

Review Article

Healthy Ageing: Reviewing the Challenges, Opportunities, and Efforts to Promote Health Among Old People

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Abstract

Every country in the world is experiencing growth in both the size and the proportion of older persons in the population. While this shift in distribution of a country's population towards older ages – known as population ageing – started in high-income countries, it is now low- and middle-income countries that are experiencing the greatest change.

This article reviews the challenges, opportunities and efforts to promote health among older people. The WHO defines healthy ageing as “the process of developing and maintaining the functional ability that enables wellbeing in older age.” Functional ability consists of the intrinsic capacity of the individual, relevant environmental characteristics and the interaction between them.

Being able to live in environments that support and maintain one's intrinsic capacity and functional ability is key to healthy ageing. In fact, the environments that people live in as children – or even as developing fetuses – combined with their personal characteristics, have long-term effects on how they age.

Older people suffer from psychosocial problems as social isolation, loneliness, and elder abuse. They are also subject to dementia, the most severe expression of cognitive impairment, which represents the main cause of disability in elderly people. Neurodegeneration due to Alzheimer disease (AD) underlies most of the dementia, with cerebrovascular disease (CVD) presenting the second-most common cause. Consistent evidence from observational studies estimates that one-third of Alzheimer disease cases worldwide are attributable to seven common modifiable risk factors: diabetes mellitus, midlife hypertension, midlife obesity, physical inactivity, depression, smoking and low education. Evidence from the multidomain clinical trials of dementia preventive interventions suggests that targeting these risk factors in individuals who are at an increased risk of dementia is an effective strategy. According to a recent systematic review on the prevalence of dementia in Egypt (2017), the prevalence of dementia ranged from 2.01% to 5.07%. Dementia increased with age, with the rapid increase among those aging ≥ 80 . Also, its prevalence was higher among illiterate groups than among educated groups.

There is an urgent need for the implementation of a national policy for elderly care in Egypt. Although such policies exist, the effectiveness of existing policies and the role of national committees need to be evaluated in order to revive and mobilize the resources available.

Mohamed Salama, an Egyptian neurotoxicologist and Atlantic Senior Fellow for Equity in Brain Health at the Global Brain Health Institute (GBHI), believes Egypt is unprepared for demographic ageing. While region-specific risk factors for dementia are available for Europe, North America and more recently for India, China, and Latin America, the Middle Eastern and Northern African (MENA) region has no such data to guide strategies for dementia prevention. In this context, Mohamed has been developing the vision for ‘A Longitudinal Study of Egyptian Healthy Ageing’ (AL-SEHA), which could reform the Egyptian research infrastructure and support policy-makers to address the challenges of demographic ageing.

Keywords: Healthy ageing; Social isolation; Dementia; EMR, Egypt, AL-SEHA

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OVERVIEW

People worldwide are living longer. Today most people can expect to live into their sixties and beyond. Every country in the world is experiencing growth in both the size and the

proportion of older persons in the population. By 2030, 1 in 6 people in the world will be aged 60 years or over. At this time the share of the population aged 60 years and over will increase from 1 billion in 2020 to 1.4 billion. By 2050, the world's population of people aged 60 years and older will double (2.1

billion). The number of persons aged 80 years or older is expected to triple between 2020 and 2050 to reach 426 million. While this shift in distribution of a country's population towards older ages – known as population ageing – started in high-income countries (for example in Japan 30% of the population is already over 60 years old), it is now low- and middle-income countries that are experiencing the greatest change. By 2050, two-thirds of the world's population over 60 years will live in low- and middle-income countries. (1,2)

Population Ageing in the Middle East and North Africa (3,4)

Arab countries are at different stages of population ageing. Lebanon, Tunisia, Morocco, and Algeria are experiencing a “fast rate of ageing”, where the percentage of older people (65+) is expected to double from 7% to 14% by 2030. Djibouti, Egypt, Libya, Jordan, Syria, and the Gulf Cooperation Council (GCC) countries experience a “moderate rate of ageing”. Older people will have the same share between 2030 and 2060. Comoros, Iraq, Mauritania, State of Palestine, Somalia, the Sudan, and Yemen are experiencing a “slow rate of ageing” and will reach this point after 2060.

Other socio-demographic changes are simultaneously occurring; increased trends in ‘lone-residency’ at old age (usually women), higher female labor market participation (primary care givers), migration (internal and international) and proximity of residency.

Population ageing in Egypt

Egypt is the most populous country in the Middle East and the third-most populous on the African continent (after Nigeria and Ethiopia). 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. In line with global trends, Egypt's population is also aging with 6.9 % of the population over 60 years of age in 2017, and this age group projected to be 9.2% by 2030 and 20.8% by 2050. (5,6)

Social highlights

The family has been and still the main social institution, which offers support and services to the aged. 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.

Changes in living arrangements induced by differences in labor market opportunities have resulted in significant differences in psychological well-being among the older persons. In other word, older persons may live alone because the economic situation is driving the youth and adult children to migrate to urbanized area or foreign countries. (7)

Reviewing the definition of “elderly”

Conventionally, “elderly” has been defined as a chronological age of 65 years old or older, while those from 65 through 74 years old are referred to as “early elderly” and those over 75 years old as “late elderly.” However, the evidence on which this definition is based is unknown. It is said that it originally dates back to more than a century ago in Germany, when Prince Bismarck, the Chancellor of the German Empire, selected 65 as the age at which citizens would be able to participate in the national pension plan, for he might have expected that most people would die before reaching this age. With recent advances in medical and health science, the average lifespan has increased rapidly. Now, such a definition of elderly to simply include all persons over 65 years might be no longer appropriate for this era with a life expectancy of 80 years. (8)

It is time to review of the definition of ‘elderly’, and accordingly reform of the employee and social security systems. Since the number of healthy aged persons has been increasing, ‘elderly’ should be defined on the basis of health status rather than age. It is time to think of a so-called ‘ageless society’ in which people can work regardless of age. (8,9)

Ageing explained

At the biological level, ageing results from the impact of the accumulation of a wide variety of molecular and cellular damage over time. This leads to a gradual decrease in physical and mental capacity, a growing risk of disease and ultimately death. These changes are neither linear nor consistent, and they are only loosely associated with a person's age in years. The diversity seen in older age is not random. (1)

Although some of the variations in older people's health are genetic, most is due to people's physical and social environments – including their homes, neighborhoods, and communities, as well as their personal characteristics – such as their sex, ethnicity, or socioeconomic status. The environments that people live in as children – or even as developing fetuses – combined with their personal characteristics, have long-term effects on how they age. (1,10)

What is healthy ageing?

Healthy ageing is about creating the environments and opportunities that enable people to be and do what

they value throughout their lives. Everybody can experience healthy ageing. Being free of disease or infirmity is not a requirement for healthy ageing, as many older adults have one or more health conditions that, when well controlled, have little influence on their wellbeing. ^(1,2)

WHO defines healthy ageing as “the process of developing and maintaining the functional ability that enables wellbeing in older age.” ⁽¹¹⁾

What is functional ability and how does it relate to healthy ageing?

Functional ability consists of the intrinsic capacity of the individual, relevant environmental characteristics, and the interaction between them. Intrinsic capacity comprises all the mental and physical capacities that a person can draw on and includes their ability to walk, think, see, hear, and remember. The level of intrinsic capacity is influenced by several factors such as the presence of diseases, injuries, and age-related changes. Environments include the home, community, and broader society, and all the factors within them such as the built environment, people and their relationships, attitudes and values, health and social policies, the systems that support them and the services that they implement. Being able to live in environments that support and maintain one’s intrinsic capacity and functional ability is key to healthy ageing. ^(1, 11)

Supportive physical and social environments enable people to do what is important to them, despite losses in capacity. The availability of safe and accessible public buildings and transport, and places that are easy to walk around, are examples of supportive environments. In developing a public-health response to ageing, it is important not just to consider individual and environmental approaches that ameliorate the losses associated with older age, but also those that may reinforce recovery, adaptation, and psychosocial growth. ⁽¹⁾

Common problems in older age

Social isolation, loneliness and elder abuse are the most common psychosocial problems of old age.

a. Social isolation and loneliness ^(1,12)

Social isolation and loneliness among older people are widespread globally. The COVID-19 pandemic and the resultant physical distancing measures have exacerbated these conditions. The UN Decade of Healthy Ageing 2021 – 2030 presents a major opportunity for the World Health Organization (WHO) and other United Nations agencies to address social isolation and loneliness in a more sustained way.

Social isolation and loneliness shorten older people’s lives and damage their mental and physical health and quality of life. Physical health consequences include conditions such as

cardiovascular disease and stroke and mental health consequences include conditions such as cognitive decline, dementia, depression, anxiety, suicidal ideation and suicide. In addition, social isolation and loneliness impose a heavy financial burden on societies.

High-quality social connections are essential to our mental and physical health and our well-being. Social isolation and loneliness are important, yet neglected, social determinants of the health of older people.

Evidence suggests that there are strategies that are promising to reduce social isolation and loneliness. Among promising interventions are those aimed at individuals delivered either face-to-face or digitally, such as social skills training, peer-support and social activity groups, “befriending” services, and cognitive behavioural therapy; those aimed at communities, such as improving transportation, the built environment, and digital inclusion; and, those aimed at wider society, such as increasing social cohesion and reducing marginalization.

b. Elder abuse ^(1,2,13)

Elder abuse is a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust, which causes harm or distress to an older person. This type of violence constitutes a violation of human rights and includes physical, sexual, psychological and emotional abuse; financial and material abuse; abandonment; neglect; and serious loss of dignity and respect.

Consequences

Elder abuse can have serious physical and mental health, financial, and social consequences, including, for instance, physical injuries, premature mortality, depression, cognitive decline, financial devastation and placement in nursing homes. For older people, the consequences of abuse can be especially serious and recovery may take longer .

Cognitive decline, cardiovascular diseases, osteoporosis and respiratory diseases are some of the most common health problems affecting elderly.

c. Dementia

Cognitive impairment is common among elderly adults. Dementia, the most severe expression of cognitive impairment, represents the main cause of disability in elderly people and currently affects nearly 50 million individuals worldwide. This number is expected to increase to more than 130 million individuals by 2050 if the age-specific prevalence of dementia remains unchanged. Prevention of dementia via risk factor modification has the potential to curb the increasing number of people living with dementia.

Neurodegeneration due to Alzheimer disease (AD) underlies the majority of dementia, with

cerebrovascular disease (CVD) presenting the second-most common cause. However, mounting evidence from neuropathological and neuroimaging studies shows that mixed aetiologies (comprising neurodegenerative and vascular features) account for many instances of dementia, with a particularly high prevalence in people older than 80 years, which suggests that mixed dementia is the most common form in elderly populations.⁽¹⁴⁾

The disease, is usually characterized by a long preclinical phase with no cognitive symptoms, followed by mild cognitive problems that can progress to overt dementia, the final and most severe stage of AD. The latest edition of the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) recognizes cognitive impairment as a spectrum (syndromes of mild and major neurocognitive disorder, the latter replacing the term dementia).⁽¹⁵⁾

Risk and protective factors of dementia according to observational studies

The possibility of dementia prevention is supported by a plethora of observational studies, which have shown that late-life cognitive impairment, dementia and AD are multifactorial and heterogeneous disorders that are driven by a constellation of genetic and environmental risk and protective factors, including vascular, lifestyle-related and psychosocial factors. Many of these risk factors and protective factors are potentially modifiable and thus offer opportunities for prevention. In fact, consistent evidence from observational studies estimates that one-third of AD cases worldwide are attributable to seven common modifiable risk factors: diabetes mellitus, midlife hypertension, midlife obesity, physical inactivity, depression, smoking and low education.⁽¹⁶⁾

Age is the strongest known risk factor for dementia and AD. Incidence and prevalence of these disorders increases exponentially after 65 years of age and nearly doubles every 5 years from 65 to 90 years of age. Other non-modifiable risk factors for late-onset dementia and AD include genetic factors, among which the apolipoprotein E (APOE)*ε4 allele has the largest effect and has been replicated extensively, and familial aggregation (that is, an increased risk of dementia or AD when first-degree relatives are affected), which can be explained by genetic and environmental factors and their interactions.

Numerous studies have reported that depression increases the risk of dementia and AD. Several psychosocial factors — including feelings of hopelessness and loneliness, stress, and sleeping disorders — are also gaining increasing interest independently from depression, although more evidence is needed to substantiate their role as risk factors. Evidence also remains limited for other factors such as obstructive sleep apnoea and occupational

exposure (for example, to heavy metals or extremely low-frequency electromagnetic fields). Engagement in regular physical activity has been linked to a decreased risk of cognitive decline, dementia and AD in numerous longitudinal studies. The association is observed when levels of physical activity in midlife are examined, but a benefit is also observed when physical activity is maintained or increased in late life.^(16,17)

Most often, observational studies have compared high versus low levels of physical activity, with estimates based on self-reported data from the study participants. By contrast, little is known about which specific type, frequency, duration and intensity of physical activity would be the most beneficial.⁽¹⁷⁾ A strong association has been well established between high educational attainment and reduced risk of cognitive impairment, dementia and/or AD; however, cognitively stimulating activities are related not only to formal education but also to work complexity (that is, the intellectual demand of a job) and engagement in cognitively stimulating activities during leisure time. By contrast, loneliness, low frequency of social contact and low social participation increase the risk of dementia. Similar to physical activity, detailed knowledge of which type and amount of cognitive and social activity would be needed for the optimal beneficial effects is lacking.⁽¹⁶⁾

Various nutrients and food items have been investigated and linked with a reduced risk of cognitive impairment, dementia and AD, including omega-3 polyunsaturated fatty acids and vitamins such as the B complex (vitamins B6 and B12 and folate), antioxidants (vitamins A, C and E) and vitamin D. Among food items, regular intake of fish, fruits, vegetables and nuts has been shown to have a protective effect.

In the past few years, research has shifted from investigation of single nutrients to examination of dietary patterns, in which the simultaneous intake of combinations of macronutrients and micronutrients is assessed.

Observational studies reported that individuals with a high adherence to what is considered to be a healthy dietary pattern have a reduced risk of cognitive impairment, dementia and AD. The Mediterranean diet is one of the dietary patterns most commonly investigated; Smoking is a risk factor for dementia and AD, and about 14% of all instances of AD are potentially attributable to this factor on the basis of the worldwide prevalence of smokers (27.4%). Alcohol abuse is associated with an increased risk of cognitive impairment and dementia.^(18,19)

These studies have also clarified how the effect of specific risk factors and protective factors largely depends on age. For example, hypertension, obesity and hypercholesterolaemia at middle age (<65 years)

are risk factors for late-life dementia and AD, whereas low blood pressure, low BMI and low blood total cholesterol late in life (age >75 years) have been associated with subsequent development of dementia and AD. This association is probably because these parameters decrease in the early, asymptomatic stages of dementia and AD from observational studies has shown that antihypertensive medications can reduce the risk of cognitive decline and dementia.⁽¹⁶⁾

Risk scores

Risk factors and protective factors often co-occur and interact across the lifespan of a person, the result of which determines the overall risk of cognitive impairment and dementia. The frequent co-occurrence of risk factors and protective factors for dementia and the increasing attention on presymptomatic and early-symptomatic stages of the syndrome have stimulated the development of risk scores to estimate the overall risk of dementia in individuals.

These risk scores are based on the aggregation of several factors, including vascular and lifestyle-related risk factors, and can be used to identify people who could benefit from preventive interventions in RCTs that aim to mitigate lifestyle-related risk factors. Two systematic reviews identified more than 50 different dementia risk prediction scores or algorithms for prognostic or diagnostic purposes.

Most of these risk scores were developed on the basis of data from observational studies. The majority of available dementia risk scores facilitate short-term prediction of dementia within the next 5–10 years on the basis of late-life risk factors. Some of these late-life dementia risk scores include parameters that could be early non-cognitive signs of impending dementia, such as low blood pressure, low BMI or low cholesterol. Whether the populations identified with the use of these scores would benefit from lifestyle interventions remains unknown. The only dementia risk score that has been used, thus far, to select at-risk participants for lifestyle trials is the Cardiovascular Risk Factors, Aging and Dementia (CAIDE) risk score. The CAIDE risk score has been validated in different populations and is based on easily available midlife risk factors with the view to predict dementia risk within 20 years.⁽²⁰⁾

Clinical trials of lifestyle interventions

To date, intervention studies that have aimed to prevent cognitive impairment and dementia have mainly been single-domain trials, in which single risk factors (lifestyle-related or vascular) were targeted with medications or non-pharmacological interventions.

Results have often been negative or modest, and several RCTs have had considerable methodological limitations. The aetiology of cognitive impairment,

dementia and AD is multifactorial and has several potentially modifiable risk factors and protective factors. Consequently, multidomain interventions that target several risk factors and mechanisms simultaneously might be needed for an optimal preventive effect.⁽²¹⁾

The first three large multidomain trials have now been completed in Europe. The first large multidomain RCT, the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER; NCT01041989), tested the efficacy of a multidomain lifestyle intervention to prevent cognitive decline. FINGER enrolled 1,260 elderly adults who were at risk of cognitive decline from the general population. Inclusion criteria were a CAIDE risk score of at least 6 points and cognition at mean level or slightly lower than expected for age. The study tested the efficacy of a 2-year multidomain intervention comprising nutritional guidance, exercise, cognitive training, social activity and intensive monitoring and management of metabolic and vascular risk factors compared with a control group who received general health advice.

The study showed a beneficial effect of the intervention on the primary outcome, which was the change in cognition as measured by a comprehensive neuropsychological test battery (NTB) Z score. In addition, the intervention had a significant beneficial effect on processing speed, executive function and complex memory tasks, reduced the risk of cognitive decline and benefited non-cognitive outcomes including BMI, diet, physical activity and quality of life. The intervention effect was independent of the sociodemographic characteristics, cardiovascular burden, and baseline cognitive level of the participants, which indicates that the results might be generalizable to most of the elderly population who have an increased risk of dementia. Furthermore, a clear beneficial effect of the intervention was detected among carriers of APOE*ε4.^(21,22)

The Dutch Prevention of Dementia by Intensive Vascular Care (PreDIVA; ISRCTN29711771) trial tested the efficacy of a 6-year, nurse-led, multidomain cardiovascular intervention compared with control intervention (usual care) for the prevention of dementia. The intervention did not result in an overall decrease of dementia incidence, which was the primary outcome. In additional analyses, the intervention had a protective effect for non-Alzheimer dementia. In addition, a reduced occurrence of dementia was found in a subgroup of people with baseline untreated hypertension, for whom therapy was initiated.⁽²³⁾

The French Multidomain Alzheimer Preventive Trial (MAPT; NCT00672685) tested the efficacy of a multidomain lifestyle intervention (cognitive training and advice on nutrition and physical activity),

administered alone or in combination with n-3 polyunsaturated fatty acid supplementation, on cognitive decline among frail elderly individuals. The main result on the primary outcome was negative, the multidomain intervention was effective among individuals with an increased risk of dementia, which was defined as a CAIDE score ≥ 6 or presence of amyloid- β on PET imaging. ⁽²⁴⁾

In addition to these three large multidomain trials, several small-scale trials have been completed. Some trials have indicated a protective effect, especially when a fairly intensive intervention conducted among at-risk individuals was compared with a care-as-usual control group.

Evidence from the first three completed multidomain trials of dementia preventive interventions suggests that targeting these interventions to individuals who are at an increased risk of dementia is an effective strategy. However, how much of the different types of lifestyle counselling and training are needed to obtain long-lasting effects on brain health remains unknown. ⁽²¹⁾

Prevalence of dementia in Egypt

According to a recent systematic review on the prevalence of dementia in Egypt (2017), the dementia prevalence ranged from 2.01% to 5.07%. Dementia increased with age, with the rapid increase among those aging ≥ 80 . Also, its prevalence was higher among illiterate groups than among educated groups. It is found that the prevalence of dementia varied among studies. However, the epidemiological data on dementia rates in Egypt are deficient. It is suggested that dementia is not considered a health challenge due to the high proportion of youth in the population. In addition, the public belief of dementia as a sign of normal aging underestimates its priority. However, the current demographic transition makes dementia a future challenge to be taken into account. ⁽²⁵⁾

Another study of the Prevalence of Alzheimer dementia in Upper Egypt revealed that the total prevalence of AD in the studied areas was 1% among population aged 50 years and more, reaching 2.9% at 70–< 80 years and 9.74% at 80 years and more.

Prevalence of Alzheimer's dementia was higher among females than males in all age groups. Presence of comorbidities, e.g., diabetes, hypertension, smoking, obesity, and dyslipidemia have all been found to increase the risk of AD. In this study, the most common reported risk factors are in order of frequency, hypertension, family history of dementia, smoking, diabetes mellitus, and epilepsy prior to AD. AD patients in these localities did not seek medical advice except in late stages or when behavioral changes are prominent. Most of the symptoms, especially memory deficits, in these localities are attributed to the aging process. ⁽²⁶⁾

Decade of Healthy Ageing

The United Nations General Assembly declared 2021–2030 the Decade of Healthy Ageing and asked WHO to lead the implementation. The Decade of Healthy Ageing is a global collaboration bringing together governments, civil society, international agencies, professionals, academia, the media and the private sector for 10 years of concerted, catalytic and collaborative action to foster longer and healthier lives. ⁽²⁷⁾

Elderly care in Egypt

There is an urgent need for the implementation of a national policy for elderly care. Although such policies exist, the effectiveness of existing policies and the role of national committees need to be evaluated in order to revive and mobilize the resources available.

I-Social care

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: (aging, disability and death– work injuries– illness– unemployment– social welfare for pension beneficiaries) at the top of this pension beneficiaries' list comes the elderly. ⁽²⁸⁾

Cash transfer systems, like the Social Aid and Assistance program (SAA) and the more prominent safety net program Takaful and Karama (Solidarity and Dignity), also aid elderly poverty in Egypt. Takaful and Karama, which the Egyptian government and the World Bank Group established in 2015, aims to improve access to health and education for poor and vulnerable populations. The implementation of the World Bank's project involved an initial \$400 million in funding to positively influence 1.5 million persons with disabilities, families with young children and the elderly. Karama directly protects and promotes poor elderly persons' wellbeing through unconditional monthly pensions.

However, cash transfer programs are often inaccessible or experience poor implementation, and applications for social aids are strictly in person, making it harder for old persons to physically access, apply for and benefit from the program. Under Takaful and Karama in 2018, a small number of impoverished elderly persons actually received pensions — only 3.5% according to an article that the UN published. ⁽²⁹⁾

II- Medical care

Ministry of Health: * 13 Two-floor geriatric healthcare centers (offering health care services to elderly people through specialists from different branches) have been set up by the Ministry of Health distributed all over the governorates *Clinical Diagnostic Service to the dementia (Memory clinic in hospitals) The service included assessment service, counseling and family support.

Governmental Universities : 1-Ain Shams University Geriatric medicine department(The department involves 23 inpatient plus 9 ICU beds, an osteoporosis Unit which offers diagnostic and therapeutic services, and daily outpatient clinic. It is the only academic institution offering master and doctorate degree in geriatric medicine 2-Alexandria University (Faculty of medicine contain a Geriatrics Unit, geriatrics Outpatient clinic. Postgraduate Program in Geriatric Nursing in the Faculty of Nursing) 3-Helwan University Center for Elderly Social & Health Care (A self-financed unit under the umbrella of the center for community development in Helwan University. Services offered include; 10 inpatient beds, day care services and out-patients clinic.in addition to long term care unit for functionally dependent elderly) In addition to Cairo University, Assuit University, Tanta University, Suez Canal University and Sohag University which offer either health care services for elderly or educational services for health care professionals. *Other health care settings:* Including private sector, military hospitals and NGOs. ⁽²⁸⁾

Towards a Longitudinal Study of Egyptian Healthy Aging ⁽³⁰⁾

Mohamed Salama, an Egyptian neurotoxicologist and Atlantic Senior Fellow for Equity in Brain Health at the Global Brain Health Institute (GBHI), believes Egypt is unprepared for demographic ageing. While region-specific risk factors for dementia are available for Europe, North America and more recently for India, China, and Latin America, the Middle Eastern and Northern African (MENA) region has no such data to guide strategies for dementia prevention. Similarly, high quality data on the costs, patterns and outcomes of healthcare utilization which are available in many high income country settings, are difficult to come by in this region. This significantly limits the ability of these governments to develop evidence-based policies around the financing and provision of cost-effective, person-centred healthcare and long term care.

In this context, Mohamed has been developing the vision for ‘A Longitudinal Study of Egyptian Healthy Ageing’ (AL-SEHA), which could reform the Egyptian research infrastructure and support policy-makers to address the challenges of demographic ageing.

The first major outcome of this work was the recent workshop ‘*The Longitudinal Population-Based Study Paradigm: Towards a Longitudinal Study of Aging in Egypt*’, led jointly by the American University in Cairo (AUC) and GBHI. The event was convened to examine the value and need for a longitudinal aging study in Egypt, to initiate a dialogue with Egyptian stakeholders to identify best practices for developing the study and to connect GBHI with key leadership and academia in Egypt and other stakeholders in the Middle East.

A GBHI delegation travelled to Cairo for the workshop, including GBHI Executive Director Professor Victor Valcour, GBHI Deputy Executive

Director Professor Brian Lawlor, and current and senior Atlantic Fellows for Equity in Brain Health: Hany Ibrahim, Mohamed Salama, Kirsten Bobrow, Lorna Roe, and Laurent Cleret de Langavant.

The GBHI team were joined by Dr Ann Hever, Research Manager with The Irish Longitudinal Study on Ageing (TILDA); Professor Kenneth Langa, Associate Director of the Health and Retirement Study (HRS) and Professor Axel Borsch-Supan, Managing Director of the Surveying the Health, Aging and Retirement in Europe (SHARE) study.

Event participants heard from Egyptian academia about the needs, challenges and opportunities for Egypt, including: the Egyptian social landscape and the need for health equity framing of AL-SEHA; the environmental dimensions of health and ageing in Egypt; the current status of Alzheimer Disease in Egypt and the state of geriatric care in Egypt including the recent opening of a new geriatric hospital at Ain Shams, a first in the MENA region.

The meeting was one step along the journey in the preparation and piloting of activities for a Longitudinal Study of Egyptian Healthy Ageing. Continuous discussions and open dialogue with stakeholders, including Government, researchers, NGOs and the public, will lay the foundation for a solid and sound national longitudinal study of aging in Egypt, that could be reflected in other countries of the MENA region.

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