It is important to move from a disease focused approach towards care that aims to enhance older people's intrinsic capacity over their life course (Ham, 2010). The purpose is not to degrade good disease management but is rather to stress that an older person's physical and mental capacity should be the emphasis of, and the starting point for, coordinated health interventions (Low et al., 2011).

These ICOPE guidelines and associated products are the main tools in support of the implementation of the WHO Global strategy and action plan on ageing and health approved by the World Health Assembly in 2016. WHO will partner with ministries of health, nongovernmental organizations, professional associations and academic institutions to disseminate these guidelines, and support their adaptation and implementation by Member States. The foreseeable obstacles for the adoption of ICOPE in the region include lack of political will, gaps in general knowledge about integrated care, difficulties with implementation and insufficient sharing of experiences with integrated care internationally.

Conclusion

In conclusion, older adults in the Arab world are expected to increase in number and as a percentage of the general population. With an increasing prevalence of non-communicable diseases and their associated risk factors and consequences, the emerging health profile of older Arabs in many ways is reflecting that of older adults in the West. However, the high prevalence of non-communicable diseases in several countries in the region does not replace completely the burden of communicable diseases such as HIV, tuberculosis, schistosomiasis and malaria, especially in African countries, where the double burden of infectious and chronic diseases prevails. Preventive geriatric medicine and the establishment of national geriatric curricula are greatly needed to promote 'healthy ageing' in all Arab countries. There is also a need to promote, support and fund research on older adults among scholars within the region. Having more accurate estimates of trends in the burden of disease and in health-care provision and use among older Arabs would inform evidence-based policies for older persons, their families and caregivers. Future care for older persons will also require, according to the WHO, models of both formal and informal care and support systems. While formal long-term care programmes in poor countries are largely underdeveloped, they will be essential to complement the informal support system and maintain the major role that family caregivers are currently playing. Definitions of structured long-term care services that

support informal caregivers include education, respite care, medical appointments, and financial assistance to cover expenses related to care. For example, several countries in East Asia and Southeast Asia offer adult day care and counselling services to support caregivers in their families. Singapore provides home care, and accommodation preferences to family members who are willing to live next door to their older parents, and Malaysia offers tax benefits for adult children who live with their parents.

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Egypt

Hala S Sweed[1] and Manar Maamoun[2]

Abstract. Egypt is the most populous country in the Middle East, where over the last few decades it has experienced a gradual increase in the absolute and relative numbers of older people. In 2050 Egypt is expected to have the largest number of old (23.7 million) and oldest old (3.1 million) populations in the region. an urgent need to invest this opportunity and ensure adopting a national action plan toward ageing. Despite the fact that Egypt is still without a national strategy or plan of action on ageing, this paper highlights how the governmental policy making bodies in Egypt, universities and the academic institutions as well as non-governmental organisations have long been acting to cope with population ageing. This however is not enough, ageing must be incorporated within social and economic strategies, policies and action. The national security system umbrella must be enlarged to cover a wider range of older population. The significant increase in life expectancy implies not only heightened demand for the existing services but also for new services and alternative approaches to meet the varied and specific needs of the older persons.

Keywords**:** *Egypt, older persons, policy, health care, geriatrics.*

Introduction

Egypt is the most populous country in the Middle East and the third most populous on the African continent (after Nigeria and Ethiopia). The population of Egypt represents 1.20%of the world´s total population which arguably means that one person in every 84 people on the planet is a resident of Egypt. One of the main features of the Egyptian population over the last few decades is the gradual increase in the absolute and relative numbers of older people. This trend is expected to continue over the next decades. Egypt is expected to maintain the highest rank in absolute numbers in both old and oldest populations in the region. In 2050 Egypt is expected to have the largest number of old (23.7 million) and oldest old (3.1 million) populations in the region.

Currently Egypt is classified as one of moderately ageing countries according to the Economic and Social Commission for Western Asia (ESCWA) classification and preparing for demographic transitions towards ageing populations have become a matter of urgency

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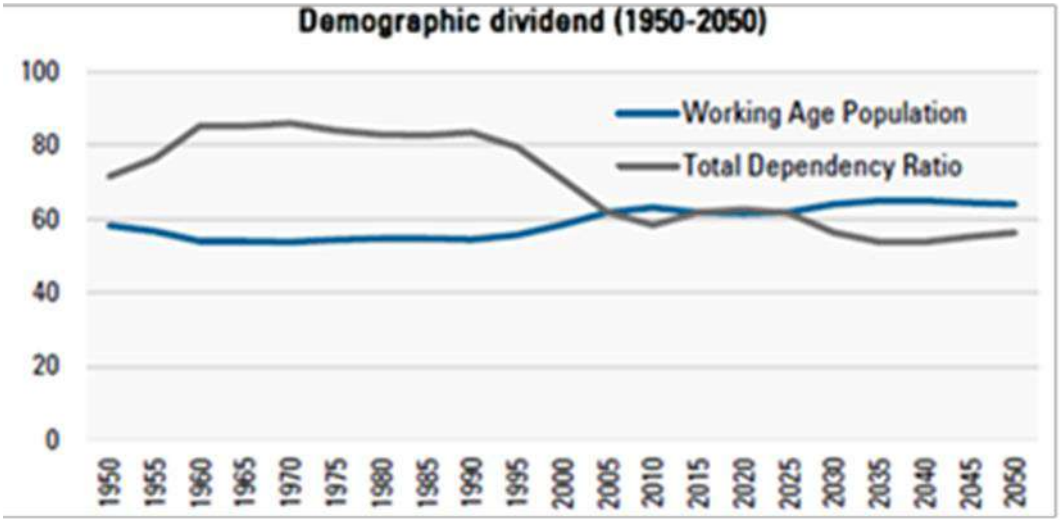
(United Nations, 2017). The Egyptian census is carried out every 10 years; the percentage of older people "defined as 60 years of age and more" was 4.4%in 1976, 5.75%in 1996, 6.27%in 2006 and 6.9%according to last census in 2017. The percentage is projected to be 11.5%in 2031 and it is expected to reach 20.8% in 2050. This means that, around 20 million Egyptians will be categorised as older persons by that time; this is a big number that resembles a full nation in some parts of the world. Two indices measure the rate of population ageing: the old-age dependency ratio and the ageing index. The old-age dependency ratio defined as the number of persons aged 65 years and above per 100 persons aged between 15 and 64, measures the capacity of a working economy to sustain non-working older persons. The ageing index, defined as the number of persons aged 65 years and above per 100 persons below the age of 15, measures the relative weight of dependent older persons relative to dependent children.

The 2017 census provides important information about the age structure and its changes during the intercensal period 2006-2017, especially with the noticeable increase in fertility levels during these years resulting in rising of overall dependency ratios from 54%in 2006 to 61%in 2017 and the old age dependency ratio represents about 8%of the overall dependency While the ageing index represents about 20%, indicating that Egypt despite increased fertility rate and dependency ratio could be on the verge of the demographic opportunity and that its age structure can be further generating such a situation leading to the demographic dividend, defined as the increase in economic growth that tends to follow increases in the ratio of the working-age population - essentially the labour force, to dependents. Nations undergoing this population transition have the opportunity to capitalize on the demographic dividend if the right social, economic, and human capital policies are in place.



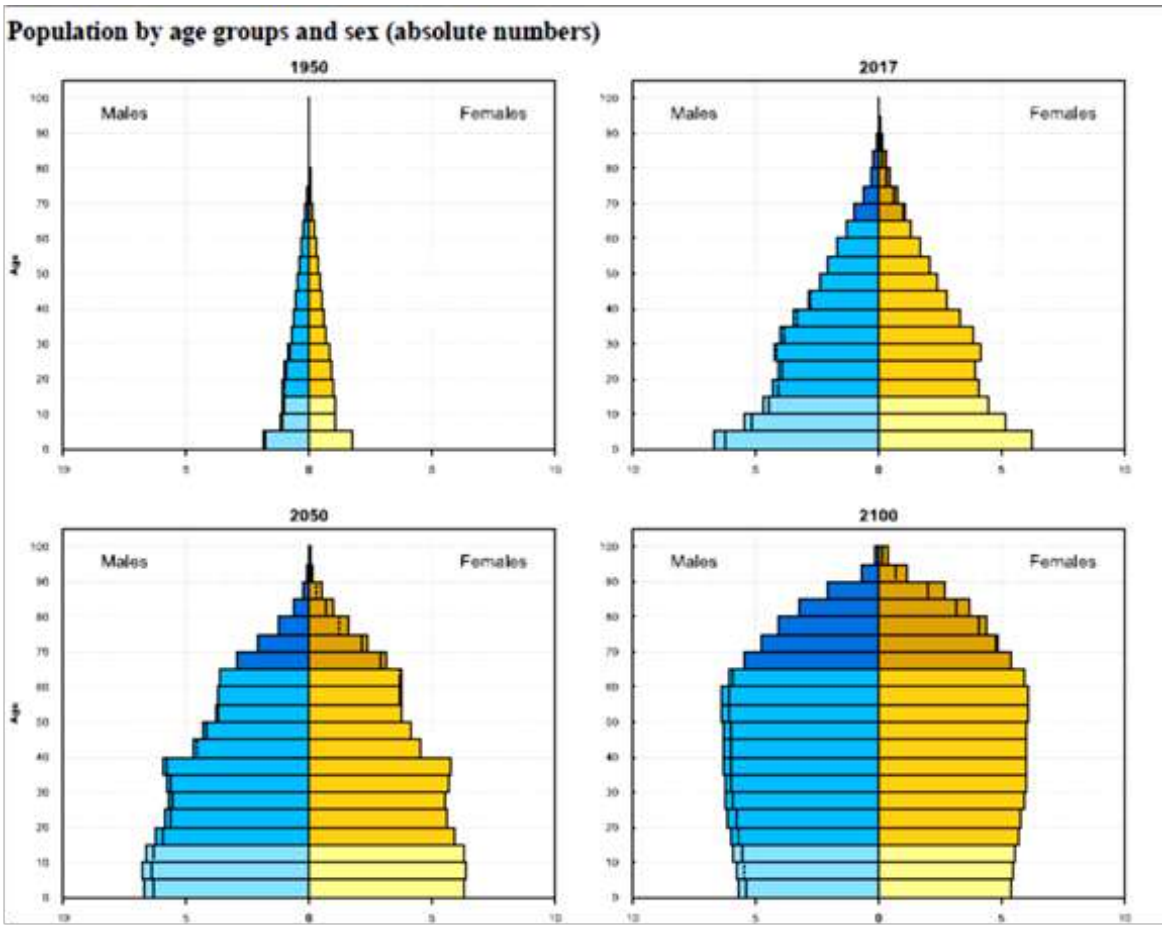
Source: United Nations Department of Economic and Social Affairs, (2017).

The Central Agency for Public Mobilization and Statistics (2017) revealed that Egyptian female life expectancy at birth increased to 73.6 years, compared to 70.8 years for males, in 2017. Meanwhile, the average life expectancy of females in 2006 was 69.1 years, while for males was 66.5. In 2026 the expected life expectancy for males at birth will be 74.7 years and for older people at age 60 years will be 19.3 years. So the percent of increase in life expectancy for males at birth from 1986 to 2026 is 23.5%and for older people is 35%. Similarly, for females at birth the percent increase is 25 per cent and for older females 44%. The rate of population

ageing may also be modulated by migration. Immigration usually slows down population ageing, because immigrants tend to be younger and have more children. On the other hand, emigration of working-age adults accelerates population ageing.

Although the effects of migration on population ageing are usually stronger in smaller populations, because of higher relative weight (proportion) of migrants in such populations, still, the Egyptian aged population can be affected by migration. According to the International Organization for Migration, an estimated 2.7 million Egyptians live abroad and contribute actively to development of their country through remittances, circulation of human and social capital, as well as investment. Approximately 70%of Egyptian migrants live in Arab countries (923,600 in Saudi Arabia, 332,600 in Libya, 226,850 in Jordan, 190,550 in Kuwait with the rest elsewhere in the region) and the remaining 30%are living mostly in North America (318,000 in the United States, 110,000 in Canada) and Europe (90,000 in Italy). Still, this number may be much less than the actual number, if there is a defect in reporting to the embassy on arrival to a new country. In addition, there is the migration within the country from rural to urban areas, leaving older persons behind. This causes variation in the distribution of the aged population within the Egyptian governorates. According to the last Egyptian census, the absolute total number of older persons is greater in rural areas than urban ones, in spite of the fact that their percentage is more in urban (7.18%) than rural (5.6%).

Figure 4.2: Population Pyramid of Egypt; 1950-2100



Source: United Nations Department of Economic and Social Affairs, (2017).

A distinctive feature of the older population throughout the world is the preponderance of women over men, the 'feminization' of population ageing (because of longer life expectancy among women). The greater improvement in female life expectancy than that for males will not only result in lower sex ratios for the older population as a whole, hence a predominance of females, but for the individual older females, greater longevity will very often result in loss of support from spouse, and greater economic deprivation.

Population ageing and policy response

Currently, Egypt is a youthful nation walking to ageing transition and there is an urgent need to invest this opportunity and ensure adopting a national action plan toward ageing. Although there are a lot of available services either governmental or non-governmental, Egypt is still without a national strategy or plan of action on ageing since the Public Strategy for Elderly Care in 2010. According to the Egyptian constitution, the government is obliged to provide services of medical and social security for the aged. Legislation, laws, resolutions and programmes on the protection and promotion of seniors' human rights were laid down for the social and medical security systems aiming to give older persons the maximum support they need. The policy making bodies in Egypt, mainly the Ministry of Health and Population, Ministry of Social Solidarity, the universities and the academic institutions have long been acting to cope with population ageing.

Social highlights

There are some privileges offered to older people by the government including; 25% discount for local transportation (50% for railways), 50% discount in the price of entry tickets for theatres, cinemas, clubs, and fairs, 10% discount in the price of air tickets for local/national flights and 5%for international flights, and 20% for internal tourism (trips).

Social insurance law

The law adjudicates disbursing security pensions - through the Social Insurance Fund for the governmental sector and the Insurance and Pensions Fund for the public and private sectors in the following cases: (ageing, disability and death- work injuries- illness- unemployment- social welfare for pension beneficiaries). On top of this pension beneficiaries' list includes older persons. Ministry of Social Solidarity plays a pivotal role in supporting the older population especially functionally dependent and assisted older persons; it offers a wide range of services and it is responsible for coordination between the various parties concerned with elder care. The Ministry of Social Solidarity also has laid down a number of laws and regulations over the past years supporting older persons. In 1990 the Ministry laid down the internal regulations of the geriatric clubs, in 1992 set a committee for celebrating with the international day for older persons, and in 1997 established the higher committee for geriatric care. Law 84/2002 on regulating the work of non-governmental organisations (NGOs) and private foundations, allowed older persons to participate in the management of some NGOs, run projects and utilizing their capabilities; it is worth noting here that most NGO's boards in Egypt consist of older persons.

Current Ministry of Social Solidarity care services for older persons

Geriatric homes

In 1980, the total number of geriatric homes in Egypt was 63, increasing to 94 in 1990, 103 in 2000, 161 in 2011 and currently there are 168 registered geriatric homes distributed over 22 governorates supervised by the Ministry of Social Solidarity. These homes provide medical, social and recreational services and full accommodation for about 6,000 elders who need either functional assistance (143 geriatric homes) or totally dependent (25 geriatric homes) regardless of their social or health status for fees, or free.

'Elderly' clubs

There are 194 clubs for older persons distributed all over Egyptian governorates offering social, recreational activities with about 70,000 older beneficiaries per year.

Home care services

The Ministry of Social Solidarity developed offices (most of them were attached to 'elderly' clubs) that provide home care services (as basic activities of daily living) for older persons especially those living alone. Currently there are 27 offices distributed all over the Egyptian governorates serving 40,000 older persons.

Physiotherapy units

Since 2011, 52 Physiotherapy units attached to the geriatric homes and clubs are offering rehabilitation for 50,000 older persons.

Care giver training programmes

Care giver training programmes in collaboration with NGOs have been offered to 300 trainees serving 900 older persons to date. The efforts are continuing to improve the current services and add other services and to optimize the use of resources in collaboration with NGOa, private sector and regional, and international organizations. As for the Egyptians themselves, the family has been and still is the main social institution, which offers support and services to the aged. According to a report from Cairo Demographic Center most older people (66.8%) live with sons and daughters and (13%) live with spouse. A small percentage (9.1%) of older people live with relatives other than mentioned above and the same percentage live alone due to different reasons. However, social changes e.g. rural-urban migration with older people left behind, Egyptian women increasingly being employed outside homes, changing in housing stock (nuclear instead of extended family) and decreasing family size with fewer people in the 'young generation' available to take care of larger numbers of people in the 'old generation', have created some demands for extra-familial services. All these factors caused changes in living arrangements resulting in an increasing number of older people living alone, especially females, raising the need for institutions for the aged.

Health Care Services

Population ageing is a great challenge for the health care systems. Although the health status of older people is improving over time now and the life expectancy is increasing, still, with ageing, the prevalence of disability, frailty, cancer, and chronic diseases (Alzheimer's disease, cardiovascular and cerebrovascular diseases, etc.) is expected to increase, especially with the large growth in the oldest old group (+70 years old) that constitutes 31.73% of the Egyptian older persons and 2.5% of the Egyptian population. The older the person is, the more likely they are to face a compounding of multiple health, psychological and social problems that make accurate medical diagnosis and proper medical management difficult.

Older people have high risk for functional impairments with inability to perform ordinary activities of daily living (ADL) and activities related to household management, termed instrumental activities of daily living (IADL). Therefore, a country in which there are increases in the older population has to be prepared for the epidemiologic transition from infectious diseases of the young population to the chronic diseases of the old population. In such conditions health services and resources have to be directed to medical care as well as home and institutional care. Egypt has a diverse health system with numerous public and private healthcare providers. Egypt's healthcare sector is regulated and governed by the Ministry of Health and Population ('MoHP'). Various services for older persons are provided through governmental, private, and non- governmental sectors. The Egyptian Parliament has recently approved a new law covering health insurance. Law No 2/2018, is an update from a more populist system which had been in place since the 1960s. The law aims to protect the rights of less fortunate members of society including the older population. In addition to the general health services, whether governmental or private, available for the use by older persons, there are other special services for the older people that have developed in Egypt.

Since 2007, Egypt's Ministry of Health and Population has established 11 special geriatric care centres and departments to ensure the specific needs of older people are met. In 2015, The Project for the Development and Advancement of the Ministry of Health and Population Geriatric Health Care Centers has been launched in collaboration with the World Health Organization (WHO) for evaluation of the present condition of all of the existing centres and departments and the results of the evaluation are now being used by decision-makers to develop a comprehensive plan for development of geriatric health centres and departments aimed at improving the quality of life for older people. The plan will address infrastructure, equipment and human resource needs. The Ministry of Health has also established Clinical Diagnostic Service to dementia patients (Memory clinic in hospitals) since January 2000. The service included assessment service, counselling and family support. Outside the Ministry of Health, academic units provide a very satisfactory unique model of care including;

Geriatrics and Gerontology Department - Ain Shams University

The Geriatrics and Gerontology Department at Faculty of Medicine, Ain Shams University, was established in 1982, as a day care unit providing services to older patients of the medical and psychiatry department. Then development and growth went on where an outpatient

clinic was established and the department was developed in 1994, and over time more services were developed in the department including geriatric intensive care unit in 2000, and an osteoporosis unit in 2002. Since its inception, the Department has sought to be a role model in the field of geriatric medicine. It offers diploma, master and doctorate degrees in geriatric medicine, in addition to a variety of training programmes targeting geriatric care team members.

In 2014 the new geriatric hospital was established with the collaboration of the university and the NGOs. The opening of the hospital was launched August 2018, aiming to be a unique centre of excellence in the Middle East offering specialized different levels of care (intensive care, acute care, day care) in addition to geriatric outpatient clinics (primary care clinic, general clinic, orthogeriatric clinic and memory clinic). The six-floor building has a capacity of 66 inpatient acute care beds plus 32 intensive care beds, in addition to the outpatients' clinics, and a day care center. In parallel with the establishment of the hospital, Ain Shams Ageing research center was established aiming at; stimulating the interdisciplinary study of ageing within and across the biological, behavioural and social sciences and conducting cutting-edge research that tackles prominent questions of ageing and old age, coordinating new interdisciplinary partnerships to develop innovative programmes of research and education that capture the complexities and inter-connections of ageing issues, and translating research advancements into practical understandings and interventions and promoting sound policy to enhance the quality of life and promote the health and welfare of older citizens.

Geriatric Medicine Unit - Cairo University

Geriatric Medicine is a subspecialty of Internal Medicine Department since 1989, teaching geriatrics as a part of undergraduate and postgraduate Internal Medicine curriculum. Geriatric Medicine Unit provides outpatient clinic service as well as inpatient consultation for the university hospitals' departments. Orthogeriatric unit consisting of 8 intermediate care beds started in 2017. Geriatric postgraduate curriculum and clinical training is a part of Internal Medicine Doctorate Degree as an Elective Course since 2009. Master Degree programme will start in 2019/2020 as well as a professional Diploma.

Geriatric departments, Alexandria, Mansoura and Helwan Universities

Geriatric department Alexandria University is the first geriatric department in Egypt. It is a subspecialty of Internal Medicine Department till now, also Geriatric department, Mansoura University is a subspecialty of Internal Medicine Department. In 2013 Faculty of Medicine Helwan University has been established by Presidential Decree in 2013 and geriatric medicine department is one of its basic departments. Examples of other unique centres include; centre of geriatric service, Nasr city, and Geriatric department in Palestine Hospital. Military hospitals also provide care services for older persons, and NGOs and the private sector also play a role.

NGOs and care for older persons

Encouraging the role of NGOs as an essential partner in providing services for elders is prominent and urgently required. Especially in developing countries such as Egypt which faces numerous social, economic, political and environmental challenges. There are 857 NGOs concerned with geriatric care and their branches are distributed all over the Egyptian governorates. In spite of being a large number, this represents only 1.55% of the whole Egyptian NGOs. NGOs play a key role in the field of social work in support of governmental plans. They carry out their plans within the framework of stable regulatory and structural mechanisms, namely the General Union of NGOs, regional unions and specific unions. Some of them are offering social and medical services e.g. the Egyptian society of geriatric care. Others are scientific e.g. Egyptian Society of Gerontology, Egyptian Alzheimer's Society, and Egyptian Society of Psycho-geriatrics. Some of these NGOs do provide some integrated services in the form of homes for the aged along with hospital and religious services. Still, there is a minimal role of NGOs in policy planning of care of older persons, in research work, and in media to increase the awareness of the population to the problem of ageing. Every individual organisation works separately, with minimal communication between each other. *Alzheimer Egypt society* was founded in 1999. It aims at raising awareness among the health and social care providers to persons with dementia and their caregivers. It has many activities such as monthly 'Alzheimer café' a meeting to support persons with dementia and their carers; annual celebration of the "Alzheimer day"; non-regular Alzheimer bulletin; and a health education book for caring after persons with dementia at home.

The *Egyptian Society of Geriatrics and Gerontology*, an NGO, was founded late in the year 2014. Being founded by geriatric specialists of The Geriatric and Gerontology Department, Ain Shams Faculty of Medicine, it adopted a more specific way to decide on its goals that are to be based more on the needs of the seniors in the Egyptian community goals than most others. In order to attend to actual needs of the senior Egyptian citizens on multiple levels (e.g. medical, social, financial and any other societal services) rather than the expected, the Society started a project of building a database on the needs of the Egyptian seniors.

Wikiageing, a knowledge management tool, was established in 2014 by academics from Ain Shams Geriatrics and Gerontology Department. Its mission is to promote and improve the elder care in the Middle East and North Africa (MENA). The tool operates by the Wiki technology based on a dynamic website (http://wikiageing.org/). It is a collaborative, voluntary, open access knowledge project aiming at improving the elder care in the Arab speaking region. Wikiageing as an open access knowledge tool provides a means to pool knowledge, categorizes knowledge, networking, and general knowledge management. Several conferences, symposiums, and workshops concerned with ageing have been held in Egypt over the past years. These were sponsored by either the Ministry of Health, Ministry of social affairs, Universities, and non-governmental organizations. They were aiming to orient the health-professionals and also the general people with gerontological and geriatric needs. Media also made modifications to cope with the greying of the population. The Radio developed a channel specific for old people and the television developed a programme since

1994 called 'Age Spring'. The national newspaper 'Al-Ahram' developed a page concerned with older people since 2001 named 'Age Flower'.

'زهرة العمر'

There is also a special Radio channel for older persons named *Elderly specialised Radio* broadcast all through the day.

"إذاعة الكبار المتخصصة"

Large amounts of research in the field of ageing was done and is still ongoing to develop a data base of the population and their needs. Bulletins are published regularly by non-governmental organizations e.g.

'towards healthy ageing', 'sound of time'
'صوت الزمن',
"The Butterfly",
"الفراشة",

and 'for better mental health for older persons'.

Social training programmes are presented by the Ministry of Insurance and Social Welfare including a programme for older people to prepare the population for the changes that occur after retirement. The whole health system in Egypt has become oriented to the phenomenon of ageing. For several years now, the Ministry of Health started to have residents for geriatric medicine with training courses and residency programmes offered to them in collaboration with the academic departments. As mentioned above several services were established to cope with the needs of older persons. A large number of Egyptian geriatric specialists and consultants are available nowadays across the country. Health professionals were trained and are being trained for geriatric care.

Training programmes for health professionals

With the greying of the population, geriatric medicine specialty was developed and well established in Egypt with continuous education and training programmes for the health professionals dealing with older patients.

Geriatric medicine education programmes

The Geriatrics and Gerontology Department at Faculty of Medicine, Ain Shams University

The Geriatrics and Gerontology Department at Ain Shams University is the only academic department in Egypt that offers Diploma, Master Degree and Doctoral Degree in geriatric medicine connected to a specialized residency programme and clinical training courses. The Ain Shams geriatrics and gerontology department is a centre of excellence specialized in

gerontological and geriatric care in Egypt and the MENA region. The scope of the department involves three main domains; education, research and medical services. By now there are more than 80 trained physicians working in the department with positions and titles of professors, associate professors, consultants, lecturers, and residents fulfilling the residency programme. In addition, the department has trained and graduated many physicians to work in the Ministry of Health in Egypt and in some Arab countries. Establishing a stable system and advocating the specialty led to training of new generations of geriatricians and spreading the department mission locally and regionally. The department is also involved in the teaching process of the undergraduates and introduced the first undergraduate curriculum in geriatrics in Egypt to promote skills of handling older patients, and to spread knowledge about geriatric medicine and gerontology. Also courses are designed for physicians of the Ministry of Health, nurses and caregivers. The department is helping build capacities and training doctors for other equivalent departments in Egyptian universities (Mansoura, Suez Canal and Helwan) and the Ministry of Health. A large amount of research has been carried out by the department covering varying fields of geriatric medicine and gerontology and has been published in varying national, regional and international journals and still ongoing research is being carried out to study the old aged population and their needs. In 2014, the department developed the Egyptian Journal of Geriatrics and Gerontology, a peer-reviewed journal aiming to address the most significant ageing issues affecting health status and quality of life of older individuals. The journal addresses research on biological, clinical, epidemiological, and psychosocial aspects of later life.

Geriatric Physical therapy education programmes

Geriatric physical therapy education is available in three Physical therapy colleges. The study of geriatrics is introduced at the third year undergraduate for two terms. Postgraduate studies are available to attain higher diploma, Master and Ph.D. degrees.

Geriatric Nursing education programmes

At the colleges of nursing, there is a module in geriatrics nursing both at the undergraduate level as well as postgraduate level at the diploma level, M.Sc., and Ph.D. in geriatric nursing.

The Higher Institute for Public Health, Alexandria University

This is a postgraduate institute for public health. There are 9 academic departments of which one is the Department of Health at old age. This department offers postgraduate training in geriatric health at the diploma level, Master degree level and Ph.D. degree level in Geriatric public health.

Colleges of Social Services

Helwan, and Assiut Universities, provide Diploma, Master degree and Ph.D. in geriatric care. Also in the other Universities, geriatric care is included in the undergraduate curriculum with

training courses and field training. The Ministry of Health and Population started from 2001 to develop health programmes targeting older people within its structure. These include:

- Short term training programme for family physicians held with the collaboration of experts from Ain Shams University. These programmes are held twice a year and aim to train such physicians to acquire skills in geriatric practice.

- Short term training programme for community nurses held with the collaboration of experts from Ain Shams University. These programmes aim to train such nurses in geriatric nursing skills.

Training courses for professional caregivers

Different governmental and non-governmental organizations are involved in training of professional caregivers. These programmes are very variable in terms of method of training, length of training, and course objectives. Some of these programmes would link such training with mechanisms to employ the trainee either in long term units or home care programmes, but others would just offer the training. The Geriatrics and Gerontology Department at Ain Shams University has been offering these training courses since 2010 till now, in collaboration with NGOS with a total of 400 trainees.

What is next?

Egypt is a large, central country facing a combination of socio-economic, political and security challenges, against a background of regional instability, and passing through significant demographic transition. All efforts must be united to take advantage of demographic dividend which is a small window and is often followed by strain on the economy, as an ageing population no longer has a proportionate young workforce to support them in their retirement. Ageing must be incorporated within social and economic strategies, policies and action. The national security system umbrella must be enlarged to cover a wider range of older population. The significant increase in life expectancy implies not only heightened demand for the existing services but also for new services and alternative approaches to meet the varied and specific needs of the older persons. A good health status of older people can have a positive influence on public budgets in this context; hence, an increase of preventative measures may pay off in the long-run.

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Kingdom of Saudi Arabia

Mohammed A. Basheikh[1] and Hashim Balubaid[2]

Abstract. Currently, the population of the Kingdom of Saudi Arabia includes more than 34 million people and is considered to be a young population, as more than 70% of the population is below the age of 30 years. The age group that includes individuals who are 60 years old or older represents only 4.4% of the population. Life expectancy at birth increased from 49.75 years in 1974 to 69.7 years in 1996, after which it increased to 75.3 years in 2013. The expectation is that the older adult population will increase to 9.5% of the general population in 2035 and will reach more than 18% by 2050. The Kingdom is currently entering uncharted territory with regard to the magnitude of its aging population and the health and psychosocial needs of this population. The culture in the Kingdom ensures respect for the older adults and highly values the natural bond of affection among all members of the family. Health interventions for the older adults, whether preventive or curative, are almost always far more expensive than those for other age groups. Additionally, there are significant deficiencies in the number of physicians who are trained in geriatrics, occupational or environmental health, and preventive medicine. However, as future projections have revealed, there will be a rapid increase in the older adult population as a percentage of the total population. Thus, there is an urgent need to develop adequate comprehensive services for the older adults, including primary, secondary, and tertiary care services. The system must respond to the needs of the older adult population by offering home services, community services, and sophisticated older adult care facilities. Based on the Vision, steps are currently being taken by different government bodies to develop a strategic plan involving various aspects of care for the older adult population.

Keywords: Kingdom of Saudi Arabia, ageing population, health care.

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Background

Since ancient times, aging has been considered a natural part of life, but not all individuals accept this concept (Thane, 2005). In modern times, life has become much easier compared to life in the Middle Ages, at which time the process of aging was not welcomed, especially among poor individuals. In the 18th century, attitudes towards aging began to change, wherein a transition occurred in the understanding that aging and older adults remain creative and can have a rewarding life. Another factor in this transition was that the same time period elicited more awareness of and differentiation between diseases and targets in younger adults compared to older adults (Thane, 2005). In the 19th century, with the growth of different industries and transportation methods and advances in medicine, people began to live longer lives. Despite the advances in medicine, the focus was mainly on the younger population, as chances of success were much higher in younger individuals than in older adults. Moreover, older adults typically did not seek medical attention, as they believed that health issues were due to aging. Additionally, when older individuals died, their deaths were often recorded as being due to age-related conditions (Thane, 2005).

In the 20th century, there were significant advances in medicine, especially with regard to significantly decreased death rates at birth, and the population started to grow older. Such changes elicited increased attention to issues of aging, which resulted in the introduction of the specialties of geriatric medicine and gerontology (Thane, 2005).

The field of geriatric medicine addresses challenges to the health of older adults; it encompasses a wide range of older adult focused and related diseases, including frailty, malnutrition, osteoporosis, dementia, and functional independence. Given advances in medicine and the availability of more medical treatment options, as well as more advanced surgical procedures (based on new technologies that were not previously available), these factors have contributed to an increase in life expectancy. Based on these facts, acute conditions that were previously considered to be fatal have now become treatable conditions, which has led to the survival of more of the population and allowed individuals to live to older ages. In addition, aging resulted in increased levels of chronic medical diseases and more complex medical conditions, such as polypharmacy. These changes in aging as well as societal changes have led to a focus on the prevention and possible treatment of specific conditions that are considered to play a role in aging, such as the loss of teeth and vision.

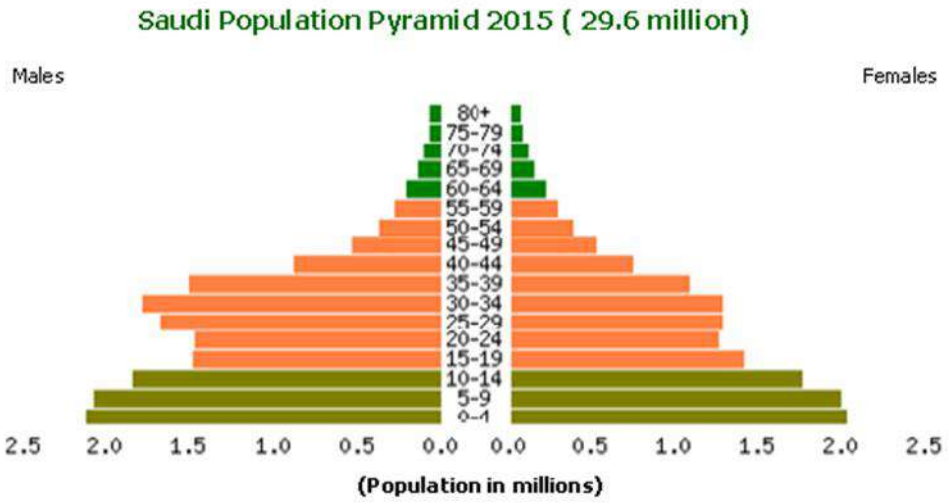
Arab countries share the same language and history. Although they have diverse individual economic and political systems, the countries still have many factors in common in terms of their populations. Arab countries have experienced significant changes in different aspects of urbanization, and socioeconomic changes that have resulted in an increase in life expectancies from birth, and a rise in the number of older adults. In the past, most Arab countries had a major problem with infectious diseases, but with advances in medicine, such diseases are now treatable. However, with continued modernization, ongoing technological advances, and increased awareness regarding medical screening, there have been increases in chronic medical diseases such as diabetes mellitus, hypertension, and dyslipidemia in different age groups, not just in older adults. Due to the frailty of older adults, these individuals are more

affected by these chronic medical diseases and exhibit an increased likelihood of death from them, as this likelihood is estimated to be greater than 60% (Rahim et al., 2014) and primarily due to complications from these chronic medical diseases. Arab countries have exhibited significant improvement in life expectancy, adding approximately 8 years to this factor in 2015 compared to 1985 (Sibai et al., 2017). Additionally, life expectancy is projected to increase to greater than 80 years by 2030 (Sibai et al., 2017).

The Gulf Cooperation Council (GCC) accounts for less than 1% of the population, but it is considered to be one of the wealthiest groups in the world. Most of the population is considered to be young, which results in a social pyramid in which young individuals are able to care for older adults.

Currently, the population in the Kingdom of Saudi Arabia is composed of more than 34 million people and is considered to be young, as more than 70% of the population is below the age of 30 years (General Authority for Statistics, 2017). This is a pyramid shape for the society, wherein the younger generation can care for the older generation (Figure 5.1)

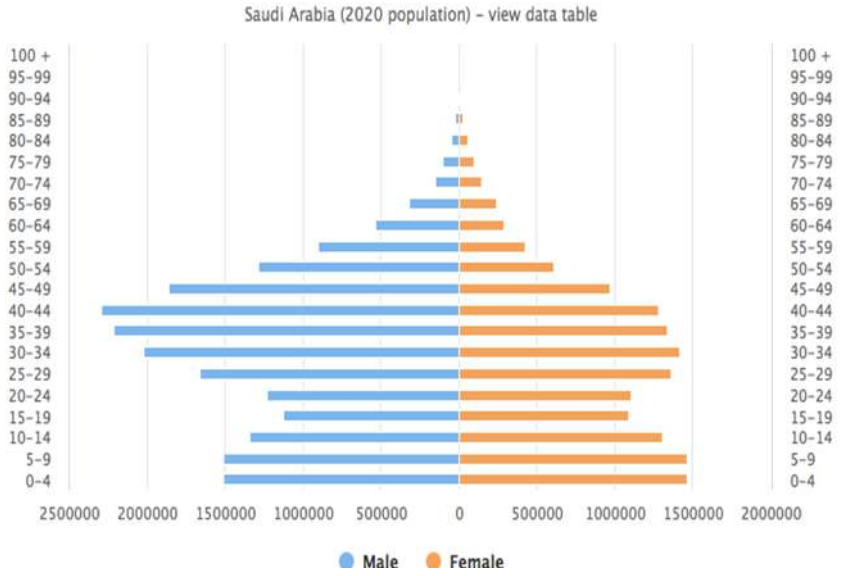
Figure 1: Saudi population pyramid in 2015



Sources: NCB

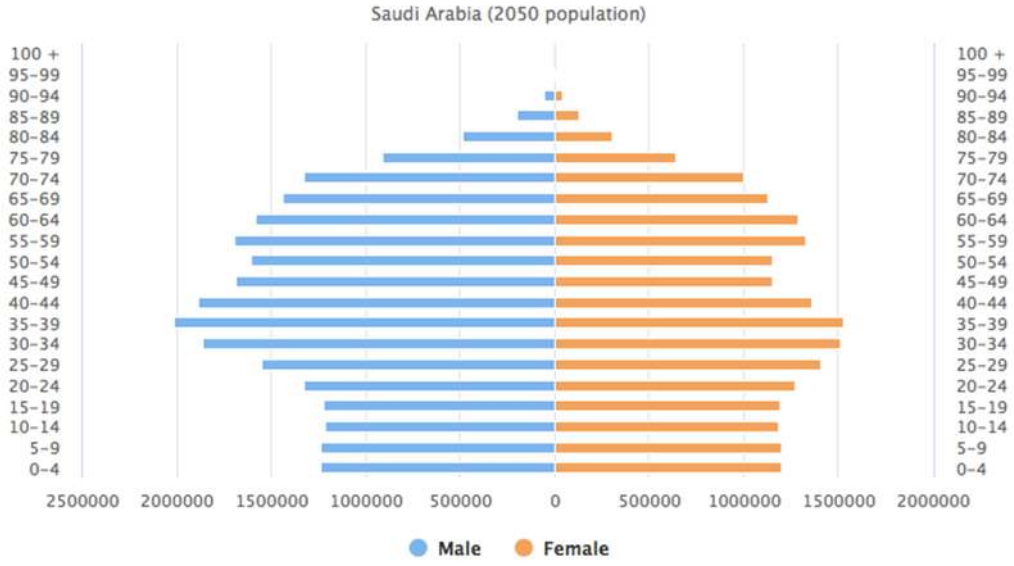
This is in spite of the fact that the population of the Kingdom is aging due to several factors such as increase in life expectancy at birth, improvements in the sanitation infrastructure, advances in medicine, and increases in socioeconomic status. These factors indicate a change in the population pyramid that is expected to occur in 2020 and 2050 (Figure 5.2, Figure 5.3).

Figure 2: Population pyramid change in Saudi Arabia 2020



Source: General Authority for Statistics, Kingdom of Saudi Arabia, (2017).

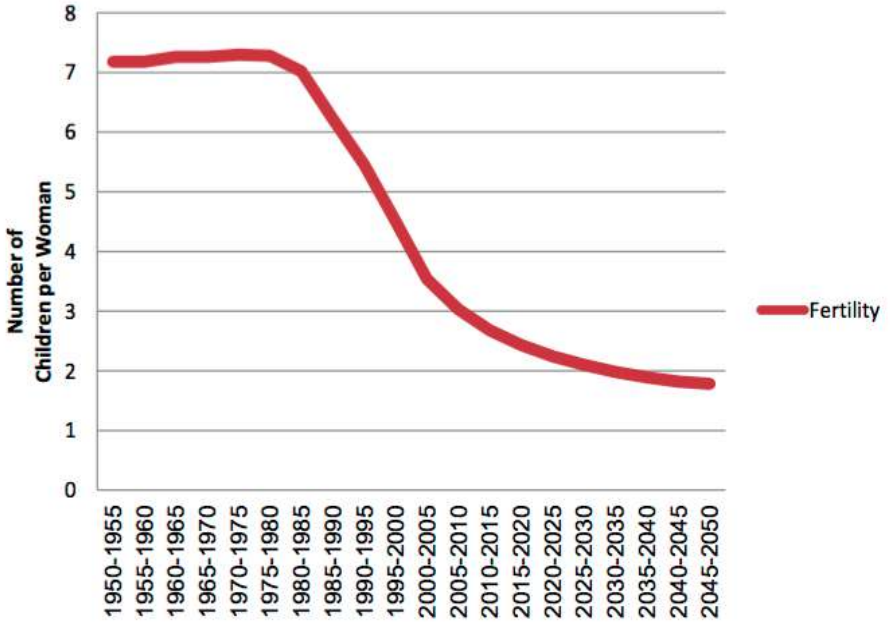
Figure 3: Population pyramid in Saudi Arabia 2050



Source: General Authority for Statistics, Kingdom of Saudi Arabia, (2017).

This change is indicated by the observed decline in the fertility rate that has been observed in the last few years (World Bank, 2014) (Figure 4).

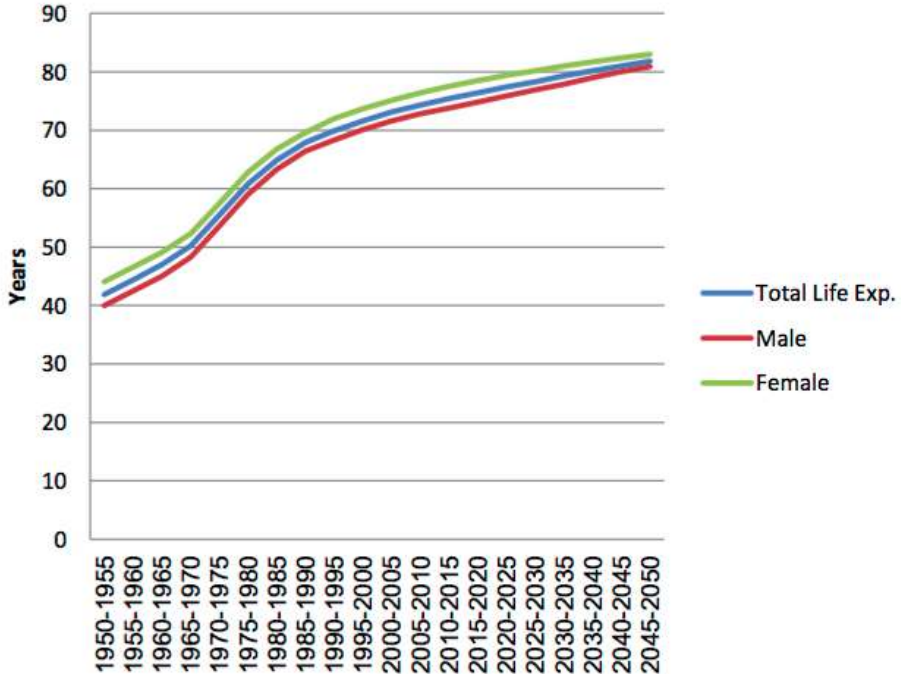
Figure 4: Decline in fertility in Saudi Arabia



Source: World Bank, (2014).

Life expectancy at birth has increased from 49.75 years in 1974 to 69.7 years by 1996, after which it increased to 75.3 years in 2013 (World Bank, 2014; Arabie saoudite, 1980) (Figure 5.5).

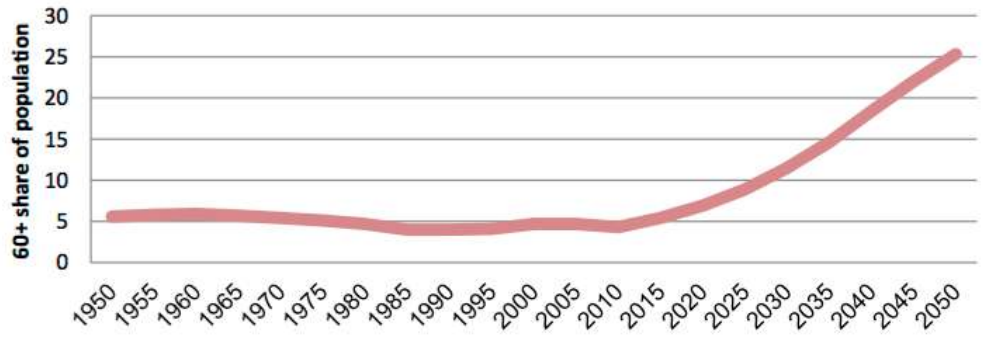
Figure 5. Life expectancy at birth by sex in Saudi Arabia



Source: World Bank, (2017).

The Kingdom of Saudi Arabia has established a 2030 vision that targets an increase in life expectancy at birth by six years (Kingdom of Saudi Arabia, n.d.), which could be feasible if appropriate health initiatives can achieve the target outcomes for better general health in the populations (Mirza et al., 2018). The age group consisting of individuals who are 60 years old or older represented only 4.4% of the general population in 2017 (General Authority for Statistics, 2017 report). However, since 2016 and the announcement of the 2030 vision by the Kingdom, new health and psychosocial initiatives have been announced (Ministry for Health, 2017) and considerable steps have been taken by the government to achieve the targets of these initiatives, which will result in further increases in life expectancy at birth and quality of life. It is expected that the older adult population will increase to 9.5% of the general population in 2035 and will reach more than 18% by 2050 (United Nations, 2012) (Figure 6).

Figure 6: Percentage of the population 60 years and older from the general population



***Source*:** United Nations, (2012).

The Kingdom of Saudi Arabia is currently entering uncharted territory in relation to the magnitude of its aging population and in terms of the health and psychosocial needs of this population.

Education and other factors that impact ageing in Saudi Arabia

The government has been heavily investing in education for many years, with the annual budget report by the government showing that more than 30% of the total budget is dedicated to education. Additionally, the government has made it mandatory for females to be educated in schools since 1960. This change has helped to increase the participation of women in the workforce and has further enhanced the education of females, thus resulting in a better quality of education for both sexes. The government was successful in this initiative, as the literacy rate is 99.5% for the 15- to 24-year-old age group for both sexes (General Authority for Statistics, Kingdom of Saudi Arabia, 2017). The enrolment of Saudi students in elementary school has increased to 98% for both sexes (ibid.). A total of 94% of individuals graduate from secondary school (General Authority for Statistics, 2017), and 69% of those who finish secondary school register for postgraduate studies for within 5 years (General Authority for Statistics, Kingdom of Saudi Arabia, 2017). The last census in 2017 showed that more than half of the Saudi population (aged 25 years or more) has graduated from secondary school at

minimum (ibid.), and approximately one-quarter of the population has a postgraduate degree, with males at 28.1% and females at 25.5% (General Authority for Statistics, 2017).

Another important aspect of the Kingdom of Saudi Arabia is the presence of the 2 holy mosques of Islam (in Makkah and Madinah). Islam is the primary religion of the country. Furthermore, Islamic practices are essential aspects of cultural life in Saudi Arabia. Every year, Muslims from all over the world travel to Makkah to complete Haj. Haj is mandatory for all Muslims who can afford it. In addition to Haj, Muslims visit Makkah throughout the year to perform Umrah, which is a voluntary pilgrimage. In the past, some pilgrims would stay in Saudi Arabia after they finished Haj or Umrah, which resulted in a highly diversified region (especially in the western region of the Kingdom where the 2 holy mosques are located).

Since the discovery of petroleum in Saudi Arabia in the mid-20th century, and since the Kingdom became the largest petroleum exporter in the world, the Kingdom has become one of the wealthiest countries in the world. This has played a major role in the shaping of modern Saudi Arabia. Most government services are at no cost or are well supported by the government; therefore, no burden falls on the citizens. In the last few decades, the government has supported housing and various other services for citizens, and the government has also supported the private sector in taking a role in the economy through no-interest loans and several government-sponsored projects. The government has ensured that citizens are not impacted by any burdens of life and has attempted ensure a high quality of life for its citizens.

Over the years, the Saudi government has become the largest employer in the Kingdom (General Authority for Statistics, 2017), as most of the jobs offered by the government are more attractive and have higher salaries than other jobs. The wage gap between the public and private sectors has increased to 70% (Abusaaq, 2015). This has resulted in overstaffing in different sectors of the government as well as the absence of competition and creativity. Thus, a gap was also created between the skills of the Saudi population and the needs of the labour market (ibid.). The 2030 vision focuses mainly on the increased productivity of the Saudi population, and this vision will create considerable opportunities for the private sector, with different initiatives that ensure a degree of Saudization of all available jobs in the private sector.

Health care services for older adults in the Kingdom of Saudi Arabia

The Middle East has begun to experience increased growth in the older adult population over the last few decades (United Nations, 2012). The culture in the Kingdom of Saudi Arabia ensures respect for older adults and highly values the natural bond of affection among all members of the family. The eldest members of the family are sources of spiritual blessing, religious faith, wisdom, and love. Sending or abandoning an older adult in nursing home or hospitals violates the sense of sacred duty of Saudi citizens to their older adult family members. The government still assumes that families will care for their older adult family member. The Kingdom is considered a close society, and family usually meet on a regular basis including extended family. Thus, older adults support mainly come from offspring, but it can also be provided by any member of the extended family.

The proportion of older adult retirees increased from 2.91% in 1992 to 4.39% in 2004, after which it increased to 7.89% in 2014 (Public Pension Agency, 2018). The public and private sectors provide pensions for their employees. In the public sector, the number of retirees increased from 252,004 in 2004 to 404,872 in 2006, after which it increased to 876,713 in 2018(8).

Health interventions for the older adults, whether preventive or curative, are almost always far more expensive than those for other populations. The health care systems in the Kingdom face challenges due to the demands and needs of the population of young individuals, which is much larger than the older adult population Major deficiencies have been observed in the number of physicians who are trained in geriatric, occupational or environmental health, and preventive medicine. Medical schools have been pushing for strong basic science programs and sophisticated tertiary care. Moreover, there is a need for medical schools to modify their curriculum to address national health needs of the older adults. It is expected that academic institutions will respond to the problems that are associated with the ageing population.

It is challenging to assess, treat, and rehabilitate the growing aging population due to the lack of a sufficient number of trained geriatricians and gerontologists. The establishment of unrealistic therapeutic goals may frustrate older patients, and this may result in the emergence of negative attitudes and stereotypes regarding aging. The increasing need for geriatric education and training will be influenced by the changing demographics of the area and the increasing number of individuals in the geriatric population as well as the increase in unmet health care needs.

Many older adult individuals avoid health care for different reasons, with the most common reason being that they attribute changes in health to aging. Additionally, some individuals believe that they will die soon; therefore, they do not care about their health. Furthermore, the illiteracy level is 59.29% among older adult individuals aged 65 years and older (General Authority for Statistics, 2017). Therefore, older members of the population often present with advanced stages of diseases, which makes it difficult to manage and treat these diseases. Another issue is accessibility to geriatric health care services due to the shortage of health care professionals who specialize in geriatrics.

The Ministry of Health (MOH) provides free health care services for all populations in the Kingdom of Saudi Arabia. The services provided by the ministry include primary, secondary, and tertiary care services. The services also encompass preventive, curative, interventional and rehabilitation care services, as well as home healthcare. The quality of care is of a high standard and adheres to international norms and accreditation procedures. Other government sectors that have health facilities also contribute to the care of the older adults, and these institutions include universities, national guard hospitals, and military hospitals. In recent years, the private sector has also focused on this issue. Several private hospitals have initiated geriatric services in the form of clinics and consulting services. They have also implemented small-scale, new institutions for older adult rehabilitation, home services, and patient placement.

Furthermore, the Ministry of Human Resource and Social Development (MHRSD) provides continuous support for the older adults and their families, including financial support, equipment, and logistical help and support. In addition, there are more than 12 social welfare homes (such as nursing home facilities) located throughout the Kingdom, and these have the goal of caring for those older adults who have no other person to care for them; care at these institutions is provided free of charge by the government (Ministry of Human Resource and Social Development, 2020).

In addition to improvements in the infrastructure for the care of the older adults, there have been improvements in the availability of healthcare professionals who are trained in the field. For example, there has been a significant increase in the number of geriatricians, with more than 20 geriatricians registered with the Saudi Commission for Health Specialties (SCFHS) in 2019 (Saudi Commission for Health Specialties). This was supported by an increase in the number of geriatric medicine scholarship training opportunities for physicians who are located outside KSA, mainly in North America. This has resulted in a collaboration with the Middle-East Academy for Medicine of Aging (MEAMA) and the development of several workshops and training programs that have helped to train multidisciplinary teams that include nurses, pharmacists, physiotherapists, occupational therapists, social workers, and other medical workers. Several of these trainees attended four sessions over two years that resulted in these trainees earning certificates from the MEAMA. In addition, several nurses have attended postgraduate training sessions in the field of aging. Furthermore, a postgraduate master's degree in geriatric nursing is available from the Princess Noura Bint Abdulrahman University in Riyadh.

In response to the increase in the older adult population and in preparation for 2030 Vision, the MOH, in collaboration with other government sectors, implemented several strategic measures, including the following:

- Introducing the National Strategy for Older Adults Health Services, which was implemented as the "Older People Health Programme" in a primary health care setting.
- Stressing preventive services, including the Comprehensive Geriatric Assessment (CGA) and healthy aging promotions.
- Expanding the scope of future health services for the older adults to secondary and tertiary care services.
- Improving curative, rehabilitation, and home healthcare services for the older adults.
- Encouraging universities to incorporate geriatric medicine into their curriculum.

Organisations and associations for services for older persons

Saudi Geriatrics Society

The Saudi Geriatrics Society (SGS) was established in October 2017 as a non-profit society. It has the vision of offering older adults comprehensive health care in the Kingdom of Saudi Arabia and participating in improving the health and quality of life of older adults. As the

institution has only recently been founded, it began its work by entering into collaborations with other scientific bodies, such as the Saudi Food & Drug Authority (SFDA), the MEAMA, the Saudi Society of Internal Medicine (SSIM), and the Saudi Older Adults Support Organization "WAQAR". The SGS has actively participated in the MOH 2030 Vision, and it is also in the process of working on several clinical policies and pathways with several health institutes in the Kingdom. In the last few years, the SGS has conducted several courses in different cities in the Kingdom in order to reach out to more health care workers with different backgrounds. Additionally, the SGS conducted several courses with the MHRSD to train their social workers and health professionals on procedures that focus on the care of the older adults. The SGS also participated in the first King Abdulaziz University Geriatric Medicine International Conference in Saudi Arabia in March 2020. The conference was conducted over 3 days and covered all aspects of care for older adults with participation of international and national speakers. The conference included dedicated time for discussions about public awareness of geriatric medicine in society. This initiative represented a great start for this new institution, as it was conducted in association with the Saudi Society of Internal Medicine (SSIM), which provides the institution with a substantial boost for the continuation of such an important activity.

The Saudi Older Adults Support Organization "WAQAR"

WAQAR is one of the leading charity associations providing care for older adults in the Kingdom. It was established in 2016 by a number of Shura members (Parliament), medical doctors, academic staff and others who understand the needs of the older adults in the Kingdom. WAQAR supports issues of older adult care and provides services and facilities to older adult individuals. The association works to achieve integration with various sectors and relevant authorities to address the environment that older adult individuals live in and make it more appropriate for their needs and requirements. The association also conducts studies on issues relating to the older adults, and it includes appropriate recommendations; it then provides these recommendations to regulators and coordinates with them. Additionally, the association has a role in building communication bridges with various other societal groups in order to increase their awareness of issues related to the older adults through enrichment and knowledge content, which it shares through various social media platforms. The association works to prepare and implement new and innovative programs and initiatives that enhance the care of the older adults (Wikipedia, 2020). Other aspects that the WAQAR works on is helping recruit older adults for volunteer projects that benefit society.

Saudi Alzheimer's Association

The Saudi Alzheimer's Association was established in 2009, and it is one of the leading organizations focusing on aspects of one disease in the Kingdom. The idea for establishing this association originated with a group of women who had mothers afflicted with Alzheimer's disease. Their journey began in search of individuals who were interested in this aspect of the disease and involved the work of forty-five women who initiated the founding of the Saudi Charitable Society of Alzheimer's Disease (Saudi Alzheimer's Association, 2020). Many individuals conceal diseases that afflict their relatives, especially if the diseases affect

behaviour or judgment on different matters. Thus, the establishment of the association was intended to break the barrier of silence and shame and to focus on various aspects associated with the disease. This would then allow for the development of a public awareness that serves patients and their families, which would in turn enable decision makers to understand the dimensions of the disease and its impact and the costs of treatment. Additionally, this work would promote the provision of care and attention to patients and to those interested in their affairs. The association has been successful in organizing 3 major international scientific conferences over the last several years that have focused on Alzheimer's disease, and they are planning for a fourth conference to be held in 2020 (Saudi Alzheimer's Association, 2020).

The National Home Health Care Foundation

The National Home Health Care Foundation (NHHCF - We Care) was established in 1997. It focuses on home health care (HHC) and helps in establishing home health care services in different areas of the Kingdom. More than 90% of HHC patients are older adults (King Abdulaziz University Hospital Home Health Care 2017 Annual report). Thus, the NHHCF works to increase health and social awareness in society with regard to the older adults and their care at home. The NHHCF seeks to advance the health and social care of people with chronic diseases and to support the role of the citizen in achieving the goal of caring for patients at home. The NHHCF has worked to secure the necessary medical equipment for facilitating the discharge of patients from the hospital, and it has contributed to the establishment of home health care centres, in cooperation with public hospitals, in order to secure necessary health care services at home (The National Home Health Care Foundation, 2020).

Human resources in health care

It is estimated that the number of health care workers in Saudi Arabia is more than 350,000 (Ministry of Health, 2017). Increased life expectancy and population growth will require increases of 25% in the health sector workforce (Abusaaq, 2015). The government will likely continue to spend heavily on health care, especially health care devoted to the care of the older adults due to the projections regarding the growth of this age group.

The 2030 vision was introduced by the Crown Prince His Royal Highness Prince Mohammed bin Salman bin Abdulaziz Al-Saud in April 2016 (Kingdom of Saudi Arabia, n.d. : 6). He stated in his message:

"It is an ambitious yet achievable blueprint, which expresses our long-term goals and expectations and reflects our country's strengths and capabilities...

All success stories start with a vision, and successful visions are based on strong pillars....

Our ambition is for the long term. It goes beyond replenishing sources of income that have weakened or preserving what we have already achieved. We are determined to build a thriving country in which all citizens can fulfill their dreams, hopes and ambitions. Therefore, we will not rest until our nation is a

leader in providing opportunities for all through education and training, and high quality services such as employment initiatives, health, housing, and entertainment....

This is our "Saudi Arabia's Vision for 2030". We will begin immediately delivering the overarching plans and programs we have set out. Together, with the help of Allah, we can strengthen the Kingdom of Saudi Arabia's position as a great nation in which we should all feel an immense pride."

There are several targets for improving quality of life in the Kingdom, one of which focuses on bringing life expectancy in the Kingdom up to the level of the top 5 countries in the world. The current life expectancy in the Kingdom is 76 years, and the target for 2030 is 80 years (Kingdom of Saudi Arabia, n.d.). The vision includes different aspects of life in the Kingdom, including lifestyle and health. Medical services are intended to deliver affordable and effective services, including preventive programs and a high quality of care for the older adults (Saudi Vision 2030).

To achieve the 2030 vision, the number of health care workers needs to double, which will require a very large number of Saudi nationals to become qualified to join the health care industry. It is estimated that 1:3 health care workers are Saudis, which indicates that there is a considerable opportunity to employ more Saudis after they become qualified to work in the health sector. Currently, there is an insufficient number of Saudi graduates to cover this shortage; additionally, with retirements among Saudi health workers and the fact that non-Saudi health workers will leave, there is a very large and challenging gap in this field. Over the last decade, the Kingdom has expanded the number of medical schools, with more than 22 medical schools now in operation, and the majority of these are public institutions funded by the government. Another challenge involves the financial benefits received between Saudis and non-Saudis in the health care industry, as the scale of the salaries between these groups is different (Abusaaq, 2015).

A part of the vision of 2030 is to generate more than 400,000 jobs in the health sector (Kingdon of Saudi Arabia, n.d.) and to accommodate and enhance the well-being of Saudi citizens. The plan includes the proper education and training of health care workers. Additionally, the government is focusing on primary care, which is a logical course due to the growth in the general population and in the older adult population with advanced chronic diseases. For example, as a short-term plan for 2020, the government has proposed increasing pharmaceutical manufacturing from 20% to 40% (Abusaaq, 2015). In addition, partnerships between private and public sectors for selected new projects have been encouraged in the coming years, with the partnerships being led by the private sector.

Overall, there has been a major change in government policies regarding health care services in order to balance the massive expenditures for health care. The government is attempting to ascertain the effectiveness, quality, and productivity of Saudi national health care workers. Additionally, there will be a focus on the privatization of different public health institutes, which will encourage more participation by Saudi health care workers and lower expenditure on health care and will generate revenue for the government. In the government plan for 2020,

there is a clear focus on training and career planning for management roles, which will help considerably in achieving the 2030 vision.

Geriatric medicine in academia

As a new branch in medicine, geriatric medicine is under-recognized in academic curricula for many reasons, with the major factors being lack of academic staff and awareness. However, since the return of academic staff who are trained in geriatric medicine, this situation has begun to change, and some medical schools have started to incorporate geriatrics into their curricula depending on the availability of academic staff. Medical schools and other health-related colleges will play a major role in increasing awareness about the care of the older adults among health care workers. In addition, this initiative will help in recruiting more graduates who will specialize in geriatric medicine. Currently, there are more graduates from medical schools throughout the Kingdom than there have been in the past, which will result in more students who are interested in geriatric medicine.

The SCFHS has recognized the importance of geriatric medicine in postgraduate training, and given the limited accessibility of geriatricians, this training is still offered as an elective rotation. Hopefully, with the increase in the number of specialized trained geriatricians, the rotation will become a mandatory rotation for internal medicine and family medicine postgraduate training.

A geriatric medicine fellowship has just been approved by the SCFHS, and it will be implemented for the first time in the Kingdom of Saudi Arabia and in the Gulf region by 2020/2021 in KAMC/Riyadh (King Abdul-Aziz Medical City). The fellowship consists of a two-year program for certified internists and family physicians. This fellowship program will ensure good training for candidates in all aspects of geriatric medicine.

The KAMC/Riyadh fellowship in geriatric medicine will be the first of its kind. The faculty members involved in the program are pioneers in geriatric medicine. The services that will be covered during training are inpatient, outpatient, and consultation services. Every day of the week will involve outpatient services, and inpatient services will include acute geriatric care and extended care (which will be for prolonged stay patients and for patients who have family who cannot care for the patients at home). Consultation services will occur throughout the hospital, which has more than 1,000 beds. Other fellowship programs are planned to begin in Jeddah and in the Eastern region.

A nursing postgraduate master's degree in geriatric nursing is available at the Princess Noura Bint Abdulrahman University in Riyadh.

During its short period of existence, the SGS has managed to implement several courses for health care workers in several cities throughout the Kingdom. The SGS plans to coordinate with different government sectors, including the MOH, universities, and others, to offer fixed courses for health care workers.

Conclusion

Currently, only a small percentage of the older adult population in the Kingdom receives high-quality health care. However, as future projections have revealed, there will be a need to implement adequate comprehensive services for the older adult, including primary, secondary, and tertiary care services. The system will respond to the needs of the older adults in the form of home services, community services, and sophisticated older adults care facilities. Currently, steps are being taken by different government bodies to create a strategic plan for the care of older adult patients by 2030, and the plan includes different public and private institutions that have shown interest in the care of older adults.

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Maghreb Countries

Sonia Ouali-Hammami[1] and Salem Bouomrani[2]

Abstract. Demographic ageing has received limited attention at the political level in most Arabic countries, even though ageing has been an emerging trend with increasingly socio-economic aspects and important policy implications. This paper reviews population ageing with special focus on central Maghreb countries (Tunisia, Algeria, Morocco). The profiling of such countries denotes the demographic and epidemiological transition resulting in a rapidly aging population. There are many challenges that face geriatric services in these countries. Policy-makers will need to develop systems to cover the increasing number of older persons within a context of changing family structure, investments will be required in formal care and health care as well as awareness to disease prevention and rehabilitation. It is urged for the partnership of both civil society and NGO's, especially in ensuring that proper support is provided to older persons and their informal caregiver. Older persons are to be encouraged in leading active lives, by remaining engaged and participating in political, social and cultural life.

Keywords: ageing population, Arabic countries, Maghreb countries, healthcare, geriatric services.

Background

In North Africa, demographic ageing represents an emerging question, as in general in the Arab world, until recently little attention has been devoted to that issue (United Nations, 2018; Index Mundi, 2019;). The number of older persons is predicted to more than quadruple by 2050, in North Africa and by 2050, there will be more older persons than children (African Development Bank Group, 2012). The demographic transition can be attributed to several factors including decrease in total fertility rates, increase in life expectancy, decrease in mortality rates, improvement of health services, increased levels of education especially among females, improved nutrition, urbanization, and changes in living conditions.

Unfortunately, demographic ageing has received limited attention at the political level in most Arabic countries, even though ageing has been an emerging trend with increasingly socio-economic aspects and important policy implications. The dramatic growth of older persons already demands urgent attention of policy-makers, in countries still having to deal with the

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difficulties of their younger populations (National Institute of Statistics [Tunisia], 2019). The rapidly changing demographic situation in the region has induced some governments to recognize the need to reflect on the expected increases in the population of older people. It is one of the most profound public policy challenges in the coming decades.

Tunisia Profile

Tunisia has long been cited as a success story in Africa and the Middle East, and feted as the only successful democratic transition among the Arab uprisings (IndexMundi, 2019; National Institute of Statistics [Tunisia], 2019) (Table 1). Over the past decade, Tunisia had an average annual growth of around 5% but the economic activity has been slow in the post-revolutionary period. The demographic profile of Tunisia has changed considerably. Tunisia has one of the highest percentages of older persons aged 65 and above among Arab countries (Saxena, 2008; Yount, 2009; 2012; Danial, 2014). This implies that the country will face emergent issues related to health and socio-economic conditions that will have impact on older persons.

Demographic trends

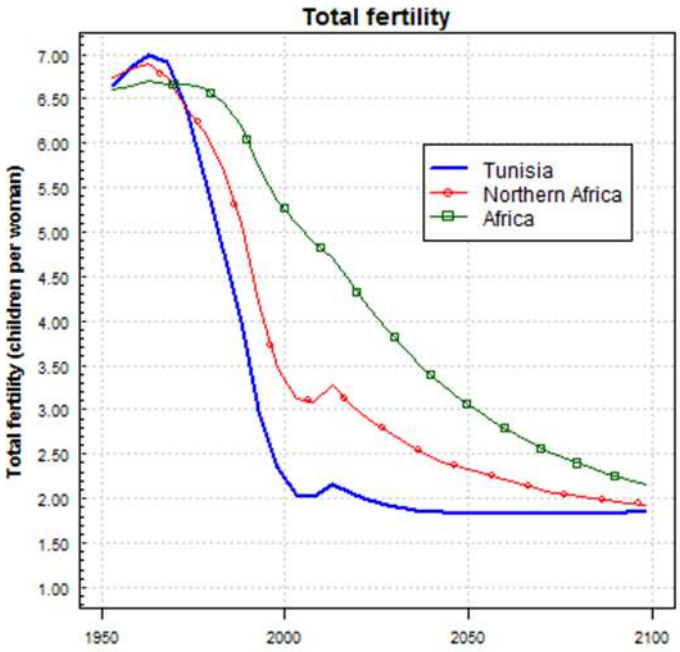
Mortality and fertility rate

Table 1: Demographic overview of Tunisia

Demographic indicators	1995	2005	2015	2017	2025
Population					
Midyear population (thousands)	8.947	10.013	11.037	11.229	11.850
Growth rate (percent)	1.4	1.0	0.9	0.8	0.5
Fertility					
Total fertility rate (births /woman)	2.6	2	2	2	1.9
Crude birth rate (/ 1000)	21	17	17	16	13
Births (thousands)	186	171	184	181	157
Mortality					
Life expectancy at birth(years)	72	73	76	76	78
Infant mortality rate (/ 1000births)	42	33	22	21	16
Under 5 mortality rate (/ 1000births)	54	42	28	26	19
Crude death rate (/ 1000)	5	6	6	6	7
Deaths (thousands)	48	56	66	68	79
Proportion of older age 60+	8.2	9.6	11.7	12.5	16.8
Old-age dependency ratio 65+/(15-64)	9.2	10.6	11.1	11.3	12.8

***Source*:** Statistique Tunisie, (2020).

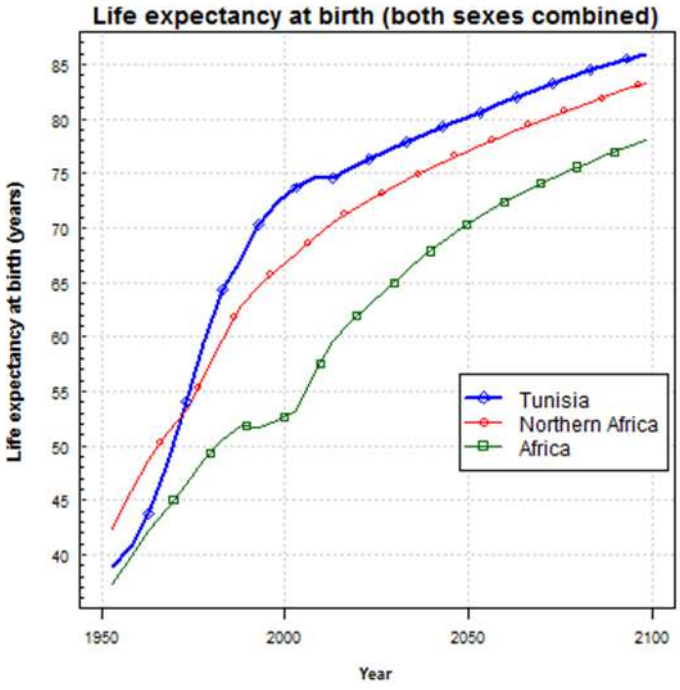
Figure 1: Total fertility rate in Tunisia compared to African countries



Source: United Nations, (2018).

Compared to other African Countries, Tunisia is almost singled out with the lowest total fertility rate and the highest average life expectancy in the region.

Figure. 2: Life expectancy at birth in Tunisia compared to the African countries



***Source*:** United Nations, (2018).

According to the latest WHO data published in 2018 life expectancy in Tunisia is: Male 74.1 years, female 78.1 years, and total life expectancy is 76 years, which gives Tunisia a World Life Expectancy ranking of 58. These remarkable demographic changes led to the ageing of the population (United Nations, 2015; Souid, 2016).

Population ageing: Future prospects

The demographic transition has been associated with the inevitable ageing of the population. During the past 50 years, Tunisia has been experiencing a steady increase in the number and proportion of its older population. In fact, the older population has risen from 8 in 1995 to 12.5 % and is expected to increase to more than 25 % of the total population in 2050, there will be more elder persons than children under 15 years old by 2040 (Global Age Watch Index, 2015).

The ageing index is expected to increase dramatically from 19.3 in 2000 to 124.8 in 2050 (Saxena, 2008). The number of "oldest-old" persons, aged 85 years and above is growing even faster than the number of older persons 60 years and above. Projections indicate that in 2050 the oldest-old proportion will be around 4.5%, having more than doubled in number since 2015.

There is clear feminization of the aged population particularly among the persons aged 80 years and above. In 2015 women outlived men by about 4 years (77 vs 72.3 years). Between 1980 and 2020, life expectancy increased overall by an average of 18 years. By 2050, life expectancy is estimated to increase by an average of 8 years and is projected to range from 70.9 in 2005 to 78.8 in 2050. (Table 2).

Table 2: Projected trends in selected demographic measures of the older population in Tunisia

	Age	1980	2015	2030	2050
Total	60+	8.5	12.3	16.5	21.5
	65+	5.8	8.3	11.7	16
	80+	0.8	1.7	2.4	4.5
Female	60+	9.6	13.3	17.8	23
	65+	6.8	9.2	12.8	17.4
	80+	1.1	2.1	2.9	5.2
Male	60+	7.4	11.2	15.3	20.1
	65+	4.9	7.4	10.6	14.7
	80+	0.5	1.3	1.9	3.7

Source: Index Mundi, (2020).

Old age dependency

The old age dependency ratio is expected to increase from 9.2 in 2000 to 33.1 in 2050.

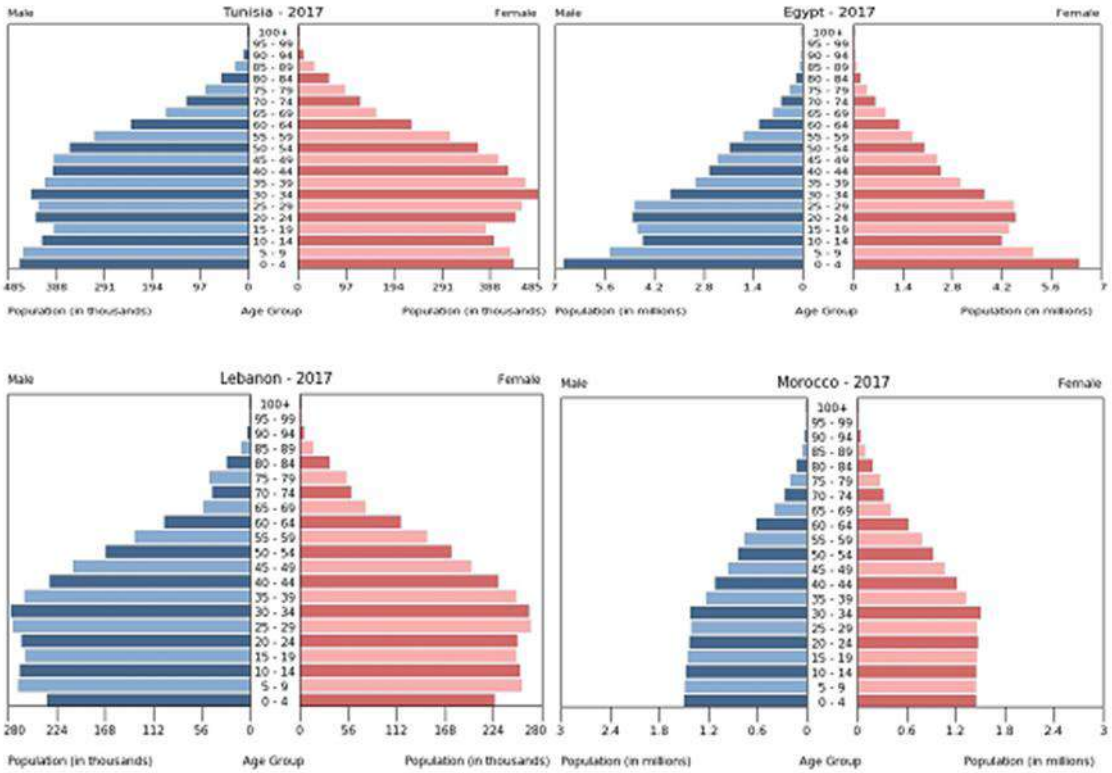
This represents the highest old age dependency ratio in the Arab countries (Saxena, 2008). The oldest old dependency is defined as the percentage of 80 years and over to the population in

the economic active age group 15-64 years. In the Arab Region Tunisia (7.4%) will be ranked third after Kuwait and Bahrain (United States Census Bureau, 2003).

Population pyramid and speed of ageing

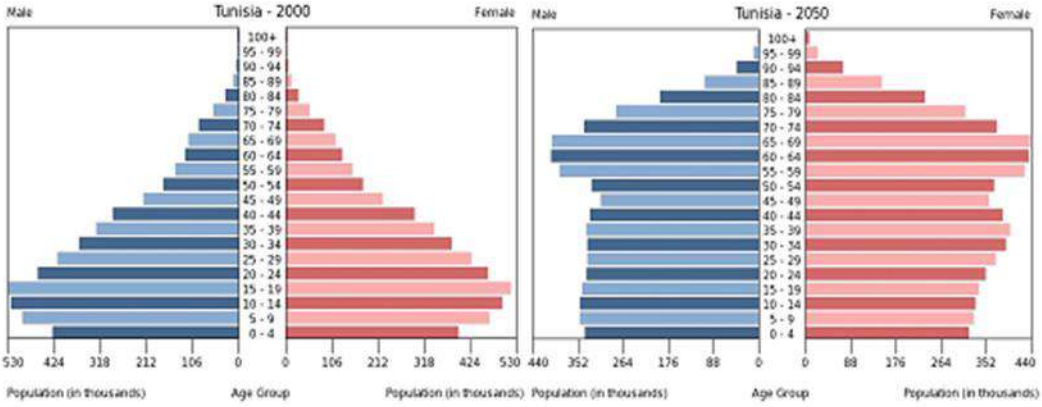
Tunisia exhibits the highest proportion of people aged 60 and above (12.5%) compared to Morocco (10.3%), Egypt (6.8%) and Lebanon (10.2%) (De la Cruz, & Brittingham, 2003.; Sibai, 2017). (Fig, 3 and 4).

Figure 3: Age pyramid of selected Arab countries



Source: United States Center Bureau, (2003).

Figure 4: Age pyramid (Tunisia 2000-2050)



Source: United States Center Bureau, (2003).

Age structural transition in Tunisia

It is clear that the demographic transition is taking place early in Tunisia compared to other African and Arab countries. This is secondary to the marked drop in both fertility and mortality. The growing proportion of older persons and the rapid ageing process place increasing demands on the public health system and on the social services. Chronic and degenerative diseases are becoming more frequently related to the ageing of the population. As a consequence, disability and poor health increase clearly with ageing (Valderas, 2009; Poblador-Plou et al., 2014; Zedini, 2014).

Socio-economic profile of older persons and its implications

In 2010, 86% of older persons lived in an urban area. Among older persons, only 60% are married. Illiteracy level among older persons is very high (77%), but among older persons (65+) literacy level among older persons increases from 9.9 (1984) to 29.8 (2015) (Knoema, 2019). Older persons are still considerably less educated than the general population. There is a gender difference, where the proportion of older women who are illiterate is higher than older men (92% vs 73%) (Yount, 2009). The marital status of older persons shows a high prevalence of widowhood (widowed, divorced and separated) in Tunisia (40%) (Yount, 2009). The financial resources for older persons are variable. They can include income from retirement pensions, active employment, governmental financial aid, family support or any other sources of revenue. A significant proportion (22%) of aged population continues to work even after retirement. Economic activity of older persons in Tunisia is concentrated in agriculture, and most of them are self-employed. In 2009 only half of older people were receiving pensions; it is expected to increase to 67.4% in 2030 (El Moudden, 2010). Most of the older population work by necessity and not by choice. At present, most older persons live with their family (83% with their children and/or spouses).

Fifty-six percent receive financial assistance from their family; women appear to receive more support from children than men (Ben Brahem, 2011). Governmental aid is limited and

provided only via the Program of Assistance to Needy families (PANF). This program is the only form of financial help to the economically disadvantaged older citizens.

In the future and under the low fertility rate, older people will average less than 2 living children. Fertility decline implies that there will be fewer children available to provide care for the future older persons. This may significantly affect the traditional social support system and may negatively affect the availability of family members to provide care for their relatives, especially among urban populations (Hussein, 2017). In 2016, it was reported that Tunisia presents the medium range of female labor participation compared to other Arab countries, with a lower gender inequality index indicating higher levels of gender equality (ibid.). The availability and willingness of family members to provide care for older relatives will be difficult in the future, due to changes in family structure and socio-economic trends. Nursing home placement is less common with only 12 government-owned Tunisian nursing homes (Tunisian National Institute of Statistics, 2015). Recently private nursing homes have started to be available in urban areas.

Health status of older persons

Mortality: The Tunisian age-specific mortality rates have increased with age, with the highest rate in the age group of 85+ years (Tunisian National Institute of Public Health, 2012). According to the 2013 national data on mortality, among the top-10 causes of mortality are heart failure and cerebrovascular diseases followed by road injuries, Alzheimer's disease, and hypertensive heart diseases.

Morbidity: The common important health problems among Tunisian older persons are hypertension and diabetes mellitus (Hammami, 2012). These health problems are common among those living in urban areas (Ben Romdhane, 2012). Other common health problems include falls, urinary incontinence, osteoarthritis, etc. (Tunisian National Institute of Public Health, 2016). For mental health, depression seems to be the most common problem among the older population (22.7%) (Hammami, 2012). Furthermore, the prevalence of dementia and Alzheimer's disease is estimated at about 4.6%. This is expected to increase by 24% in over ten years (Hajem, 2014). Ten per cent of older persons have high dependency, and 25 per cent have moderate dependency rate (Hammami, 2012).

Health services

The demographic transition in Tunisia is associated with an epidemiologic transition with the emergence of chronic diseases. The Tunisian Government responded by creating various services for older persons in both the governmental and private sector. The national security covers the majority of pensioners. Primary care and community hospitals provide preventive and curative services for chronic diseases. Tertiary care is provided mainly at University Hospitals.

Yet, there is no geriatric department in the university hospitals until this time. Geriatric units are created in some departments of internal medicine in some of the universities. In addition,

outpatient clinics were established in Tunis and Monastir. Whereas rehabilitation services for older persons are lacking in Tunisia health care system.

Until the revolution, Tunisia has been the pioneer in the Arab countries in formulating policies to help and protect older people. It starts with long term care services that provide services for the low-income older persons who have no relatives to stay with. Currently there are twelve residential homes under the supervision of the Ministry of women and family's affairs, distributed all over the country. These homes provide medical, social and psychological services. The law 94-114 aims to protect older people and strengthen intergenerational and family solidarity. The health authority introduced as well the project of volunteer hosting families in exchange for a monthly allowance. The Ministry of health developed, also, the national program to assist older persons within their family, to prevent and care for chronic degenerative diseases. It has established recently a clinical diagnostic service for the care of demented patients. The participation of NGOs in care of older started more than 20 years ago. They provide social, psychological, and medical support. Similarly several clubs for older persons have been established.

Geriatric medicine training

At present geriatrics is not considered as a specialty in Tunisia. The Faculties of Medicine start teaching geriatrics in their undergraduate curricula and offered only a post graduate competency based in magisterial post graduate training by internist and other specialists (Karlin, 2018). The Geriatric Tunisian Society was started recently, among its objectives is to increase awareness among the health care providers to older people's issues (Tunisian Society of Geriatrics, 2018). It is reported that Tunisia has the most comprehensive coverage of Geriatricians of any African country (GBD 2017 SDG Collaborators, 2018). Despite this situation, there is still a lack of enough geriatricians in the country. We still need academic geriatricians who will be the leaders in providing training, clinical practice and research in the private sector and in the university.

Algeria profile

Algeria has made enormous progress in the field of health, particularly mother-child health, the fight against communicable diseases, and vaccination coverage. It is ranked 48th worldwide based on the global median health-related UN Sustainable Development Goals (SDGs) (GBD 2017 SDG Collaborators, 2018). However, the large size of the country (2,381,742 Km^2, 10th in the world), and the concentration of health structures and services in the main coastal cities in the north of the country have meant that there are significant disparities in the quality and access to health care between the different citizens of the country; indeed, based on data from the Global Burden of Diseases Study, Algeria ranked 99 out of 195 countries in the world according to the personal health-care access and the quality index (GBD 2016 Healthcare Access and Quality Collaborators, 2018). Older persons, a growing population in Algeria, is currently a real social and medical major challenge (Mimouni, 2013).

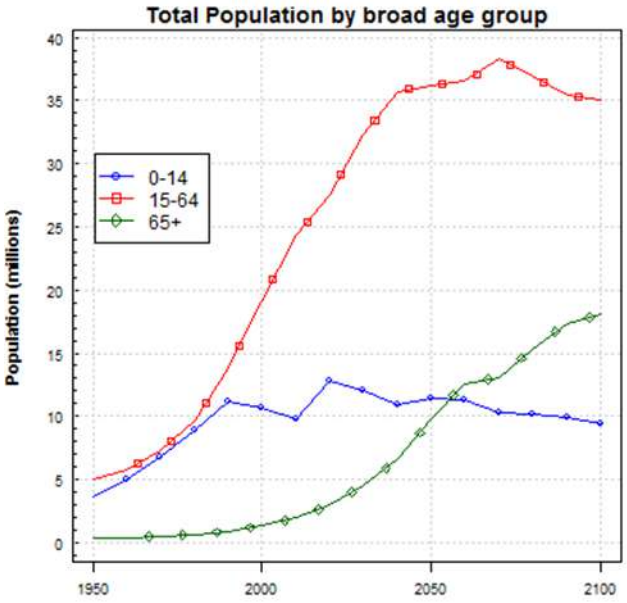
Demographic and epidemiological transition

Soon after the independence gained in 1962, Algeria experienced a rapid demographic transition with decrease of fertility, birth rate, neonatal and infant mortality, and increase of life expectancy at birth (Houti, 2009; Hussein, 2017). This has been linked to a health transition following the establishment of national programs against communicable diseases that were frequent before independence (tuberculosis, malaria, infectious diarrhea), the establishment of the national program of family planning in 1983, the generalization of vaccination, the anti-vectorial fight, and the improvement of the conditions of hygiene of life and sanitation (Houti, 2009). This has led to aging of the Algerian population with a frequency of subjects over the age of 60 which increased from 3% in 1965 to 7.1% in 2003 (Houti, 2009).

Main demographic indicators of the Algerian population

Overall population. Algerians, who numbered only 12.7 million in 1965 (United Nations, 2011), increased rapidly to reach 32.05 million in 2004 (Houti, 2009), 40.6 million in 2016, and 42.2 million in 2018 according to the Algerian National Statistical Office (ONS, 2019).

Figure 5: Total Algerian population by broad age group



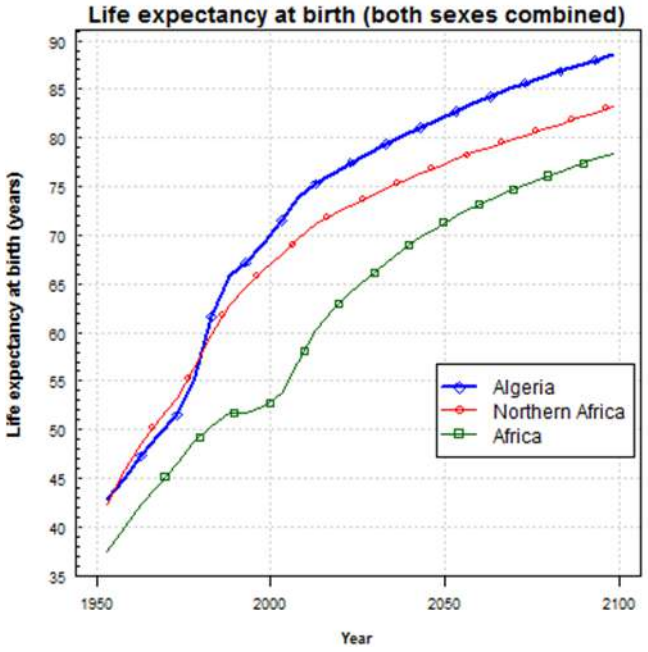
Source: United Nations, (2018).

Natality/Fertility. The total fertility rate decreased from 7.8 in 1970 to only 2.4 children per woman in 2002 (Houti, 2009). According to the latest report from the Institute of Metrics Health and Evaluation (IHME), the estimated total fertility rate in 2017 was 1.80 for women aged 30-54 years and the reproductive rate was 1.32 (GBD 2017 Population and Fertility Collaborators, 2018).

General mortality. It is estimated at 16.45% in 1970, was rapidly reduced to 8.2% in 1986 (Houti, 2009) and then to only 4.55% in 2003 (Houti, 2009). Infant mortality has also been rapidly reduced from 180% live births in 1962 to 43.7% in 1992 and only to 34.7% in 2002 (Houti, 2009; Houti & Chograni, 2009).

Life expectancy. Life expectancy at birth, which was only 45 years in 1962, increased to 52.6 in 1970 and 73.9 in 2003 (Houti & Chougrani, 2009). In 2016, the WHO estimated it at 75 years for men and 77 years for women, and the latest IHME report of 2017 estimated the life expectancy at age 60 years of 22.46 years for male and 23.05 years for female (GBD 2017 Mortality Collaborators, 2018).

Figure 6: Life expectancy at birth in Algeria compared to the African countries

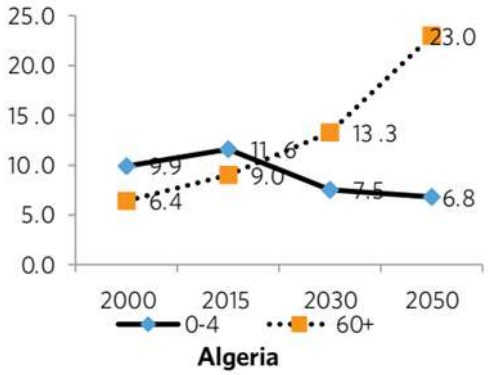


Source: United Nations, (2018).

Population aged 60 and over in Algeria

Algeria remains a relatively young population: the frequency of subjects under 20 represented more than 50% in 1987 and 48.2% in 1998 (Institut National de Santé Publique, 2020) but because of the demographic and epidemiological transition already described, the age pyramid is in course of change since independence with a gradual increase in the age group of over 60 years. In the sixties there were less than 3% of the population above 60 years, which increased to 7.1% in 2003 (Institut National de Santé Publique, 2020), and the projection is that it will be 14.7% of the total population in 2030 and more than 22% in 2050 (Bouaziz, 2013).

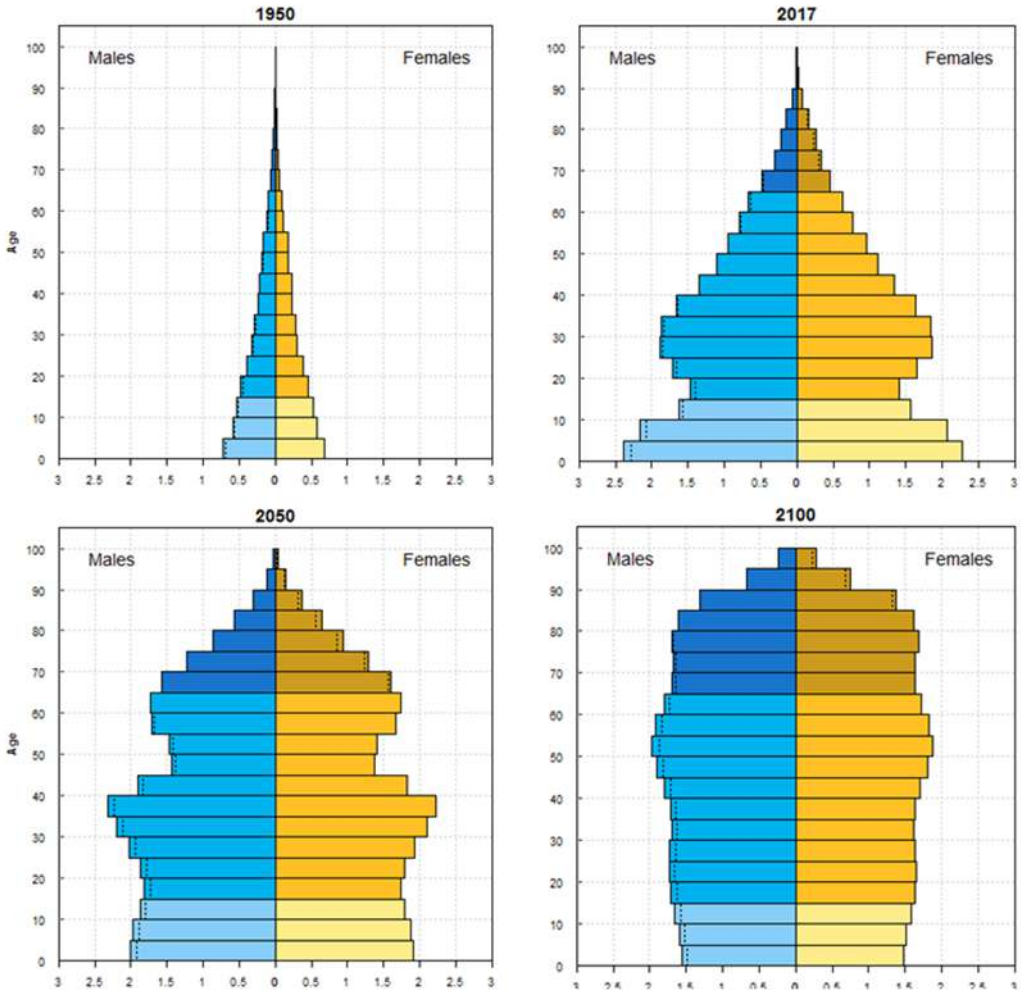
Figure 7: Epidemiological transition in Algeria: 2000-2050



Source: Institut National de Santé Publique, (2020).

Thus, the absolute number of subjects aged 60 and over who were only 2.2 million in 2002 and 2.8 million in 2010 would be 4.3 million in 2020 and 6.7 million in 2030 (Office National des Statistiques (ONS), 2004; Office national de la statistique (ONS), 2013). The population of the older persons over 80 who represented only 0.8% of the global population in 2013 will increase to 2.2% in 2050 and 7.4% in 2100 according to the projections of the Algerian National Statistics Office (Office national de la statistique (ONS), 2013). (Figure 7).

Figure 8: Evolution of the population age-pyramid of Algeria between 1950 and 2100



Source : Office National de la Statistique, (2013).

With an aging index between 2000 and 2050 estimated at 97.1, Algeria is one of the fastest aging Arab countries (Saxena, 2008). According to the 2002 Algerian National Family Health Survey and data from the National Statistical Office of 2004, 64.4% of older persons lived in urban areas, the majority of older people lived with their family members, the percentage of those living alone did not exceed 1.8%. The percentage of illiterates is (84.7%) negatively affecting the health, the access to health care, and the quality of life of Algerian seniors (ONS, 2004; Bouaziz, 2013). (Figure 8).

State of health of older people in Algeria

Studies focusing on the health of older people in Algeria are scarce, so several data and particular aspects of the health of Algerians over 60 years old were missing (Bouaziz, 2013). According to the Algerian National Family Health Study more than 65% of people aged 60 and over suffer from chronic illness. The Main chronic diseases are arterial hypertension (43.3%), diabetes mellitus (26.7%) (Chami, 2015), joint diseases (36.5%), cardiovascular

diseases (12%), and cataracts (11.5%) (Bouaziz, 2013). Women are more affected by chronic diseases: 74.7% of women aged over 60 had at least one chronic disease compared to only 58.9% of men (Bouaziz, 2013). In this age group, physical disability was reported in 62.3% of men and 37.7% of women, and polypharmacy in 48.1% and 50.3% respectively (Bouaziz, 2013).

Quality of life is rated low among older persons questioned, where 37.7% of the older subjects questioned rated their quality of life as "bad", 49% as "satisfactory", and only 13.3% as "good" (Bouaziz, 2013). The deterioration of the state of health is correlated with the increase in age: the perception was "bad" in 29% of the subjects of 60-64 years, 35% in the subjects of 65-69 years, 38.3% between 70 and 74 years, and increased to 52.3% in subjects over 75 years of age (Bouaziz, 2013). As a result, 21% of men and 29.8% of women over 60 suffered from a limitation/restriction of activities of daily living (Bouaziz, 2013), and 4% of them attempted suicide; loneliness, abuse, and family rejection were the main factors contributing to suicidal behavior (Mimouni, 2013).

Management of older people in Algeria: Current status and limitations

Despite some progress, the management of older persons in Algeria is still an important social, economic and medical challenge. The main limitations are:

Health map of the country. The number of physicians and health professional has increased considerably since independence with the result of a clear improvement in health coverage and medical services to the entire Algerian population. The ratio has changed from 1 doctor for 25,663 inhabitants and 1 dentist for 72,848 inhabitants in 1962 to 1 general practitioner for 640 inhabitants, 1 specialist doctor for 1,700 inhabitants, and 1 dentist for 3,090 inhabitants in 2010 (Abbou, 2017). However, large disparities still exist between different regions of the country. Geriatrics/gerontology is not yet recognized as a medical specialty in Algeria, which represents a significant limitation for the appropriate care of older patients. It is mainly the general practitioners and the internists who have followed a complementary specialized geriatric/gerontological training which ensure the treatment and the follow-up of these patients.

Socio-economic status. The large natural gas and oil reserves, nationalized in 1971, as well as the ambitious industrial development, have made Algeria an economically rich and prosperous country (2016 PIB at 178,234 billion USD, 4th economic power of the African continent and 48th world economy) (Oxford Business Group's 'Economic Updates, 2019). These economic advances and the oil revenues have led to a significant increase in health care spending. In addition, the political regime established since 1964 (a popular democracy based on the sharing of oil revenues) has allowed the country to introduce universality and free health care since 1974 that includes free access to medical care and medicines for all citizens (Mimouni, 2013; Abbou, 2017). In addition, a monthly pension is granted by the state for any person over 65 years old and having no income. In the same way, any older person with a disability is entitled to a national old-age card providing benefits for public transport and health (Mimouni, 2013).

Legal framework. Law N° 10-12 of 29 December 2010 for the protection of older persons stipulates in particular the protection of the rights of older persons to dignity, health, and protection against aggression. Similarly, free healthcare is legally guaranteed for any older patient in Algeria according to Article 14 of this law.

Institutional Framework. Until 2013 Algeria had 14 university hospitals with a total capacity of 13,254 beds and numerous regional, intermediate, local hospital centers and polyclinics. However, specialized hospitals and departments in geriatrics/gerontology are still missing in the country. The health authorities ordered the creation of four health institutions specializing in geriatric care in 2014, yet nothing has been established so far. Similarly, specialized institutions for the placement of older people do not exist in Algeria. Older people who are left homeless or abandoned by their families are placed in houses for abandoned and destitute subjects (40 functional houses in 2013). Almost 50% of those admitted to these houses are aged 60 or older (Mimouni, 2013). These houses lack qualified personnel in geriatrics/gerontology.

Morocco profile

Morocco is the most western of the North African countries with an area of 446,550 km² and a total population estimated to 36.64 million in 2019 (United Nations Department of Economic and Social Affairs-Population Division, 2019). It is a demographically young country with 27% of its population under the age of 15. As in many other Arab countries, Morocco is experiencing demographic transitions including lower fertility, lower mortality and longer life expectancy. Unfortunately, literature about ageing in Morocco is limited (Sajoux, 2010; Loumrhari, 2014). Urbanization rate has steadily increased (32% in 1970, 53% in 2000, and 61.9 % in 2017) (United Nations Department of Economic and Social Affairs-Population Division, 2018).

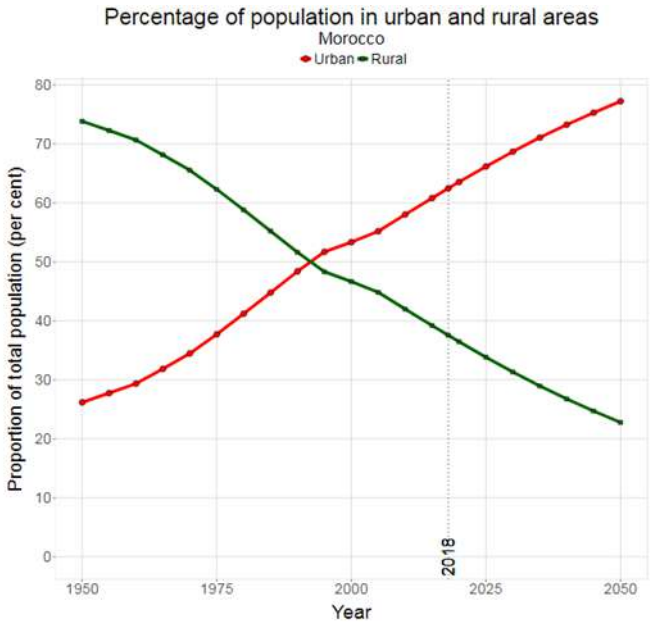
Illiteracy in Morocco is estimated to be 43%, which is higher among women 54.7%. Recently the literacy rate of the Moroccans has improved. (Figure 9).

Main Demographic Indicators of the Moroccan Population

Overall population. The demography of Morocco has undergone a change over the last decades. In less than a half-century, the Moroccan population has more than doubled: from 16 million in 1970 to 36.6 million in 2019. It will be, according to CERED projections around 45 million in 2050 (Centre d'Etudes et de Recherches Démographiques (CERED), 2018).

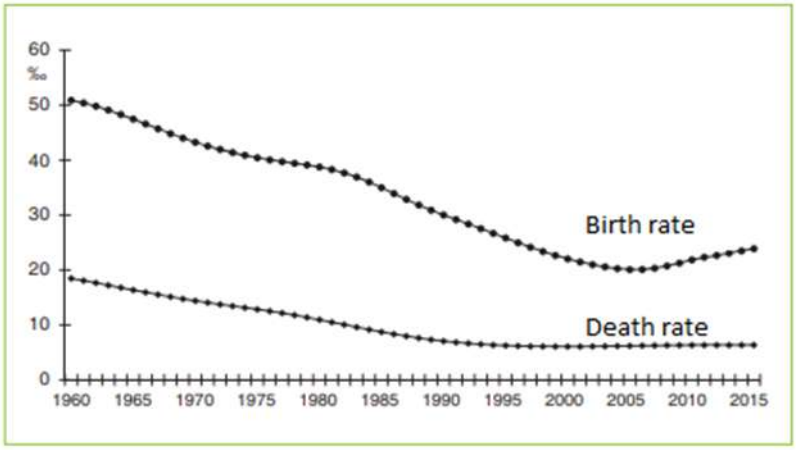
Natality/Fertility. The Moroccan population saw a gradual decrease in total fertility rate from 6.85 in 1970 to 2.97 in 2000, and 2.56 in 2019 (United Nations Department of Economic and Social Affairs-Population Division, 2019). It is projected to reach 1.89 in 2050.

Figure 9: Evolution of urbanization in Morocco



***Source*:** United Nations, (2018).

Figure 10: Changes in birth and death rates (per 1000 population) in Morocco (1960-2015)



***Source*:** United Nations, (2017).

Death rate: The total fertility rate has dropped from 18.45% in 1960 to 6.07% in 2000. From 2005, the rate of mortality has stagnated at 6.20%, then 6.33% in 2010 and 6.36% in 2015. According to the United Nations projections, the aging of the population should soon induce an increase in the crude death rate, following the model of developed countries.

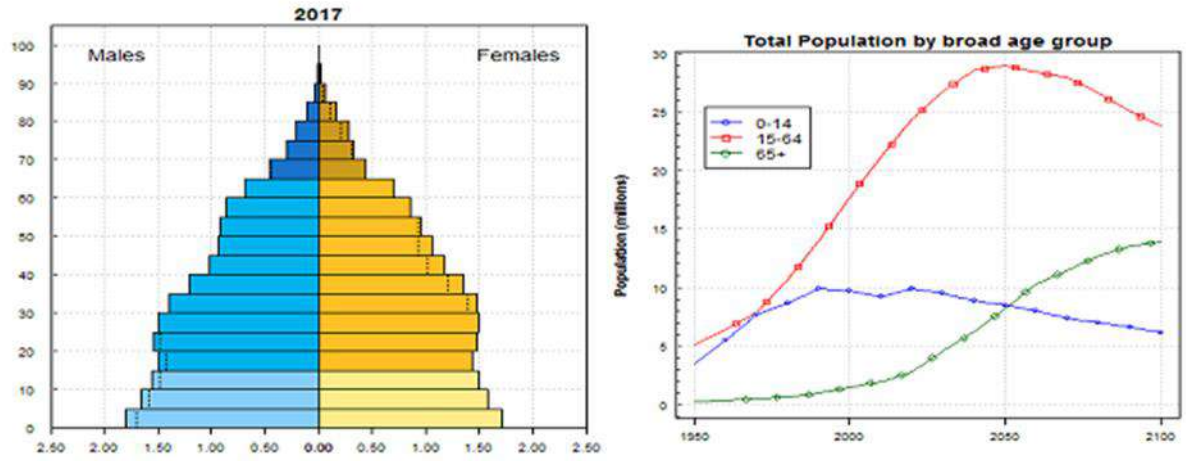
Life expectancy. According to CERED projections 2017, Moroccan life expectancy at birth was 75.6 years in 2014 (74 years for male and 77.3 years for female) and is projected to reach 76.6 years in 2020, 78.7 years in 2035 and 80.4 years in 2050 (United Nations Department of

Economic and Social Affairs-Population Division, 2017; Centre d'Etudes et de Recherches Démographiques (CERED), 2018).

Population aged 60 and over. The demographic transition will lead to profound changes in the structure of the population by age. As Figure 18 shows the portion of people aged over 65 years increased from 3.4% of the total population in 1970 to 5.2% in 2000, and 6.7% in 2017. This older population is projected to reach 18 % in 2050.

Total dependency ratio. The old-age dependency ratio, will rise from 8.6% in 2000 to 11.6% in 2020, and 28.5% in 2050 according to forecasts of World Population Prospects 2017.

Figure 11: Population age-pyramid in 2017 and evolution of total population by broad age group in Morocco



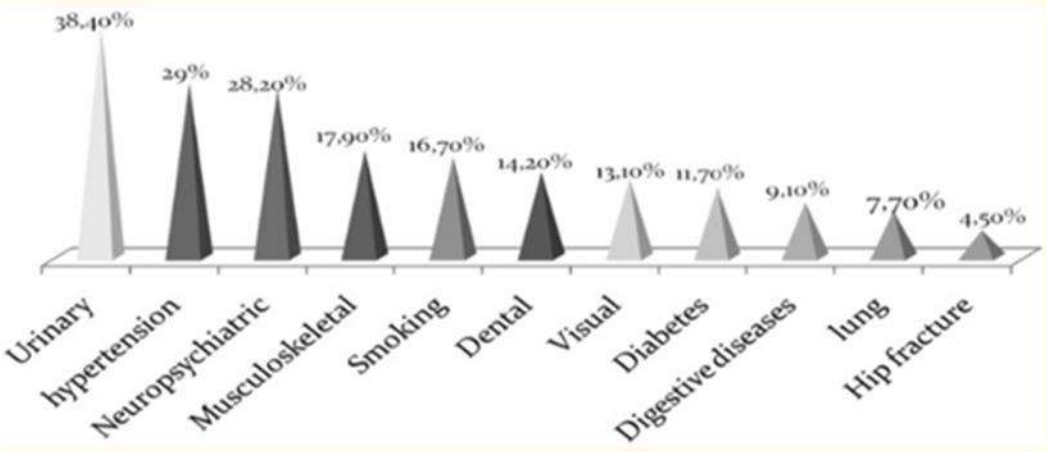
***Source*:** United Nations, (2018).

State of health of older people in Morocco

The eradication of communicable diseases has resulted in higher life expectancy at birth, nevertheless, Morocco's older adults have to face the burden of non-communicable diseases and injuries. Chronic diseases now account for 80% of all deaths. Cardiovascular diseases, diabetes, and cancer are among the leading causes of death (58%). Accidents and injuries account for 7% of deaths (World Health Organization, 2018).

A recent survey by the Moroccan Gerontology Association examined the residents of public nursing homes and revealed that 53.4% of inhabitants in the nursing homes, suffered from two or more chronic diseases, 33% suffered from one disease, and 13.6% had no complaints. The most common diseases were urinary disease (38.4%), followed by hypertension (29%) and neuropsychiatric diseases (28.2%). (Chadli, 2018).

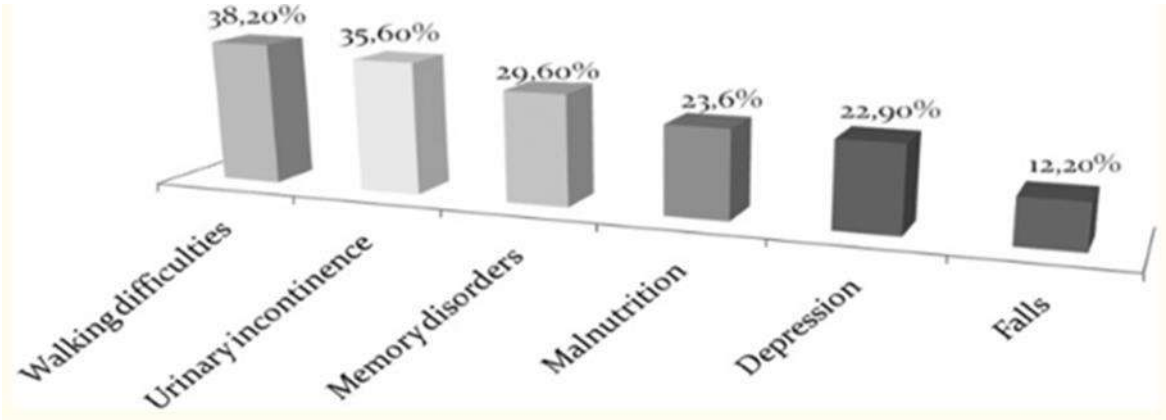
Figure 12: The most common diseases in Moroccan older persons



***Source*:** Chadli, (2018).

The emerging diseases are largely related to changes in lifestyles, high blood pressure, obesity, smoking, and the harmful use of alcohol (Hajjar, 2013; Chadli, 2018; Sninate, 2018). In the same population, the most prevalent geriatric disorders diagnosed were: walking difficulties (38.2%), urinary incontinence (35.6%), memory disorders (29.6%), malnutrition (23.6%), depression (22.9%), and falls (12.2%) (Chadli, 2018).

Figure 13: The most prevalent geriatric syndromes in Moroccan older persons



***Source*:** Chadli, (2018).

HealthCare services for older people: Current status and limitations

Morocco is among the worst places in the world to grow old due to several challenges: relatively low levels of social and economic development and little access to adequate health care. In the last decades, Morocco is becoming increasingly urbanized. At the same time, the ageing of the population has received limited attention and there is lack of knowledge on the socioeconomic conditions of older persons.

The majority of older men continue to work after the legal age of retirement. Available evidence suggests that a lack of pension is the main reason that leads older people to continue to work into old age. Morocco had one of the lowest levels of pension benefits and health insurance in the MENA region, and populations were not able to afford the cost of access to health care.

Over the past years Morocco has recorded good economic performance and made notable progress in reducing poverty. Since 2000, the growth rate is positive. In 2011, the growth rate reached 4.6%. Since the beginning of the 90's, structural reforms have been implemented. Indeed, a study carried out by the High Commission for Planning (HCP) for Morocco in 2007 showed that the poverty rate has decreased from 15% to about 9% with significant geographical disparities (14.5% in rural areas against 4.8% in urban areas). Older persons are still the most vulnerable; most of them have no support from the government. They have poor life conditions and a lack of medical and financial assistance. There is no clear policy for the care of older persons. In the same time, there are very few doctors who are knowledgeable about illnesses that come with ageing and geriatrics is still not recognized as a specialty.

Conclusion

The central Maghreb countries (Tunisia, Algeria, and Morocco) are experiencing a demographic and epidemiological transition resulting in a rapidly aging population. The increasing number of older persons puts a strain on health care and social care systems in these countries. There are many challenges that face geriatric services in these countries. Policy-makers will need to develop systems to cover the increasing number of older persons within a context of changing family structure. The systems would encourage formal care and health care financing. There is also a need to pay attention to disease prevention and rehabilitation. They must facilitate the partnership with civil society and NGO's. There is a particular need to support informal caregivers and family solidarity, enhance family participation to care for their parents, develop the private sector more, and extend the educational and training program to family physicians, paramedical and caregivers.

The demographic situation justifies the urgent need to develop the specialty in these countries. It is also important to review the pension system as the number of retired people and the life expectancy increase in a fragile economic situation. Older persons must be encouraged to be active in their societies, to participate in political, social and cultural life. The experience of older people is a powerful basis and the well-being and the good health status can have a positive influence in the central Maghreb context.

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Jordan

Lana J. Halaseh[1]

Abstract. The Hashemite Kingdom of Jordan has witnessed changing mortality and fertility rates, which has transformed its demographic structure from a sparsely populated country to one with ten million people (Department of Statistics (DOS), 2017; Bloom, et al., 2001). The objective of this paper is to provide an analysis of population aging in Jordan and the implications and determinants of its pace of growth between the period 1950-2050. With the oldest-old age group growing faster than any younger segment, anticipates challenges of poverty and income-security; health-services an increase in disability, and chronic diseases, insufficient number of specialized home care service providers; lack of a legal framework, and overall lack of coverage in the government and private health insurance programs (Ajlouni, 2015). Absence of medical and nursing geriatrics is also a major challenge (Higher Health Council, 2015). Based on the analysis of the situation of older persons it is suggested that ageing becomes mainstream, by placing the integration and inclusion of older people's issues into wider national policymaking to build a "society for all ages".

Keywords: *Jordan, population ageing, health-services, geriatrics.*

Introduction

The Hashemite Kingdom of Jordan is a small, landlocked, modern, developing country divided administratively into 12 provinces. Economically, it is an upper middle-income country with a gross domestic product (GDP) per capita of $5,749 and with an estimated annual growth rate of 3.7% (United Nations, 2017). Due to the political conflicts the country has witnessed, and the changing mortality and fertility rates, Jordan's demographic structure has transformed from a sparsely populated country to one with ten million people with a larger share of the older population (Department of Statistics (DOS), 2017; Bloom, et al., 2001). The objectives of this analysis were to study population aging and the implications and determinants of its pace of growth in the period 1950-2050.

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Overview of population ageing: 1950-2050

Pace of ageing and changing share of older persons

Population ageing is the process by which older individuals become a proportionally larger share of the total population. By 2050 all regions of the world except Africa will have nearly a quarter or more of their populations at ages 60 and above (United Nations, 2017). There have been no organized attempts to study the Jordanian population prior to 1952, except for rough estimates based on registers compiled by the United Nations (UNRWA). Table 1 and Figure 1 summarize these censuses and estimates. However, as highlighted in Table 2, Jordan's population is relatively young with 62% in the age group 15-64 years and 3.7% above the age of 65 (DOS, 2015; 2017).

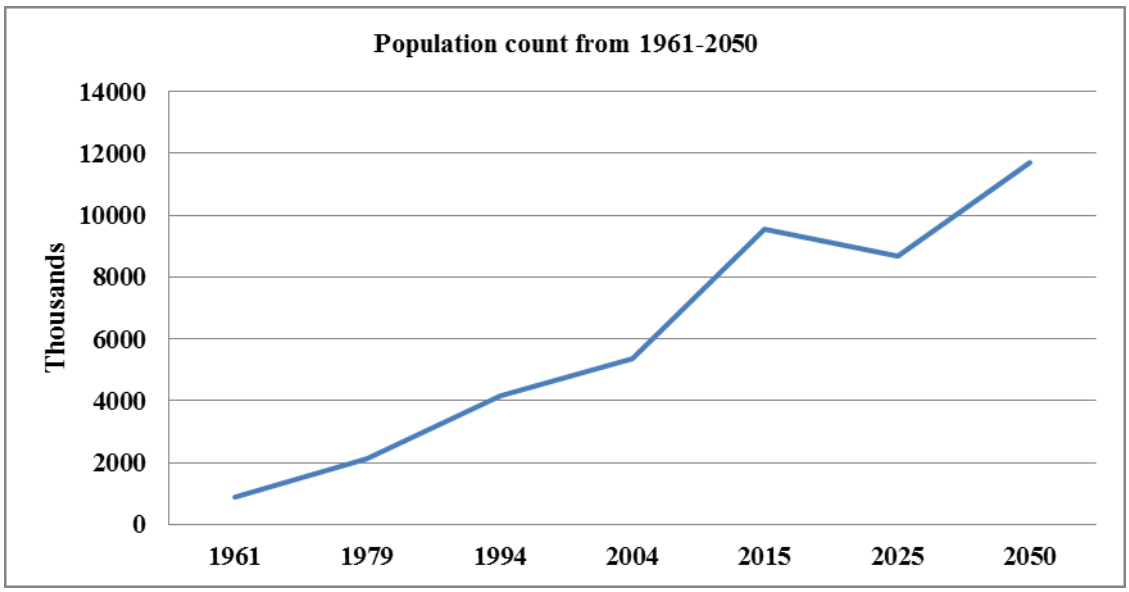
Table 1: Summary of censuses done in Jordan

Indicator	1952 census	1961 census	1979 census	1994 census	2004 census	2012 estimate	2015 census	2017 estimate[a]
Population (millions)	0.59	0.90	2.13	4.14	5.10	6.30	6.60	10.05
Inter-censal growth rate (%)	-	-	4.80	4.40	2.60	2.20	3.10[b]	5.20[c]
Life expectancy/years								
Male	-	-	-	68.50	70.60	70.60	72.47[d]	72.80
Female	-	-	-	69.20	72.40	74.40	74.00[d]	74.20

[a] DOS, (2017)
[b] DOS, (2015)
[c] 2.4% for Jordanians only
[d] WHO, (2015)

Sources: DOS, (2017;2015); WHO, (2015).

Figure 1: Population count from 1961 to 2050



Source: DOS, (2015); United Nations, (2002; 2017).

Table 2: The share of older adults from 1950 to 2050[a]

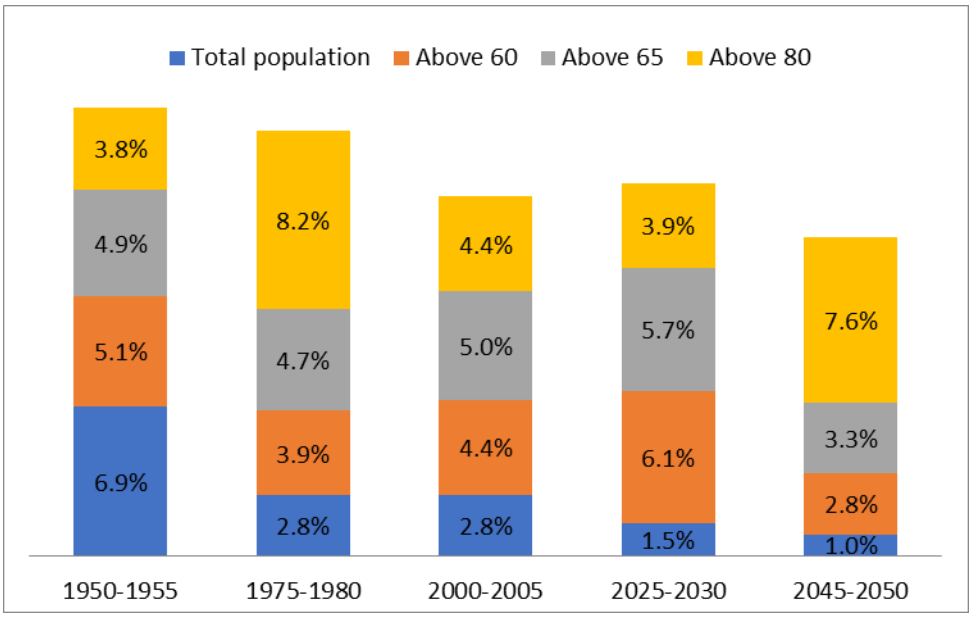
Population	1950 Thousand (%)	1975 Thousand (%)	2000 Thousand (%)	2015[b] Thousand (%)	2025 Thousand (%)	2050 Thousand (%)
Total	472.5	1 936.7	4 913.1	6613.6	8 666.1	11 709.1
+60	35.1 (7.4)	84.1(4.3)	223.3 (4.5)	406.2 (6.1)	609.2 (7.0)	1821.3(15.6)
+65	22.9 (4.8)	55.0 (2.8)	137.0 (2.8)	278.0 (4.2)	374.0 (4.3)	1315.2 (11.2)
+80	2.0 (0.4)	6.7 (0.3)	17.8 (0.4)	41.2 (0.6)	63.7 (0.7)	254.5 (2.2)
Males/Total	245.2	990.7	2553.9	3368.1	4444.1	5931.0
+60	18.8 (7.7)	41.0(4.1)	113.4 (4.4)	204.7(6.1)	300.7 (6.8)	878.8 (14.8)
+65	12.2 (5)	27.0 (2.7)	68.3 (2.7)	140.0 (4.2)	178.0 (4.0)	625.7 (10.5)
+80	1.1 (0.4)	3.0 (0.3)	8.5 (0.3)	20.2 (0.6)	28.6 (0.6)	109.7 (1.8)
Females/Total	227.3	946.0	2359.3	3245.5	4222.1	5778.2
+60	16.3 (7.1)	43.2 (4.6)	110.0 (4.7)	201.5 (6.2)	308.6 (7.3)	942.6 (16.3)
+65	10.7 (4.7)	28.3 (3.0)	69.0 (2.9)	138.1 (4.3)	196.0 (4.6)	689.7 (11.9)
+80	0.9 (0.4)	3.7 (0.4)	9.3 (0.4)	21.0 (0.65)	35.2 (0.8)	144.8 (2.5)

[a] United Nations, (2002, 2015)

[b]DOS, (2015)

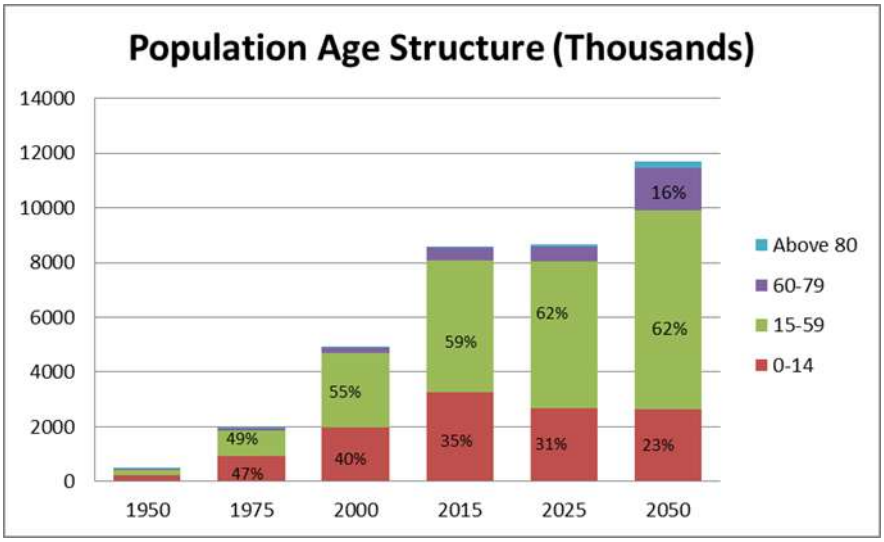
Source: DOS, (2015); United Nations, (2002; 2015).

Figure 2: Annual growth rate of the population



Sources: United Nations, (2015; 2017).

Figure 3: Age structure 1950 to 2050



Sources: DOS, (2015); United Nations, (2002).

Determinants: Decline in fertility and improvements in life expectancy:

The immediate cause of population ageing is fertility decline and that, along with increases in longevity, is leading to an increased share of older persons (Figure 4) (United Nations, 2017). Fertility decline is due to contraceptive use and an increase in the age at first marriage due to the increase in females' education opportunities (The Higher Population Council, 2009). Nonetheless, fertility rates remain higher than the global rates (2.52 children per woman in 2010-2015) and reproduction continues to remain an important determinant of population doubling by 2050. Life expectancy at birth has markedly risen and is projected to surpass the global life expectancy of 76.9 years in 2050 (Table 3) and (Figure 4) (United Nations, 2017).

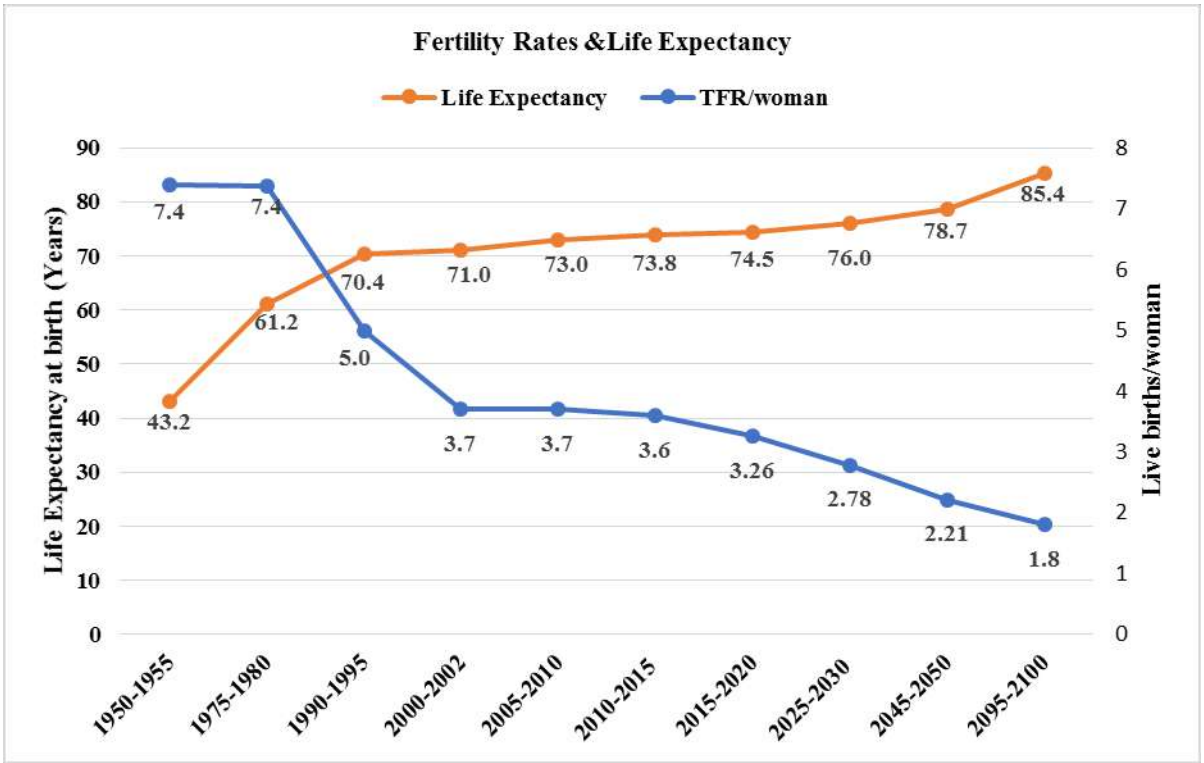
Table 3: Life expectancy in the period 1950-2050

	Age	**1950-1955[a]**	**1975-1980[a]**	**2010-2015[b]**	**2030-2035[b]**	**2045-2050[b]**
Both sexes	At Birth	43.2	61.2	73.8 (74.1) [c]	76.8	78.9
	60	--	--	19.0	20.7	22.1
	65	--	--	15.2	16.7	17.9
	80	--	--	6.4	7.2	7.9
Females	At Birth	44.3	63.0	75.5 (75.9) [c]	78.6	80.5
	60	--	--	20.2	22.0	23.3
	65	--	--	16.2	17.9	19.1
	80	--	--	6.8	7.8	8.5
Males	Birth	42.2	59.4	72.2 (72.5) [c]	75.1	77.4
	60	--	--	17.8	19.4	20.8
	65	--	--	14.2	15.6	16.9
	80	--	--	6.0	6.6	7.2

[a] United Nations, (2002)
[b] United Nations, (2015, 2017)
[c] (WHO, 2014)

Source: United Nations, (2002; 2015; 2017), WHO, (2014).

Figure 4: Fertility rate and life expectancy trends from 1950-2100



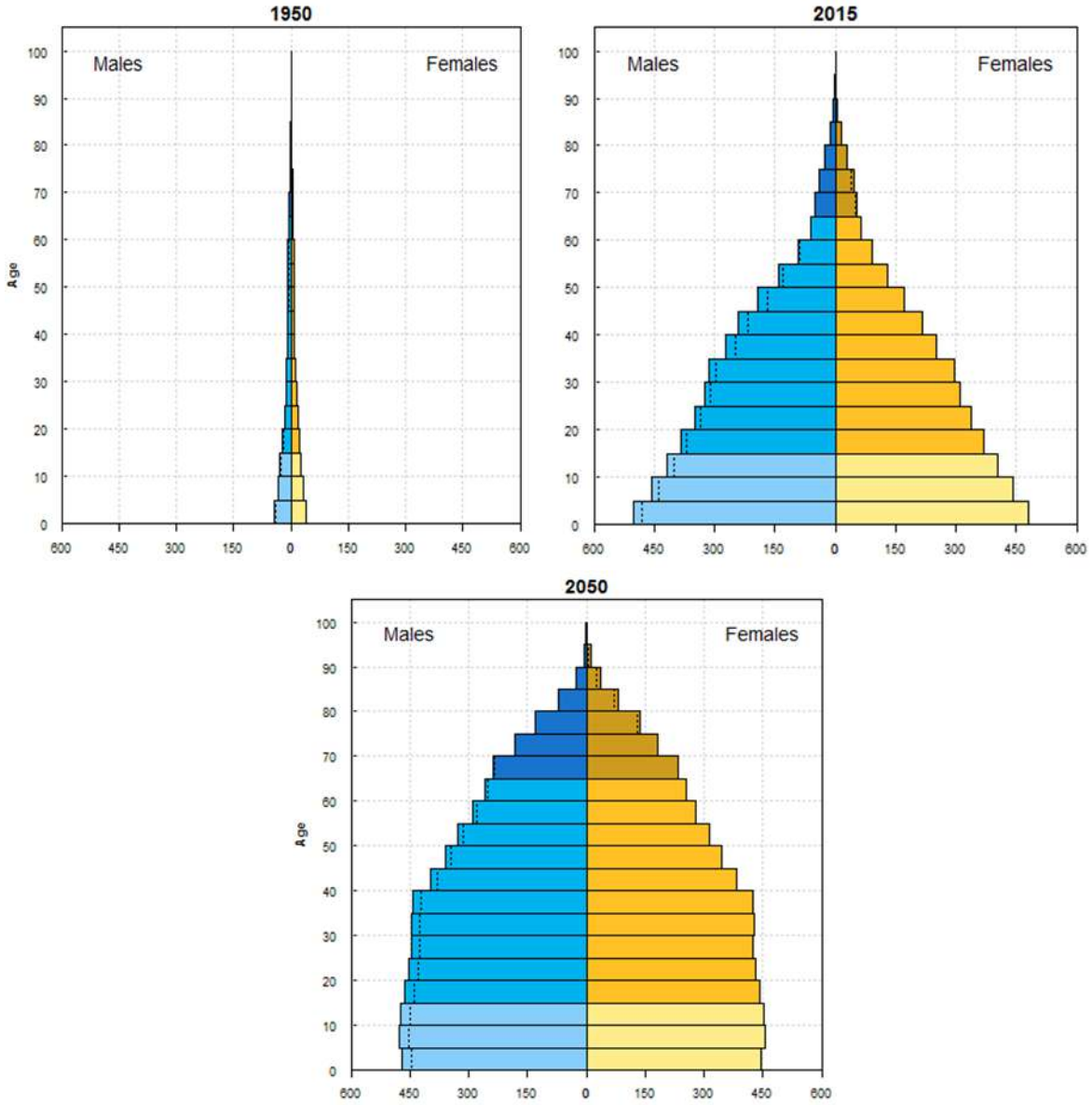
Source: United Nations, World Population Ageing, (1950-2050, 2002); Abdel-Aziz, (1983;1992); DOS, (1983; 1990; 1997; 2002; 2007); Bureau of the Census (1983); JPFHS, (1998; 2008), Department of Statistics [Jordan] and ORC Macro, (2003); United Nations, (2017).

Demographic impact of ageing, 1950-2050

The changing age structure

The changing age structure has many impacts on labour supply, savings, and human capital. The demographic opportunity is expected to be reached in 2030 during a demographic transition when Jordan witnesses a balance between fertility and longevity leading to maximizing the proportion of working age population, and minimizing the proportion of dependency (The Higher Population Council, 2009). Using this opportunity leads to economic growth and lower dependency rates on working Jordanians. After that, the demographic transition is expected to enter the next stage where the young and working age groups move to retirement age hence increasing the dependency ratio again (The Higher Population Council, 2009; NCFA, 2008). (Figure 5) shows the Jordanian population's pyramids.

Figure 5: Jordan's population pyramids in the years 1950, 2015 and 2050



The data are in thousands or millions.

Source: United Nations, (2015).

Indicators of population ageing

The ageing index is the number of persons 60 years old or over per hundred persons under age 15. Comparatively, global ratio is expected to reach 101 in 2050 (United Nations, 2002).

The median age is the age that divides a population into two equal groups. Although rising, it is expected to be lower than the world's median age of 36, and the median age of the less developed countries of 35 by 2050 (United Nations, 2002).

The potential support ratio is the number of people aged 20 to 64 per every person aged 65 or older. It expresses the numerical relationship between workers and retirees and is expected to drop globally by more than 50% over the next 50 years ranging from 2.2 in the more developed regions to 10.2 in the least developed countries (United Nations, 2002).

The parent support ratio assesses the demands on families to provide support for their oldest-old members. It relates the oldest-old to their presumed offspring, who were born when the older persons were young. Since it measures the number of persons aged 85 years or over per 100 of those between 50 and 64 years who are not necessarily related by kinship ties, it is a rough indicator of changes in the family support system (Kinsella & Taeuber, 1993) (United Nations, 2015), (United Nations, World Population Ageing:1950-2050, 2002). The ratio is predicted to continue to be lower than is expected in the least developed countries. (Table 4) through to (Table 7) summarise ageing indicators (United Nations, 2002), (United Nations, 2015) (DOS, 2015).

Table 4: Ageing Index

Ageing Index	1950	1975	2000	2015	2025	2050
	16.3	9.2	11.4	17.8	22.8	69.1

Table 5: Median age

Median Age (years)	1950	1980	2000	2015	2030	2050
	17.2	15.5	19.5	22.5	26.3	32.4

Table 6: Potential support ratio (per person aged 65+)

Potential support ratio	1955	1980	2015	2030	2050
	10.2	14.9	16.0	12.4	5.7

Table 7: Parent support ratio per 100 persons 50 to 64 years

Parent support ratio	1950-1955	1975-1980	2000-2005	2025-2030	2045-2050
	1.6	2.1	2.6	2.3	5.3

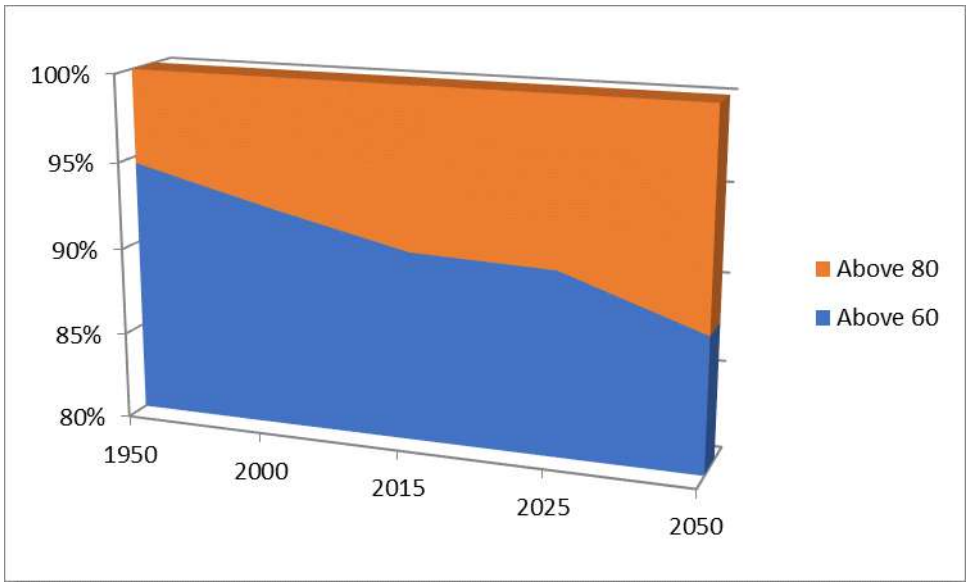
Characteristic features of the ageing population, 1950-2050

Ageing of the older population

The 80 and over age group is growing faster than any younger segment. Figures 2 and 3 show that the growth rate of the population had slowed down in the past century and is expected to further go down to 1% per year in the period 2045-2050. This decline is offset by the increased growth rates of the older population particularly the oldest-old age group who are expected to increase their numbers six times from 18 thousand in 2000 to 255 thousand in 2050 corresponding to the increasing ratio of 8% and 14% of the total older people's generation,

respectively (Figure 6). The share of the oldest-old is still low, currently 0.6% of the total population, compared with 3% in the developed world (United Nations, 2002; DOS, 2015). The United Nations has estimated the number of centenarians in the year 2000 by 0.1 thousand, with a projected rise to 0.8 thousand in 2050 (United Nations, 2002).

Figure 6: Ageing of the population in the period 1950-2050



***Sources**:* United Nations, (2002, 2015).

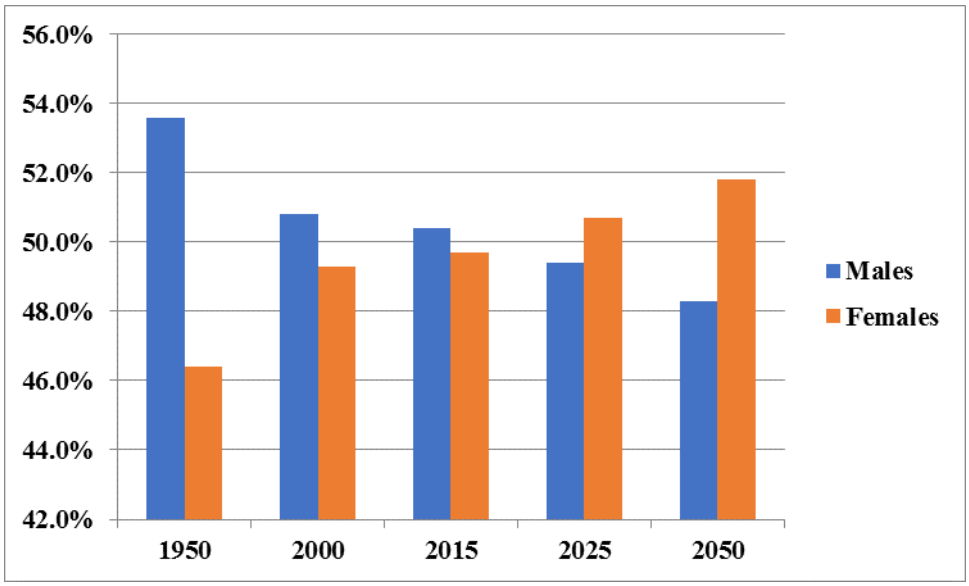
Feminization of ageing

Because their life expectancy is greater than men's, women comprise a significant majority of the older population. The number of men per 100 women (sex ratio) has changed during the past century from 115 for the 60-plus age group and 122 for the very-old older persons (aged 80-plus), to 103 and 91, respectively. In 2015, sex ratios were 102.2 for the 60-plus age group and 95.8 in the 80-plus age group with a projected ratio of 97 and 93 in the age group 60-plus during the years 2025 and 2050, respectively (DOS, 2015). The changes are more striking for the oldest elderly with expected ratios of 81 and 76 in 2025 and 2050, respectively (Figure 7). The global number of men per hundred women is expected to rise to 85 at ages 60 or over, and to 61 at ages 80 or over, by 2050 (United Nations, 2015).

Spatial dimension: the rural-urban differences

Rural-to-urban migration and immigration have contributed to rapid urban growth. The percentage of the population living in urban areas has increased by 13% between 1979 and 1994, reaching 83% in 2004 and 90.3% in 2016 (DOS, 2017). Urbanization of older people has increased from 44% in 1961 to 55% in 1979 and further to 80% in 2004 (Department of Statistics (DOS), [Jordan] & ICF International, 2012).

Figure 7: Sex differences among older people aged 60-plus in the period 1950-2050



Sources: United Nations, (2002, 2015).

Positive Side of Ageing

Culture, heritage, and religious norms dictate respectful family caregiving. Likewise, older people are involved in financial and domestic help to their offspring, including childcare. Day to day and hands on care duties are implicitly, and sometimes explicitly, placed on daughters or daughters in laws. (NCFA, 2008; Kamel, 2016; Hussein & Ismail, 2017).

Older parents are the source of wisdom and are responsible for conservation of customs and traditions. Their role in raising grandchildren is also pivotal due to increasing numbers of working mothers where 22-33% of young women are economically active (DOS, 2015, 2015). In unpublished master dissertations, most community elders showed a positive attitude and satisfaction towards their consultancy role and financial support of their families (Gharaibeh, 2003. Saleh, 2002). Their relationship with their extended family was based on respect and mutual support. The most common needs older people get through their families were housekeeping and help to get to doctors' appointments, in addition to shopping, cooking and consultancy roles in resolving conflicts (Saleh, 2002; Mady, 2002). Most older women were satisfied with the changing social roles yet more data are needed to better understand their social roles (Mady, 2002).

Implications of population ageing

Poverty and income security

Worldwide, 1.2 billion older people are expected to lack income security by 2050. Studies show that older Jordanians are particularly vulnerable to sickness or disability proportionately as they age. Large numbers of children, low levels of education,

unemployment, and non-Jordanian nationality were all associated with increased probability of being in poverty (Department of Statistics [Jordan], 2008). The Government of Jordan adopted its first *Poverty Alleviation Strategy* in 2002, followed by the National Agenda 2006-2015, that implemented its key directions through the National Employment Strategy (2011-2020) and Poverty Reduction Strategy 2013-2020. The net result helped lowering the absolute poverty rate from 21.3% in 1997 to 14.2% and 13% in 2002 and 2006, consecutively (Elbers, 2003; Bank, 2004; UNDP, 2013).

Unpublished World Bank Aspire's data show that 4.6% of the elderly were poor in 2006, versus 6.6% in 2010 (Department of Statistics (DOS), [Jordan] & ICF International, 2012). Unemployment further contributes to the problem as data show that only 2.9% of the Jordanian workforce was made up of older persons aged 60-plus; 3.6% of the workforce constituted males versus 1.1% females (NCFA, 2013) (DOS, 2015, 2015). Further, low average wage coupled with high prices of the various commodities have led to a greater pressure on the social security systems helping those subjected to poverty. These challenges have worsened after the influx of Syrian refugees (Awad, 2016).

Social protection systems are mainly governmental; they include Social Security Corporation (SSC), civil and military retirement pensions, professional associations pensions, Ministry of Social Development (MoSD), and some institutions including inter alia Takiyet Um Ali (Food for Life), National Aid Fund (NAF), and National Zakat Fund (NZF). Private non-governmental engines are not well developed.

MoSD manages a range of social assistance services to vulnerable groups. It "buys" beds in nursing homes for those unable to afford institutionalization, and it implements an emergency cash transfer similar to NAF activities. This program is not linked to NAF assistance database and it might lead to duplicated efforts.

SSC has become one of the key players in providing Jordanians with social protection, particularly those retired, ill, and unemployed. The successive governments have established social security reforms by directing all pensions to the SSC to be the main and the only body providing pensions.

The problem that many retirees face is that they (helped by their employer) have to pay for the SSC for 15 years (equal to 180 contributions) before they are able to get a retirement pension at the age of 60 for males and 55 for females. If they were unable to pay the 180 contributions, they can "BUY" them ahead. Current estimates forecast a cash deficit for the SSC by 2053 threatening social security and necessitating policies to prevent or even mitigate its consequences (Ministry of Government Performance, 2006). 25% of older Jordanians are not covered by retirement pensions and 66% of the provided pensions are below the national poverty line (Table 11.9).

These laws need revision to protect the poor older people who are unemployed and unable to "buy" pension, and to keep enrolling them in jobs that they are capable of doing.

Table 8: Pension coverage for older Jordanians

Source of Retirement pension	Percentage of older people covered in 2009	Percentage of older people covered in 2013
Social Security Corporation's pension	10.9%	12.2%
Total Civil and Military pensions	58%	62.5%
Total pension coverage from all resources	68.9%	74.7%

Source: NCFA, (2013)

Jordan's National Zakat Fund (NZF) is one of the oldest funds under the Ministry of Awqaf. It provides cash and rehabilitation assistance programs. If a poor person receives recurring cash assistance from NAF, he or she is not eligible to receive the minute Zakat assistance which is around 40-70 USD per month (Fund, 2012).

In a nutshell, although Jordan has higher public social protection expenditure on pensions and other benefits for older persons than most of the Arab countries, the social protection system needs substantial reforms and organization to avoid duplication and to ensure it covers all recipients as a right, including vulnerable categories.

Health services and increased disability

The health situation in Jordan is one of the best in the Middle East due to a set of effective development plans that included health as a priority of sustainable development (Higher Health Council, 2015). The per capita total expenditure on health is 359 USD, and the general government expenditure on health is 13.7% of the total government expenditure which, in turn, makes 70% of the total health expenditure and is one of the highest among Middle East countries (WHO: Regional Office for the Eastern Mediterranean, 2019) (WHO, 2014). Some of the major challenges include the increased demand for health services due to steady population growth and the influx of refugees, in addition to population ageing and rising health care costs.

Health services providers include Ministry of Health (MOH), the Royal Medical Services, university hospitals, and the private sector. The international and charitable sectors provide services through UNRWA clinics, the UNHCR, King Hussein Cancer Center and charity association clinics. Civil Insurance Program (CIP) is a mandatory service provided by the MOH to cover all government employees, in addition to those receiving beneficiaries from the National Aid Fund. Private health insurance is provided either by private insurance companies or by self-insured firms. In 2006, the CIP expanded to include those uninsured older persons 60+ under the umbrella of health insurance in public hospitals against a small nominal amount from each beneficiary (six dinars per month/8.4$). These efforts have helped widening of the insurance coverage to include more seniors from all social classes, with a rate of coverage going up from 67.3% in 2010 to 73.3% in 2015 (Higher Health Council, 2015) (DOS, Population and Housing Census 2015, 2015). The SSC's law was modified in 2014 to include health insurance for all SSC beneficiaries. Nonetheless, this requires a deduction of 17% from

the beneficiary's salary, making the implementation of this law unfeasible (Ghaith Zureiqat, 2015).

Regarding accessibility and equality, health care services are unequally distributed, where those living in the north and in urban areas have better chances compared to those living in the south and rural areas (Abu-Kharmeh, 2012). A survey showed that 19% of elderly believed that health care was unavailable and the main reasons for not receiving care were high cost and absence of health insurance (Mahasneh, 2000).

Tables 10, 11, and 12 show the prevalence and distribution of chronic diseases and disabilities among older people emphasizing the necessity of available and accessible health services.

Table 9: Prevalence of selected chronic, non-communicable disease risk factors

Chronic disease	Prevalence among +65 [a] (%)	Prevalence among population[b] (%)
Obesity	43.6[b]	36
High Blood Pressure	53%	29.8
High Blood cholesterol	30	13.9
Diabetes Mellitus	25	19.5
Current smoking	19.4	-
Heart Disease	13	-
Asthma	10	-

[a] (Higher Health Council, 2015). [b] CDC data 2012 (Al-Nsour et al., 2012).

Source: Higher Health Council, (2015); Al-Nsour et al., (2012).

Table 10: Functional disabilities and dependency among older age groups

Age Groups	Total number (Thousands)	Presence of *any*[1] functional disability N in thousands (%)	Presence of *severe* functional disabilities and/or *dependency* N in thousands (%)
60-64	166.0	52.7 (32%)	14.5 (8.7%)
65-69	135.1	53.8 (40%)	17.5 (13%)
70-74	99.5	48.1 (48%)	17.6 (17.7%)
75-79	64.0	36.2 (57%)	15.4 (24%)
80-84	30.9	19.8 (64%)	-
Above 85	20.3	14.0 (69%)	17.9 (34.9%)[2]
Overall +60	515.8	224.6 (43.5%)	82.9 (16%)

[1] Disability includes any one or more of: hearing or vision impairment, mobility/walking difficulty, difficulty concentrating or remembering, needing help in Activities of Daily Living and communication difficulties.
[2] Above 80
Source: Authors Calculations based on DOS data. (DOS, 2015).

Table 11: Distribution of disabilities among older people, 2015

Disability	Number in Thousands (%)[1]	Number of males in Thousands (%)[2]	Number of females in Thousands (%)[2]
Vision	140.6 (62.6)	69.5 (49.4)	71.0 (50.6)
Hearing/Speech	102.4 (45.6)	48.4 (47.3)	54.0 (52.7)
Mobility	161.1 (71.7)	69.0 (42.8)	92.1 (48.2)
Trouble remembering & concentrating[3]	79.0 (85.2)	34.5 (43.6)	44.5 (56.4)
Dependence in ADLs[4]	66.0 (29.4)	26.8 (40.6)	39.2 (59.4)
Communication with others	40.8 (18.2)	17.3 (42.3)	23.5 (57.7)
Total	224.6 (43.5)	107.3 (47.8)	117.2 (52.2)

[1] The percentage of the older people with the disability out of the total number of disabilities among the population

[2] The percentage of each gender within the same functional disability group.

[3] By informant without a formal diagnosis of dementia.

[4] ADLs: Activities of Daily Living

Source: DOS, (2015).

In summary, there are lots of health challenges including financial destitution, the high prevalence of disabilities and chronic diseases, insufficient number of specialized home care service providers, the lack of a legal framework to protect them as well as the high cost of these services if they were available, in addition to the lack of their coverage in the government and private health insurance programs (Ajlouni et al., 2015). Absence of medical and nursing geriatrics is also a major challenge as the few doctors who practice geriatrics in the country are trained abroad without obtaining an accreditation from the Jordan Medical Council. They provide geriatric care individually and their number is less than 10 in the whole country! (Higher Health Council, 2015). They are the principal doctors defining the medical, social, physical and psychological needs of the older people, in addition to coordinating their care plans (Hayajneh, 2015).

Living arrangements and family support

It is part of the Arabic culture and religion that children care for their older parents and it is not acceptable to let them live alone. These traditional norms work against the proliferation of residential care and institutionalization (Hafez G, 2000, July). Despite that, the latest DOS census showed that only 16.7% (324.4 thousand) of the total households in Jordan were headed by older people aged 60-plus. Of those, 73.5% were males and 26.5% were females (DOS, 2015). Mahasneh (2000) found in her study that only 6.7% were living alone and elders with long-term care needs, rejected the idea of going to a nursing home and relied exclusively on their families to help. The few that accepted this level of care was a necessity had severe physical disabilities and/or were neglected by their children. A more recent study representing all of the nursing homes in Jordan, found that 90% of the residents were single at the time of institutionalization and the majority did not have adult children living in the

country (Rawajfah, 2009). This study reflects the changing socio-economic conditions where the family size has declined, and children are now working abroad leaving some older people to manage on their own.

There are only ten licensed houses for older persons in Jordan that are not evenly distributed and most of them are either privately run or are part of the voluntary sector. Although the Ministry of Social Development defrays the residency costs for those unable to afford it, the actual occupancy rate does not exceed half of their capacity, and the monetary allowance paid by the government is less than the actual cost of residence (Ministry of Social Development, 2017).

Vulnerability of the older people, particularly older women

Vulnerability is the outcome of complex interactions of discrete risks, namely of being exposed to a threat, and of lacking the defenses or resources to deal with a threat (Schröder-Butterfill & Marianti, 2006). Common threats affecting older people include low levels of education and employment, weak financial security, and limited participation in the economy. Women are particularly vulnerable given lower marital rates (53.5% of older women were single vs. only 9.4% of older men), higher illiteracy rates (48.5% vs 17.9% in men), higher economic dependency, and increased susceptibility to non-communicable diseases and the presence of at least one functional disability (52.2% vs. 47.8% in men) (DOS2015, 2015) (United Nations, 2017). In terms of economic vulnerability, only 12% of those receiving pensions were females and their average benefits were lower than male counterparts (UNDP, 2013) (ILO, 2014).

Other relevant implications

The retirement age in Jordan is 60 for males and 55 for females. Retirees are "young" older people who are, mostly, physically and mentally capable to continue working. Only 12.8% of older persons are still working because it is forbidden by social security laws to continue working once the senior gets his pension paid (DOS2015, 2015). These laws render a good portion of productive members in the society spending their days at home.

Regarding political contribution, data from the Independent Election Commission show that the percentage of seniors in the Cabinet of Ministers in 2013 went up to 52% (from 25%), whereas the percentage of seniors in the Upper House of Parliament has declined from 81 to 78%. 11.02% of those who voted in the last parliamentary elections in 2013 were aged 60-plus.

Absence of adequate recreational services is another challenge; data show that boredom was an important problem the older population faces, and entertainment and social interactions were the most important motives behind institutionalization (Gharaibeh, 2003) (Rawajfah, 2009). Although the MoSD has set elderly-friendly regulations and very affordable fees for establishing day centers for the older people, there are only three non-governmental day-centers serving 140 older persons. The relatively high membership costs make it unlikely for the average-income person to join them, in addition to the absence of inspection and control

roles of the MoSD which rather sets the legislations and criteria of approving establishing new homes (Rights, 2017).

Policy response and measures

Policies and programs introduced by the Jordanian government

Jordan's National Strategy for Older Persons, prepared in 2008 by the National Council for Family Affairs (NCFA), is the first document endorsing older Jordanians' rights (NCFA, 2008). It stems from the Islamic values and the Madrid International Plan of Action for 2002. It included priority areas structured along the following pillars:

- Contribution of senior citizens to the development process
- Advancement of health care for senior citizens
- Provision of a supportive physical environment and social care to senior citizens.

Highlight measures taken since Madrid 2002

After the Madrid Plan was initiated, the initiative "Amman, age-friendly city" was launched in 2007 where access of older persons was set as a priority.

The Disabled Persons Act No. 31 of 2007 caters for older persons with disabilities. It enables them to access different services without discrimination. Further, directives governing exemptions for special vehicles for the use of persons with disabilities set forth the conditions whereby such vehicles may be obtained duty free.

The National Strategy for Older Persons 2008-2012 was followed by an analytical evaluation in 2015 that included recommendations guiding its update for the years 2018-2022.

In 2008, some legislation was updated including the modified Public Health Act No. 47 that included an article (4 g) about the responsibility of the Ministry of Health to collaborate with related partners in order to implement programs related to the health of older persons and to monitor the institutions which provide them with care. Article 3 (c) of the Domestic Violence Act No. 6 was also updated stating that "the father or the mother of either of the spouses" shall be considered as members of the family. Moreover, under article 54 of the Criminal Code (Act No. 16 of 1960), as amended, account may be taken of the age of anyone convicted for major or serious offences, and the court may suspend the sentence if the offender is an older person.

The years between 2009 and 2013 witnessed a noticeable drop in the number of cases involving support for older persons by their children at the sharia courts emphasizing the success of the Personal Status Act.

In 2011, Jordan amended an important constitutional provision in article 6(5) of the Jordanian Constitution to shield older persons from violence. The article, currently, states that "The law

protects motherhood, childhood and the elderly,....etc., and protects them from offense and exploitation".

In 2014, the Higher Education Council issued the Decree No. 295 allowing persons over the age of 70 who hold the rank of professor to remain in their posts as full-time lecturers on an annual contract without administrative duties.

Role of NGOs and civil society

The Civil Society Organizations (CSOs), NGOs have a limited role in the provision of health services through facilitating dialogue with stakeholders and decision makers. Major local NGOs implementing social protection include: Tkiyet Um Ali (TUA), National Alliance Against Hunger and Malnutrition (NAJMAH), and The Islamic Centre Charity Society (ICCS) (Higher Health Council, 2015).

Recommendations

Based on this analysis of the situation of older people, we propose the following suggestions to enhance their quality-of-life, and to enable them to continue to live with their families, in their own homes.

Mainstream ageing

Mainstream ageing is the integration and inclusion of older people's issues into wider national policymaking to build a "society for all ages". To be successful, it is critical that both policymakers and policy implementers view mainstream policy through the lens of the Madrid Plan (Ageing in the Twenty-First Century: A Celebration and A Challenge, 2012). Despite the recent legislative developments, Jordan's current society does not have sufficient awareness nor the resources to support implementing them. To best meet the elders' care needs, stakeholders must become intimately aware of the implications of population ageing and invest in strengthening Jordan's capacity to provide them with an excellent quality of life. Stakeholders that need to engage synergistically in meeting these needs include governments, civil society, private sector, communities, and families. In order to move forward with mainstream ageing, there are key issues that must be addressed. First, databases on older persons need to be completed. Many organizations should be encouraged to classify information by age and to incorporate issues relating to older persons into their strategies or set performance indicators that are in line with the Jordanian National Strategy for Older Persons. Allocation of financial resources to the budgets of agencies dealing with older persons should be prioritized.

Recreational services

To succeed in mainstream ageing, we must rectify the low levels of community involvement of older persons. There should be priority on developing recreational services for the elderly, whether based in the community or in nursing homes in order to increase stimulation and reduce depression, loneliness and isolation. Programs to encourage late-life community

engagement, such as volunteer activity, attending various hobby-groups or religious-groups, should be pursued.

Health care

To encourage healthy ageing, health care should be accessible by all older adults. The lack of universal health insurance and pension systems currently limits accessibility and should be addressed. Jordan must also address the lack of specialized home-care services within the state system and the increased cost of such services in private sector institutions. Innovative practices to meet the care needs of our older population include establishing mobile units and outreach teams that provide health and care services to older people in their own home, in addition to improving accessibility to such care through establishing widely available community-based health-care services. Skilled nursing facility care should also be available for those who do require it. We recommend improving upon the currently limited private sector participation in supporting older people's nursing homes. To further improve health care, geriatric training should be incorporated in health-schools' curricula, in addition to residency training that needs to be established and accredited by the Jordan Medical Council. These efforts will dually lead to increased interest in addressing the paucity of geriatric research.

Voluntary sector initiatives

Volunteer initiatives, usually staffed by volunteers and students, play an important role in providing basic health and care services to poorer older people. These might be expanded and encouraged by providing volunteer network infrastructure, developing policies and offering financial incentives for volunteers in the form of tax relief or other benefits.

Caregiver recognition and support

The literature highlights the importance of flexible and supportive work environments in enabling people who provide informal care to participate in the labour market. Similar to maternity care; cash allowances, tax-breaks and relief and other financial support should be provided to those who cannot work fully due to their caregiver duties. Working caregivers, especially women, are particularly in need of support to help in their work-life balance. They often have multiple competing demands in addition to their caregiving role, which render them at heightened risk of caregiver burnout and frustration. Caregivers should, also, have ample access to other services, such as psychosocial support and respite care, in order to maintain their own health and wellbeing which, in turn, helps them better support their older ones.

Financial security

All older adults should have access to pension funds to prevent impoverishment in older age.

Develop evidence-informed policies for older adults

Encourage gender and culturally sensitive research that focuses on the older adult, through the provision of research grants and other incentives. This will help develop a sound evidence base to inform policy. Older adults should be integrated into all national development policies and programmes. Older persons should be included in national humanitarian response, climate change mitigation and adaptation plans, and disaster management and preparedness programmes.

Enhancing society's perception and support of older persons

The key to changing the society is to start off from within to build a culture of equity and justice. The smallest unit is the family institution; hence educating the younger generations and grandchildren is the most important tool in changing the attitudes and perceptions of the upcoming generations towards our older persons. Fortunately, Jordanian culture has a high level of social support, which in turn, contributes genuinely to assist in setting up successful interventions that rely on the social context in Jordan. The main pillars of interest should include:

- Modelling the religious values of taking care of the older parents
- Enabling and educating children to support their older parents as much as possible in their own homes among their families. This role can be facilitated through governmental support that includes caregivers training, involving social workers and volunteers, and financial assistance to subsidize the expenses beyond those covered by health insurance plans.
- Enhanced monitoring and identification of elder abuse. For older adults in whom there is a suspicion of elder abuse or neglect, there should be a system for reporting and support available.
- Involving older parents in taking care of the grandchildren and emphasizing intergenerational interaction to reduce loneliness and boredom while increasing self-esteem and satisfaction.
- At last, public education and awareness campaigns on celebrating older adults, especially in October celebrating the International Older People Day, should be created.

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Matthijs, K., Neels, K., Timmerman, C., & Haers, J. (Eds.). (2015). *Population change in Europe, the Middle-East and North Africa: Beyond the demographic divide*. Routledge, 330 pp. ISBN 9781138546752

Reviewed by Nikolai Botev[1]

This is an edited volume that has emerged from the workshop "Population Change and Europe: Thinking Beyond the Demographic Divide" organized by the Saint Ignatius University Centre, Antwerp in 2012. The book brings together contributions from prominent experts in the population field, including Ronald Skeldon, Frans Willekens, and others. It aims to address the contrasting demographic trends in Europe and in the Middle East and North Africa (MENA), by demonstrating "how demographic change interacts with changing economic landscapes, social distinctions and political realities" (p. 3), and by trying to analyze some of the main drivers of demographic change (including the economic context, family policies, the impact of educational differentials, and the attitudes towards marriage). Attention is paid also to the causes and implications of the shifts in the age structure associated with population ageing, but also with the "youth bulge" in the MENA region.

The volume attracts attention by focusing on two regions that are rarely treated in comparative perspective, especially when it comes to demographic change. This in itself is a merit of the book, as Europe and Middle East and North Africa are connected by geographic proximity and historic ties, but also brought apart by cultural and other factors. The two regions are often seen as demographic antipodes--Europe is associated with rapidly ageing populations and a dramatic overhaul of the normative structures behind childbearing and union formation/marriage; the MENA region on the other hand is associated with the youth bulge, and more traditional marriage and reproductive behaviours. At the same time there are important demographic parallels between the two regions. A notable example are the marriage patterns. Historically, western Europe was characterized by late marriage and high proportions never married, something that John Hajnal termed the "European marriage pattern" and argued that it is "unique or almost unique in the world" (Hajnal, 1965, p.101). Over the past decades countries in the Middle East started to exhibit features of this pattern – particularly late marriage and possibly increase in the proportion never married. For example, in Algeria the proportion of women aged 20 to 24 who are married dropped from 64.9 to 21.6 percent between 1977 and 2008 with very little evidence of pre-marital cohabitation (Botev, 2020).

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In short, by focusing on Europe and the MENA region, this volume promises an interesting read, and comparisons with significant analytical and heuristic potential. The book is structured in 3 parts, with 3 chapters each. The first part focuses on Europe. The opening chapter is authored by Frans Willekens, and offers a broad overview of the demographic transition, focusing on Europe, with frequent comparisons with other regions (however there is not a single mention of the Middle East and North Africa). One of the strengths of the chapter is that migration is considered in the context of the demographic transition, something which is rarely done in the demographic transition literature. The following chapter, by Jonas Wood, Jorik Vergauwen, and Karel Neels, examines the effect of macro-economic conditions on fertility, and especially on the decision on whether and when to have the first child. The analysis covers 22 European countries during the period 1970 to 2005. It pays special attention to the regional diversity of trends in Europe, and especially on the patterns of family formation in Eastern Europe. Again, reading the chapter someone may forget what the title or aim of the entire volume are, as there is no mention of the MENA region. In the third chapter, Olivier Thévenon addresses policy issues raised by low fertility, and is understandably also Europe centered. The author warns that policies designed to increase fertility may fail to meet the objective of relieving welfare states from the "burden of population ageing", and argues that policies promoting active ageing and immigration need to be considered, alongside the pronatalist ones.

The second part focuses on the MENA region. It opens with a chapter on the demographic transition in the Arab world, authored by Paul Puschmann and Koen Matthijs. It provides an overview of demographic trends in the twentieth century, with emphasis on fertility decline in the post-World War II period. The authors stress the central importance of the trend towards later marriage for the fertility decline in the Arab world. Interestingly, there is no reference to Europe's historical experience with late marriage. In my opinion, comparing the current marriage patterns in the Arab world with those of pre-World War II western Europe could offer important insights into the mechanisms that drive reproductive behaviour in contexts where sexuality is under stricter control and confined to marriage. The following two chapters look at the inter-relation between demographic and political change. Richard Cincotta in a controversial chapter 5 argues that the changes in the age structure affect significantly the likelihood of transition to stable democratic governance. His hypothesis of where high levels of political liberalization could be expected, and where they should not in the MENA region, has already been questioned by the post "Arab Spring" developments in the region. Youssef Courbage and Paul Puschmann also look at the "youth bulge" in chapter 6, but put emphasis on the changes in education attainment and suggest that the countries in the region are gradually converging demographically with the developed world. Notably, this is the only chapter with an author with direct connection to the Middle East (Youssef Courbage is a French demographer with Syrian roots).

The third part of the book is entitled "Pathways for Policy". It opens with a chapter on population ageing and the fiscal sustainability in the European Union, written by Marga Peeters and Loek Groot. Understandably, the chapter will be of special interest to the readers of this journal, as the authors try to assess the "threat" posed by population ageing, along with the debt crisis, to existing formal systems of old-age financial support. For me it is an example

of the overly-alarmist approach to ageing. The last two chapters in the book are the only ones to explicitly link Europe and the Arab region. In the first of them, authored by Vincent Corluy and Gerlinde Verbist, this is done through an empirical analysis of the labour force integration of immigrants in Belgium, using Labour Force Survey (LFS) data from 1995–2010. The last chapter is a reflection by Ronald Skeldon on the challenges and opportunities that immigration presents for European societies, and the likely macro-level scenarios of both immigration and emigration. The author challenges the common assumption that Europe is facing a migration crisis that could undermine its economic and cultural identity and integrity. According to him, Europe needs to move from a region that needs labour to a region that wants migrants, seeing them "as part of state building" (p. 289).

In the beginning I intentionally cited the title of the workshop on which this book draws, so that a careful reader would note that it was Europe focused. Obviously, *post factum* a decision has been taken to add the MENA region to the volume. Edited volumes are notoriously prone to uneven contributions (unless a strong editor manages to ensure consistency and coherence, which is not the case with this book). The fact that the MENA region was added *post factum*, further underscores the unevenness in the reviewed volume. There are also technical issues with the analysis in some chapters. For example, the analysis of marriage patterns in the MENA region uses widely the singulate mean ages at marriage (SMAM) – an indirect indicator of the timing of first marriage. This is understandable, given the data limitations in the region. In the absence of civil registration data, the age at marriage could be estimated based on the proportion never married at different ages obtained from censuses or surveys. As John Hajnal who developed SMAM points out, this is an indicator based on a number of assumptions, including stable marriage patterns during the 35 years prior to the census/survey used for the estimation, and a stable population during the 50 years prior to it, as well as no migration in the marriageable ages (Hajnal 1953). Clearly, all these assumptions are violated in the MENA countries. None of the two chapters (4 and 6) that use SMAM for the analysis addresses these assumptions, their violation, and the impact of it on the trends and patterns that are discussed.

Notwithstanding all the flaws (possibly even because of them), I found the book thought-provoking. Given the wide range of topics discussed, many might find something of interest. All in all, though, I found the volume to be a missed opportunity for something bigger and better, which comparing demographic change and how it interacts with social and economic change in two regions like Europe and in the Middle East and North Africa lends itself to.

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Jadhav, A. (Ed.). (2021). *Rural elderly and their quest for health*. AuthorsUpFront, 309 pp. ISBN:978-93-87280-90-8

Reviewed by Nidhi Gupta[1]

Rural elderly and their quest for health, edited by Abhijeet Jadhav, is a unique addition to the body of knowledge on health of older persons living in rural parts of India. This book is especially helpful for academicians, students, researchers, and practitioners, given that majority of older persons in India live in rural areas that have a unique context with respect to access to health and health care in addition to various socio, political, cultural and economic challenges.

The book provides knowledge about various dimensions of ageing, the experience of ageing in different regions of the country as well as the evolving need for multi and inter-disciplinary approaches to address ageing issues. The editor has been instrumental in developing a progressive framework to weave these diverse dimensions of ageing, and in placing adequate emphasis on the policy and programmatic response to address each of these issues in each chapter.

The edited volume has twelve chapters woven exquisitely to highlight the various aspects of ageing like demographic and epidemiological transition, human rights of older persons, health including palliative care, mental health and health care, ageing and disasters, and the programmatic and policy context to address ageing issues. Majority of the contributors of the chapters in this edited volume are stalwarts working in the field of ageing in India for several decades, who have witnessed the evolving ageing scenario due to demographic and epidemiological transition in the country, from a critical inter-disciplinary perspective.

The first three chapters discuss the demographic transition, epidemiological transition and age-related issues in addition to human rights framework for access to health for older persons. These are foundational chapters that are followed by more detailed discussions on mental health, and access to palliative care. Other chapters delve into important yet less talked about issues like ageing and disasters and sexual and reproductive health of older persons living in rural areas. Such chapters may very well be considered as a unique feature of this book. To give the reader details of the policy and programmatic response to ageing, the book includes chapters such as 'universal health coverage through public funded health insurance for the elderly', 'public health programs and future needs', 'social support system for elderly' and 'elderly well-being: insights and priorities from rural sector'. The book also has a chapter

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which specifically discusses the role and status of Geriatrics for older persons living in rural areas. Considering the varied dimensions covered in the book, in an easily comprehensible language, this book may be used as a basic reading for students interested to understand ageing in India especially in rural context.

From a critical perspective, inclusion of a dedicated chapter on the status of older women and their specific needs in rural context would have made the content of the book richer, even though various chapters in the book have highlighted the issue of feminisation of ageing in India. When reflecting on the body of literature on ageing in India, I would say that although there are some existing literature on ageing in India, such as the *India ageing report*, (UNFPA, 2017), this book did provide an additional contribution, especially in relation to health aspects of older persons living in rural areas, thus making it a unique publication. This edited volume provides a comprehensive range of evolving ageing issues, which makes it an essential reading for students and researchers interested in understanding aging in rural context in India and similar contexts.

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