



Aging in Lebanon: Challenges and Opportunities

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Received July 14 2014; Accepted September 3 2014.

Decision Editor: Rachel Pruchno, PhD

This spotlight offers a unique window into factors affecting aging in Lebanon. As a bridge between east and west, both geographically and culturally, Lebanon has the fastest growing older adult population in the Arab region, but few societal resources to address its needs. In a country with a history of political instability and war, but also a culture with strong family values, aging adults in Lebanon are vulnerable in some ways and advantaged in others. Outmigration of youth is an important determinant of the wellbeing of the elderly. While often advantaged by remittances sent by their children, older Lebanese adults have less access to instrumental social and personal support previously provided by young adults in the family. How Lebanon manages these challenges is likely to foreshadow the future aging experience for much of the Arab region.

Key Words: Arab, Lebanon, Family, Stress, Emigration

Lebanon is a small country located in western Asia surrounded by the Mediterranean Sea to the west, Syria to the north and east, and Israel/Palestine to the south. The surface area measures 10,452 km², slightly smaller than the state of Connecticut, and the population is estimated to range between 4 and 6 million, slightly smaller than the state of Massachusetts (The World Factbook, 2014; United Nations, 2011). Lebanon emerged as a nation-state in 1943 after it gained its independence from French colonialism and has been since governed through a political system based on confessionalism, in which political power is distributed proportionately among religious groups (Salibi,

2003; Traboulsi, 2007). The country is quite diverse with 18 recognized religions; the three largest religious denominations (Christian Maronites, Shia Muslims, and Sunni Muslims) share in governance. In its short history, Lebanon has experienced periods of growth and brilliance as well as war and political instabilities. As a nation that bridges the cultures of east and west, Lebanon currently reports the highest proportion of their population aged 65+ years among countries in the Arab world, and is predicted to age rapidly in the first half of the 21st century (Saxena, 2008). This article spotlights Lebanon with an in-depth discussion of its national demographics, a review of several critical

areas of research in aging, a discussion of existing data sets, identification of key policy issues, and finally draws attention to emerging issues likely to influence the aging experience in Lebanon.

Demographic Profile of Lebanon

The demographic shifts Lebanon experienced over the last few decades indicate that it is a rapidly aging country. Population aging is best explained according to three key transitions: decreased fertility rates, longer life expectancy, and high rates of out-migration.

Population growth in Lebanon is expected to be among the lowest in the Arab region in the first half of the 21st century, at less than 1% per year, though the average growth rate is expected to be 2.6% and 3.8% for those 65+ and 80+, respectively (Saxena, 2008). In the last 40 years, the total fertility rate for the nation has decreased rapidly. The average number of children per woman was 4.6 in 1971, 2.9 in 1996 (Kulczycki & Saxena, 1999), and is currently estimated at 1.9 (Central Administration for Statistics, 2012), which is slightly below replacement level (2.1). Decreasing fertility and high rates of outmigration means that, in contrast to most Arab countries where the average annual population growth has hovered around 3% since 1975, Lebanon experienced a drop in population size (Chabaan, 2010). It should be noted, furthermore, that fertility rates vary within the country, with the lowest documented in the metropolitan Beirut area and the highest in the north, south, and eastern parts of the country (Faour, 2007; Kulczycki & Saxena, 1999). The rapid decline in fertility rates has been accompanied by an increase in life expectancy. The proportion of those aged 65+ is currently estimated at approximately 10% of the population in Lebanon (Central Administration for Statistics, 2012). As is the case in other parts of the world, women live longer than men. According to the World Health Organization (2012), the life expectancy is 78 years for men and 82 years for women. Lebanon has a long history of outmigration (even before becoming an independent nationstate), dating back to World War I, when poverty and famine were the main push factors. Emigration continued unabated and, during the oil boom of the 1970s, a large proportion of the Lebanese immigrated to Gulf countries in search of better economic opportunities. Emigration peaked during the civil war years, whereby it is estimated that one million people left Lebanon between 1975 and 1990 (Tabar, 2010). From one village alone (Lala in the Bekka Valley), 42% of the children left for international destinations toward the end of the war (Amery & Anderson, 1995). Some scholars suggest that the number of Lebanese living outside Lebanon surpasses the population living within the country's borders (Hourani & Shehadi, 1992; Tabar, 2010).

Though outmigration is high in the Arab region in general, Lebanon has historically been a major center of emigration and registers one of the world's highest ratios of expatriates to resident nationals (Al-Khouri, 2004). Moreover, Lebanon has a human capital advantage and a much larger proportion of its youth emigrants are skilled in comparison to other Arab countries (Chaaban, 2010). One group of skilled Lebanese workers, whose high rates of outmigration is sure to affect the care of older adults, is nurses. Due to a combination of push and pull factors (low career advancement in Lebanon and higher wages abroad), a staggering one in five nurses emigrate within 2 years after graduating from a Lebanese nursing school (El-Jardaly, Dumit, Jamal, & Mouro, 2008).

Though no official statistics exist concerning the numbers who have emigrated since 1990, or the proportion of emigrants who return, evidence suggests that skilled and unskilled youth are just as keen to out-migrate as were their parents (Chaaban, 2010). For instance, in 2009 approximately 6% of Lebanese households reported that at least one member of their family left Lebanon in the preceding 5-year period for employment opportunities (Central Administration for Statistics, 2012). Of those who left, 44% had a university degree, and 77% were under the age of 35. Moreover, a study conducted in Greater Beirut during 2009 found that among adults aged 60 and older, 12% of their close and personal networks on average did not reside in Lebanon (Ajrouch, Abdulrahim, & Antonucci, 2013). Lebanon is also an immigrant receiving country and hosts a large number of unskilled workers from neighboring and Asian countries (Abdulrahim & Abdul Malak, 2012). Many suggest that the out-migration of younger Lebanese amounts to enhanced financial capital in the form of remittances albeit the loss of human capital and handson support often accompanies the out-migration (Ajrouch et al., 2013; Hourani & Sensenig-Dabbous, 2007; Tabar, 2010). This circumstance leaves older Lebanese advantaged in some areas (financial) but vulnerable in others (social resources). Next, we review several related areas of research on aging in Lebanon.

Key Areas of Research

Research on aging in Lebanon involves three key topics: living arrangements, social relations, and health.

Living Arrangements

Given heavy reliance on adult children for income in later life (Kronfol & Sibai, 2013), and cultural ideals that espouse family connectedness (Joseph, 1993), living arrangements have engendered a fair amount of research.

Multigenerational living has been the norm in Lebanon; yet given the demographic transitions reviewed above research has investigated the trends and benefits of various living arrangements. Trends suggest rates of living alone mirror patterns in Western countries, and Lebanon has the highest prevalence rate compared with other Arab countries (Sibai, Yount, & Fletcher, 2007). Twelve percent of adults 65+ in Lebanon live alone, and older women (18%) are almost three times more likely to live alone than older men (7%) (Ajrouch, Yount, Sibai, & Roman, 2013). Among those who live with others, the majority (89%) live in their own home, for example, the older adult is the head of household (Sibai, Beydoun, & Tohme, 2009; Tohme, Yount, Yassine, Shideed, & Sibai, 2011). Relatively high rates of emigration among youth may contribute to the higher rates of living alone by older adults in Lebanon compared with other Arab countries. Older adults of higher socioeconomic status are also more likely to live alone than those of lower status (Sibai et al., 2009; Tohme et al., 2011).

Various demographic and health factors correlate with living arrangements among older Lebanese. Increasing age and an increasing number of living children predicts a higher likelihood of coresidence with an adult child (Sibai et al., 2009). Among those who coreside with married children, older women are more likely to live with married sons than married daughters. There appears to be no urban-rural differences in living arrangement patterns (Sibai et al., 2009).

The benefits of coresidential living, however, are still not well understood. For instance, advantaged older adults (i.e., those who reported themselves to be self-sufficient regardless of marital status and those who reported higher income), were least likely to coreside (Tohme et al., 2011). Yet, an examination of the effects of coresidence during the civil war period suggests that coresidence does not necessarily reduce mortality (Sibai et al., 2007). Sibai and colleagues caution that it is not clear whether living with an adult child has adverse effects, or whether a selection bias is operative, that is, older adults who are sick may simply need to live with children. It is not possible to determine given available data and measures analyzed. Thus, interpretation of these findings and their implications remain speculative. Related to the situation of living arrangements is the nature of social relations. We consider social relations next.

Social Relations

The study of social relations, while always important, holds an added layer of significance for aging in Lebanon. Socialization within the family circle is highly encouraged, and indeed social support from immediate and extended

family, as well as friends, provide important resources, and still are considered "the axis of Lebanese values, beliefs and culture" (Farhood et al., 1993, p. 1566). Scholarly writings rarely if ever distinguish between Muslim and Christian Arabs in describing how family dynamics are influenced by gender roles and inadequate government programs. Family is a key social and financial resource in Arab culture irrespective of religion, and maintaining family relations is even more critical for older Arab adults. Indeed, contrary to many other parts of the world, older age is associated with larger networks in Lebanon, as well as with more positivity and less negativity (Antonucci, Ajrouch, & Abdulrahim, 2014). Antonucci and colleagues note that this finding is not consistent with patterns identified in the United States, where networks are smaller among older adults compared with their younger counterparts. Furthermore, it appears that larger networks are not necessarily emotionally draining, and instead may serve as an important resource. This finding bodes well for the fact that in Lebanon, family is an older adult's main source of security in later life, with the government offering little to no support (Abyad, 2001; Sabbah, Vuitton, Droubi, Sabbah, & Mercier, 2007). The importance of social relations for older adults is magnified through findings that stress in interpersonal relations may be more salient for psychological health than sociopolitical stress (Ajrouch et al., 2013). Because social relations are multidimensional, including network structure, support type, and support quality (Antonucci, Ajrouch, & Birditt, 2014), it is important to understand the complexity of its expression and effects in the Lebanese context.

Gender is considered an important factor that determines social experiences in old age. Yet, accumulating evidence suggests that men and women report similar patterns with regard to quantity and prevalence of social relations both within the family and with others outside the family (Ajrouch et al., 2013; Antonucci et al., 2014; Chemaitelly, Kanaan, Beydoun, Chaaya, Kanaan, & Sibai, 2013). Nevertheless, gender relations appear to be especially complex in the Lebanese context. Though men and women report similar experiences generally, high-income women in particular seem differentially advantaged across the life course compared with men in that they report larger networks that are comprised of a higher proportion of family (Antonucci et al., 2014). Such a pattern may describe one consistent exception concerning gender patterns and social support; women received more financial support in later life than men (see also Ajrouch et al., 2013).

Though social relations generally do not vary by gender, the effect of social relations on health does. Social support is significantly associated with women's, but not men's, self-rated health (Chemaitelly et al., 2013). Furthermore, quality of social support, both positive and negative

aspects, appears to matter more than network structure for health and well-being, especially in the presence of stress (Ajrouch et al., 2013; Séoud et al., 2007). In sum, recognizing the nuanced experiences of social relations is particularly relevant to the Lebanese context where family is the main source of support in old age. Nevertheless, social support from family and friends is usually insufficient to meet demands in a chronic care giving situation (Séoud et al., 2007). Further research on social relations is needed to uncover the complexity of social relations in Lebanon. Emerging evidence will hold special significance for policy and program development in this unique country.

Health

Health status of older Lebanese adults is also a concern. As in other parts of the world, women report worse physical health than men in later life (Ajrouch et al., 2013; Al Hazzouri, Sibai, Chaaya, Mahfoud, & Yount, 2011; Chemaitelly et al., 2013). One distinctive aspect of aging in Lebanon is the life-time experience of stress resulting from wars and political instabilities as an influence on health in late life. Mortality, physical health, and psychological well-being among older adults have all been examined in this vein (Ajrouch et al. 2013; Ajrouch et al., 2013; Jawad, Sibai, & Chaaya, 2009; Sibai et al., 2007; Sibai, Fletcher, & Armenian, 2001). For example, one study drawing from data collected during the civil war on the effects of gender, marital status, and coresidence on mortality found marriage to be protective, especially for men (Sibai et al., 2007). Coresiding with an adult child, on the other hand, predicted higher mortality rates. This pattern is explained as potentially resulting from the stress that families faced during times of war. Another study focused on psychological well-being over the life course (Ajrouch et al. 2013). Ajrouch and colleagues found that older adults reported higher levels of stress from war than their younger counterparts. Moreover, among older adults, stressful reactions to the civil war were curvilinearly associated with depressive symptoms. In other words, older adults who reported moderate levels of stress experienced fewer depressive symptoms than those who reported higher or lower levels of stress.

Many aging studies thus far have had an epidemiological focus. Some focus on validating instruments in Arabic (AbiHabib, Chemaitelly, Jaalouk, & Karam, 2011; Chaaya et al., 2008; Nasser & Doumit, 2009; Sibai, Chaaya, Tohme, Mahfoud, & Al-Amin, 2009), whereas others focus on documenting prevalence rates of various chronic conditions (El Bcheraoui, & Chapuis-Lucciani, 2008; Ramahi, Khawaja, Abu-Rmeileh, & Abdulrahim, 2010; Sibai, Nasser, Ammar, Khalife, Harb, & Fuleihan, 2011; Sibai, Hwalla, Adra, &

Rahal, 2003; Waked, Khayat, & Salameh, 2011). While this is useful information, research themes such as the role of religion (Chaaya, Sibai, Fayad, & El-Roueiheb, 2007), nutrition (Boulos, Salameh, & Barberger-Gateau, 2014), and work (Chaaya, Sibai, Tabbal, Chemaitelly, Roueiheb, & Slim, 2009) have also received limited attention in studies on older Lebanese adults.

Data

As in other low and middle-income contexts, Lebanon suffers from lack of population-level data that can produce research evidence and inform social and health policies in general. With respect to older adults, a limited number of secondary data are available to researchers interested in the study of aging. They include the following:

- 1) The National Survey of Household Living Conditions: this survey was carried out in 2004 as a companion to the PAPFAM Study (Pan Arab Project for Family Health), with oversight from the UNDP, Lebanese Central Administration of Statistics, and Ministry of Social Affairs. Lebanese households were selected for the survey through a multistage, cluster-sampling design. After collecting household socioeconomic data and basic demographic data on all household members, surveys were completed with adolescents, women of reproductive age, and older adults separately. With older adults, face-to-face interviews were carried out in which participants were asked about family and social relations, sociodemographic characteristics, and economic conditions. Data on disability and health status were also collected. The sample included participants aged 65 years and older (N = 1774).
- 2) The Nutrition and NonCommunicable Disease Risk Factor Survey: this study followed the WHO STEPwise approach to examine noncommunicable disease risk factors. A nationally representative sample was drawn and data were collected in 2009 using face-to-face and phone interviews to collect information on sociodemographic characteristics, health behaviors, dietary intake, and general health status. Anthropometric measures (e.g., Body Mass Index and blood pressure) were taken using internationally standardized guidelines from those aged ≥ 13 years (3,077). The sample (N = 3,654) included 441 aged ≥ 60 years old (see Center for Aging Studies, www.csa.org.lb).
- 3) The Urban Health Survey (UHS)-Older Adult Component: this data set includes a cross-sectional sample of three communities in the suburbs of Beirut characterized by high poverty levels and high population density. Face-to-face interviews were conducted in 2003 by the Center for Research Population and Health

at the American University of Beirut (Chemaitelly et al., 2013; Jawad et al., 2009). A sample (N = 740) of adults aged 60 years and older answered questions on multiple dimensions of health, social support and economic security.

4) The Family Ties and Aging Study (FTAS): this study (see Abdulrahim et al., 2012) includes a representative sample of the greater Beirut area. Face-to-face interviews were conducted in 2009 to collect data on social relations, health, stress, and migration. Participants included 500 adults aged 18 years and older from the greater Beirut area, with an oversampling of those aged 60 and older.

Policy Issues

The Arab region has often been described as experiencing a "youth bulge." In most Arab countries, the high ratio of youth in the population is a safety net to ensure that older adults will continue to receive the financial and instrumental support they need from their children. This is not the case in Lebanon where aging is taking place against a backdrop of relatively low fertility rates and high outmigration rates of young skilled workers. Therefore, in a cultural context where the family continues to be seen as the primary provider of both financial and social care, older Lebanese adults are faced with a shrinking pool of children and grandchildren who would in the future share the responsibilities of caring for elders.

Yet, policies to protect older adults in Lebanon, as is the case for social protection policies in general, are extremely weak in a country with limited resources and an unstable political system. In 2000, Lebanon reported an old age dependency ratio of 10.8; in other words there were approximately 11 adults aged 65 and older for every 100 persons aged 15-64. The ratio is expected to increase to 27.4 by 2050 (Saxena, 2008). Implications of the increasing dependency-ratio will have negative consequences in a country where no universal social security system exists. For example, only a small segment of the Lebanese, mainly those who work in the military or security forces, receive pensions and health benefits after retirement. Lebanese citizens who work in the public sector and who benefit from the National Social Security Fund (NSSF) lose these benefits upon retirement. Moreover, the majority of private sector employees obtain an end-of-service indemnity upon retirement and not a pension. The end-of-service pay is calculated based on the last month or last year of work, whichever is higher, and is paid in a lump sum upon employment termination (Saxena, 2008). Given that the current social security arrangements benefit only 35% of the population (Kronfol & Sibai, 2013), depletion of government resources to support older adults, which many countries around the world are facing, is not yet a threat in Lebanon.

Furthermore, as labor force participation among women in Lebanon hovers around 22% (Central Administration for Statistics, 2012), a large proportion of nonworking married women who receive benefits through their husbands lose these benefits in their old age. A large proportion of these women outlive their husbands. Current evidence shows that older Lebanese adults in general, and older Lebanese women in particular, receive the majority of their income from their children in later life (Kronfol & Sibai, 2013). However, demographic shifts invite additional concern regarding whether older adults can continue to rely on their children both financially and otherwise. The majority of older Lebanese adults also lose their health coverage when they need it most (Sibai et al., 2004), augmenting the reliance on the family as the sole provider of financial, social, and health care to older adults.

Beyond financial support, social and health care for elders represent another area in need of attention. In traditional Arab families, the family, usually the daughter-inlaw or daughter is expected to provide social and health care for her parents (or parents-in-law) in old age. The concept of placing a parent or grandparent in a nursing home is frowned upon in Arab culture (El-Kholy, 1988). Yet, with smaller family size, providing social and health care within the family is becoming a challenge. This is the case in Lebanon where the number of institutional as well as in-home care options is growing, but remain limited (Naja, 2012). For instance, Naja reports that the number of nursing and care service institutions has increased during the past decade, with the total number of facilities numbering 49, housing 4,000 elders or 1.4% of older adults. Limited support from the government makes institutional care options unevenly available to the general population.

Another form of social and health care provision is immigrant women. In the Global North, provision of care for elders by immigrant women from low-income countries is prevalent, but presents one option among few. In Lebanon, migrant domestic workers from the Philippines, Sri Lanka, and Ethiopia increasingly provide much of the social care in Lebanese families, including skilled care to older adults (Abdulrahim, 2010; Abdulrahim & Abdul Malak, 2012). In the absence of publically funded services or adequate policies, Lebanese families turn to hiring an immigrant woman to provide services that family members used to provide a generation or two ago. Hiring a live-in migrant caregiver has the advantage of allowing the older adult to stay in her/his home as long as possible. However, the sponsorship system through which immigrant women are hired is fraught with abuse. In theory, migrant women are hired through an employment agency through a

sponsorship system, whereby the employee is allowed entry into Lebanon under the condition that she will work for a specific employer for two years. In most cases, the migrant is hired as a domestic worker, not a skilled caregiver, and is compensated a salary in the range of \$150–\$300 a month (Abdulrahim, 2010). In the case where a migrant domestic worker is expected to provide elderly or skilled care, her work experience is determined not only by the relationship with the older adult but also by the extent to which family members provide the caregiver with support.

Despite the weak policy context and the absence of formal government support, increasing attention to aging by nongovernmental agencies (NGOs) is helping to address unmet needs for financial, social, and health care. A large number of institutions now provide services to older adults in Lebanon, though the majority is found in urban areas. Moreover, while essential support comes from the Ministry of Social Affairs and the Ministry of Public Health, government resources comprise less than 25% of the funding needed for such services (Naja, 2012). For instance, the United Nations Population Fund has provided financial resources to advocate for a better understanding of aging issues in Lebanon and enhancement of service delivery (http://www.unfpa.org. lb/). Furthermore, a number of local NGOs are active both as service providers and advocacy groups. Of those, two deserve mention: the Center for Studies on Aging (CSA) and Balsam. CSA promotes the integration and active participation of older adults in Lebanese society through research, policy, and training (www.csa.org.lb). Two of the organization's projects are the University for Seniors and Age-Friendly Cities. Informed by the active aging movement, and research and meetings in Lebanon, CSA has been advocating for instituting structural (e.g., transportation) and social (e.g., inclusive living) changes in a northern Lebanese city (Tripoli) in order to be designated an age-friendly city (CSA, 2011). While CSA's projects promote active aging, Balsam's mission is to provide holistic palliative care to people at the end of life (www.balsam-leb.org). Balsam has been actively engaged in changing policies in Lebanon that restrict general practitioners' ability to prescribe pain medication to their terminally ill patients. In sum, there are many issues to consider in the area of aging policy in Lebanon. These include: the need to develop an overarching social security program for all elders, the provision of government supported formal care options, as well as better oversight and regulation of inhome immigrant care workers.

Emerging Issues

Political instabilities in Lebanon affect the well being of all age groups, but older adults are particularly vulnerable. Such events introduce potential demographic changes not only

when they happen inside a country but also when they take place in neighboring countries. The political conflict in Syria, which has generated one of the largest refugee crises in modern times, has exerted a heavy toll on Lebanon. While most of the displacement is internal, a large proportion of Syrians who were forced to leave their homes have fled to neighboring countries-Turkey, Iraq, Jordan, and Lebanon. Among the refugee receiving countries, Lebanon has perhaps been most affected due to its small population and its own political instabilities. Yet, in contrast to Turkey and Jordan, and in part because of its own political situation, the Lebanese government has not been included as full partner in the international humanitarian response to the Syrian refugee crisis. In April of 2014, the number of Syrian refugees registered with the United Nations High Commissioner for Refugees (UNHCR) surpassed one million in Lebanon (United Nations Refugee Agency, 2014). In a country of four million citizens, this means that one in every five people in Lebanon is a Syrian refugee. Oftentimes, the needs of older refugees are neglected as most of the attention of international relief agencies turns to preventing malnutrition and infectious disease among children and women of reproductive age. In October and November of 2013, Handicap International and HelpAge conducted one of the first assessments that focused on refugees with special needs including older adults. Their report, published in 2014, showed that while older adults constitute 4%-5% of the Syrian refugee population, they make up 10 percent of refugees with special needs (HelpAge International and Handicap International, 2014). Moreover, older adults were twice as likely as the general Syrian refugee population to express symptoms of psychological distress.

In sum, Lebanon is a country in the Arab region experiencing a rapidly aging population and unique economic circumstances. Demographic shifts due to declining fertility and mortality rates are compounded by high rates of out-migration. Research on aging is growing, with focused attention to the issues of living arrangements, social relations, and health. Policy challenges abound concerning the financial and social realms. Emerging issues include the relative success of NGOs in filling gaps to address the needs for an aging society. Nevertheless, Lebanon remains vulnerable to regional and internal political instabilities, continually threatening advances made and the ability to address needs that accompany an aging population. For better or worse, the unique historical, political, and security issues of Lebanon offer an unusual window into the large number of factors that can influence the aging experience.

References

Abdulrahim, S. (2010). Servant, daughter, or employee? A Pilot Study on the Attitudes of Lebanese Employers towards Migrant

- Domestic Workers. Beirut, Lebanon: KAF and Danish Refugee Council.
- Abdulrahim, S., & Abdul Malak, Y. (2012). The health of female migrant workers in the Arab region. In R. Giacaman, S. Jabbour, M. Khawaja, & I. Nuwayhid (Eds.), *Public Health in the Arab World*. Cambridge: Cambridge University Press.
- Abdulrahim, S., Ajrouch, K. J., Jammal, A., & Antonucci, T. C. (2012). Survey methods and aging research in an Arab socio-cultural context a case study from Beirut, Lebanon. *Journal of Gerontology Social Sciences*, 67, 775–782. doi:10.1093/geronb/gbs083
- AbiHabib, L.E., Chemaitelly, H.S., Jaalouk L.Y., & Karam N.E. (2011). Developing capacities in aging studies in the MiddleEast: implementation of an Arabic version of the CANE among community-dwelling older adults in Lebanon. *Aging and Mental Health*, 15, 605–617. doi:10.1080/13607863.2011.562351
- Abyad A. (2001). Healthcare for older persons: A country profile— Lebanon. *Journal of American Geriatric Society*, **49**, 1366–1370. doi:10.1046/j.1532-5415.2001.49268.x
- Ajrouch, K. J., Abdulrahim, S., & Antonucci, T. C. (2013) Stress, social relations, and psychological well-being over the life course: a focus on Lebanon, GeroPsych. The Journal of Gerontopsychology and Geriatric Psychiatry, 26, 15–28. doi:10.1024/1662–9647/a000076
- Ajrouch, K. J., Yount, K., Sibai, A. M., & Roman, P. (2013) A gendered perspective on well-being in later life: Algeria, Lebanon, and Palestine. In S. McDaniel, & Z. Zimmer (Eds.), Global Ageing in the 21st Century (pp.49–77). Surrey, UK: Ashgate Publishing.
- Al Hazzouri, A. Z., Sibai, A. M., Chaaya, M., Mahfoud, Z., & Yount, K. M. (2011). Gender differences in physical disability among older adults in underprivileged communities in Lebanon. *Journal of Aging and Health*, 23, 367–382. doi:10.1177/0898264310385454
- Al-Khouri, R. (2004). Arab migration patterns: the mashreq. In League of Arab States and International Organization for Migration (Eds.) Arab Migration in a Globalized World (pp. 21–34). Geneva, Switzerland: International Organization for Migration.
- Amery, H. A., & Anderson, W. P. (1995). International migration and remittances to a Lebanese village. *The Canadian Geographer/Le Geographecanadien*, 39, 46–58. doi:10.1111/j.1541-0064.1995. tb00399.x
- Antonucci, T. C., Ajrouch, K. J., & Abdulrahim, S. (2014). Social relations in Lebanon: convoys across the life course. *The Gerontologist*. doi:10.1093/geront/gnt209
- Antonucci, T. C., Ajrouch, K. J., & Birditt, K. S. (2014). The convoy model: Explaining social relations from a multidisciplinary perspective. *The Gerontologist*, 54, 82–92. doi:10.1093/geront/gnt118
- Boulos, C., Salameh, P., & Barberger-Gateau, P. (2014). Factors associated with poor nutritional status among community dwelling Lebanese elderly subjects living in rural areas: results of the AMEL study. *The Journal of Nutrition, Health & Aging*, 18, 487–494. doi:10.1007/s12603-014-0463-y
- Central Administration of Statistics. (2012). Population and housing characteristics in Lebanon, Statistics In Focus (SIF), Beirut, Lebanon, Issue number 2. Retrieved September 25, 2014, from

- http://www.cas.gov.lb/images/PDFs/SIF/CAS_Population_and_housing_In_Lebanon_SIF2.pdf
- Chaaban, J. (2010). Labor Markets Performance and Migration Flows in Lebanon. Florence, Italy: Robert Schuman Centre for Advanced Studies, European University Institute.
- Chaaya, M., Sibai, A. M., Fayad, R., & El-Roueiheb, Z. (2007). Religiosity and depression in older people: Evidence from underprivileged refugee and non-refugee communities in Lebanon. *Aging & Mental Health*, 11, 37–44. doi:10.1080/13607860600735812
- Chaaya, M., Sibai, A. M., Roueiheb, Z. E., Chemaitelly, H., Chahine, L. M., Al-Amin, H., et al. (2008). Validation of the arabic version of the short Geriatric Depression Scale (GDS-15). *International Psychogeriatrics*, 20, 571–581. doi:10.1017/ S1041610208006741
- Chaaya, M., Sibai, A.M., Tabbal N, Chemaitelly H, Roueiheb Z, & Slim ZN (2009). Work and mental health: the case of older men living in underprivileged communities in Lebanon. *Ageing and Society*, 30, 25–40. doi:10.1017/S0144686X09990171
- Chemaitelly, H., Kanaan, C., Beydoun, H., Chaaya, M., Kanaan, M., & Sibai, A. M. (2013). The role of gender in the association of social capital, social support, and economic security with self-rated health among older adults in deprived communities in Beirut. Quality of Life Research, 22, 1371–1379. doi:10.1007/s11136-012-0273-9
- CSA. (2011). Age-Friendly Cities: An Opportunity for Friendly Aging. Policy Brief Issue 5 June 2011. Beirut, Lebanon: Center for Studies on Aging.
- El Bcheraoui, C., & Chapuis-Lucciani, N. (2008). Obesity in the Lebanese elderly: prevalence, relative risks and anthropometrical measurements. The Lebanese Medical Journal, 56, 174–180.
- El-Jardaly, F., Dumit, N, Jamal, D., Mouro, G. (2008). Migration of Lebanese nurses: a questionnaire and secondary data analysis. *International Journal of Nursing Studies*, 45, 1490–1500. doi:10.1016/j.ijnurstu.2007.10.012
- El-Kholy, A. A. (1988). The Arab American family. In C. H. Mindel, & R. Habenstein (Eds.), *Ethnic Families in America: Patterns and Variations*, (pp. 145–162). New York: Elsevier.
- Faour, M. A. (2007). Religion, demography, and politics in Lebanon. Middle Eastern Studies, 43, 909–921. doi:10.1080/00263200701568279
- Farhood, L., Zurayk, H., Chaya, M., Saadeh, F., Meshefedjian, G., & Sidani, T. (1993). The impact of war on the physical and mental health of the family: the Lebanese experience. *Social Science & Medicine*, 36, 1555–1567. doi:10.1016/0277-9536(93)90344-4
- HelpAge International and Handicap International. (2014). *Hidden victims of the*#8232;*Syrian crisis: disabled, injured and older refugees*. London: HelpAge International.
- Hourani, A., & Shehadi, N. (Eds.). (1992). *The Lebanese in the world: a century of emigration*. Centre for Lebanese Studies in association with I. B. Tauris.
- Hourani, G. G., & Sensenig-Dabbous, E. (2007). *Insecurity, migration and return: The case of Lebanon following the Summer 2006 War.* Florence, Italy: Robert Schuman Centre for Advanced Studies, European University Institute.
- Jawad, M. H., Sibai, A. M., & Chaaya, M. (2009). Stressful life events and depressive symptoms in a post-war context: which

- informal support makes a difference? *Journal of Cross-Cultural Gerontology*, **24**, 19–32. doi:10.1007/s10823-008-9059-5
- Joseph S. (1993). Connectivity and patriarchy among urban working class families in Lebanon. *Ethos*, 21, 252–284. doi:10.1525/eth.1993.21.4.02a00040
- Kronfol, N. & Sibai, A. M. (2013). Ageing in Lebanon: Evidence and challenges. In J. Troisi, & H.-J. von Kondratowitz (Eds.), Ageing in the Mediterranean (pp. 325–344). Bristol, UK: Policy Press. doi:10.1332/policypress/9781447301066.003.0015
- Kulczycki, A., & Saxena, P. C. (1999). New evidence on fertility transition through wartime in Lebanon. *Genus*, 131–152.
- Living Conditions of Households. (2006). National Survey of Household Living Conditions. Central Administration for Statistics and UNDP. Retrieved from www.socialaffairs.gov.lb/docs/pubs/LCH-en.pdf
- Naja, N. (2012). Long-term stay institutions in Lebanon. J Med Liban, 60, 252–256.
- Nasser, R., & Doumit, J. (2009). Validity and reliability of the Arabic version of activities of daily living (ADL). BMC Geriatrics, 9, 11. doi:10.1186/1471-2318-9-11
- Ramahi, T., Khawaja, M., Abu-Rmeileh, N., & Abdulrahim, S. (2010). Socio-economic disparities in heart disease in the Republic of Lebanon: findings from a population-based study. Heart Asia, 2, 67–72. doi:10.1136/ha.2009.000851
- Sabbah, I., Vuitton, D. A., Droubi, N., Sabbah, S., & Mercier, M. (2007). Morbidity and associated factors in rural and urban populations of South Lebanon: a cross-sectional community-based study of self-reported health in 2000. *Tropical Medicine & International Health*, 12, 907–919. doi:10.1111/j.1365-3156.2007.01886.x
- Salibi, K. S. (2003). A house of many mansions: the history of Lebanon reconsidered. London, UK: IB Tauris.
- Saxena, P. (2008). Ageing and age-structural transition in the Arab countries: Regional variations, socioeconomic consequences and social security. *Genus*, 64, 37–74.
- Séoud, J., Nehmé, C., Atallah, R., Zablit, C., Yérétzian, J., Lévesque, L.,...Ducharme, F. (2007). The health of family caregivers of older impaired persons in Lebanon: an interview survey. *International Journal of Nursing Studies*, 44, 259–272. doi:10.1016/j.ijnurstu.2005.11.034
- Sibai, A. M., Fletcher, A., & Armenian, H. K. (2001). Variations in the impact of long-term wartime stressors on mortality among the middle-aged and older population in Beirut, Lebanon, 1983--1993. American Journal of Epidemiology, 154, 128–137. doi:10.1093/aje/154.2.128
- Sibai, A. M., Hwalla, N., Adra, N., & Rahal, B. (2003). Prevalence and covariates of obesity in Lebanon: findings from the first

- epidemiological study. *Obesity Research*, 11, 1353–1361. doi:10.1038/oby.2003.183
- Sibai, A.M., Chaaya, M., Tohme, R.A., Mahfoud, Z., & Al-Amin, H. (2009). Validation of the Arabic version of the 5-item WHO well being index in elderly population. *International Journal of Geriatric Psychiatry*, 24, 106–107. doi:10.1002/gps.2079
- Sibai, A.M., Nasser, W., Ammar, W., Khalife, M.J., Harb, H., & Fuleihan, G.E.H. (2011). Hip fracture incidence in Lebanon: a national registry-based study with reference to standardized rates worldwide. Osteoporosis International, 22, 2499–2506. doi:10.1007/s00198-010-1468-y
- Sibai, A. M., Beydoun, M. A., & Tohme, R. A. (2009). Living arrangements of ever-married older Lebanese women: is living with married children advantageous? *Journal of Cross-Cultural Gerontology*, **24**, 5–17. doi:10.1007/s10823-008-9057-7
- Sibai, A. M., Sen, K., Baydoun, M., & Saxena, P. (2004). Population ageing in Lebanon: Current status, future prospects and implications for policy. *Bulletin of the World Health Organization*, 82, 219–225. doi:10.1590/S0042-96862004000300012
- Sibai, A. M., Yount, K. M., & Fletcher, A. (2007). Marital status, intergenerational co-residence and cardiovascular and all-cause mortality among middle-aged and older men and women during wartime in Beirut: gains and liabilities. Social Science & Medicine, 64, 64–76. doi:10.1016/j. socscimed.2006.08.006
- Tabar, P. (2010). Lebanon: A Country of Emigration and Immigration. Working Paper Institute for Migration Studies Lebanese American University.
- Tohme, R. A., Yount, K. M., Yassine, S., Shideed, O., & Sibai, A. M. (2011). Socioeconomic resources and living arrangements of older adults in Lebanon: who chooses to live alone? *Ageing and Society*, 31, 1–17. doi:10.1017/S0144686X10000590
- Traboulsi, F. (2007). *A history of modern Lebanon*. London: Pluto. United Nations. (2011). *Lebanon*. Retrieved from http://unstats.un.org/unsd/pocketbook/PDF/2013/Lebanon.pdf
- United Nations Refugee Agency. (2014). Syrian refugees in Lebanon surpass one million. Retrieved from http://www.unhcr. org/533c15179.html
- Waked, M., Khayat, G., & Salameh, P. (2011). Chronic obstructive pulmonary disease prevalence in Lebanon: a cross-sectional descriptive study. Clinical Epidemiology, 3, 1315–323. doi:10.2147/CLEP.S26350
- World Factbook. (2014). *Lebanon*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/le.html
- World Health Organization. (2012). Country Profile: Lebanon. Retrieved from http://www.who.int/countries/lbn/en/