# ARE THERE HEALTH DISPARITIES AMONG JORDANIAN OLDER ADULTS? POTENTIAL FACTORS (PART 1)

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**Abstract**

Older adults in Jordan are confronted with emerging health issues. They have diabetes, hypertension, chronic heard diseases and other conditions causing them to have a poor quality of life compared to other segments of Jordanian population and others in neighbor countries, such as North Africa and Arab countries. This paper will shed light on the health variables and challenges that Jordanian older adults have vis-à-vis biologic, genetic, socio-cultural, environmental factors, health behaviors, and health literacy. Such issues that may be potential seeds of health disparities, placing older adults at higher risk for adverse health outcomes in comparison with other age groups in Jordan as well as their counterparts in surrounding countries.

**Keywords:** Jordanian older adults, health disparities, health issues

## Introduction

The ultimate endeavors to address Jordanian older adults deeply are driven by the lack of relevant inquiries as well as the absence of designated specialized healthcare services targeting Jordanian elders (Mahasneh, 2000). Overtime, Jordanian older adults have faced several health challenges and obstacles, getting in the way of their desirable health outcomes. Various daily life challenges emanating from physical, psychological, social, and environmental aspects disrupt the health status of older adults. Based on a survey conducted by Mahasneh (2000), Jordanian older adults face several chronic diseases as follows: “arthritis (48.6%), high blood pressure (37.4%), diabetes (26.9%), heart problems (14.0%), and accidents and falls (11%)”(p. 43). The same survey revealed that the most of older adults perceive their health status as good (63.6%), poor (26%), and few classified their health status as excellent (10.5%)(Mahasneh, 2000). In Jordan, physical inactivity alongside smoking, obesity, and unhealthy diet have significantly become serious risk factors of non-communicable diseases, such as cardiovascular

diseases, cancer, and diabetes (Al-Nsour, et al., 2012; Zindah, Belbeisi, Walke, & Mokdad, 2008).

Alongside health challenges, Jordanian older adults with chronic diseases have reached a critical position subsequent to the influxes of Syrian refugees. The aspects of this issue are as follows: inadequate healthcare services, disturbance in social cohesion, disruptive living environment, and increasing demand on water resources (Ministry of Planning, 2013). Based on Mahasneh's (2000), the major obstacles that get in the way of having appropriate health services among Jordanian older adults are as follows: high healthcare cost (70.1%), uninsured (14.3%), not appropriate intervention or treatment (7.8%), and the prescribed treatment was not found (7.8%). Such barriers could also impede Jordanian older adults in obtaining the equal chances of healthcare services and widen the gap between older adults and other age groups in the context of desired health outcomes in Jordan.

As a result, the variations in health outcomes are assimilated into something called health disparities. Referring to Centers for Disease Control and Prevention (CDC)'s definition of health disparities, "Health disparities are preventable differences in the burden of disease, injury, violence, or in opportunities to achieve optimal health experienced by socially disadvantaged racial, ethnic, and other population groups, and communities" (2013, para. 1). In other words, the health outcomes differences coming up due to variations in the biological, physical, social economical status, environmental issues, health behaviors, and health literacy between older adults and other age groups are referred to as health disparities. It is noteworthy to look at health disparities in Middle East, North Africa, and Arab countries within the same geographical region as Jordan.

The health policies in the region of the Middle East and North Africa have to undergo a reform in order to eradicate health disparities through expanding the umbrella of health insurance coverage to entail all poor, delivering high quality health services to rural or underserved areas, and tailoring appropriate interventions to poor people in the community (Iqbal, 2006). The Government of Jordan, represented by the Ministry of Health, is commissioned to provide health services to Jordanian people who have governmental insurance; it also functions as a safety network of health insurance for Jordanians who have no health insurance coverage (civil, military, UNRWA, private) (WHO, 2009). Razzak and colleagues' (2011) state that health disparities have risen between the countries regarded as Muslim-Majority Countries (MMC) (48 countries) and non-MMC (142 countries) concerning life expectancy, maternal mortality, and infant mortality rate, in which maternal and infant mortality rates in MMC are twice as high as in non-MMC. The reasons behind these disparities imply the differences of health determinants, "such as education, wealth, and

infrastructure" (Razzak, et al., 2011, p. 662). Although Jordan is one of MMC and has only US$ 4903 as GDP per capita, it precedes United States in terms of the life expectancy, which has a US$ 45,790 GDP per capita (Razzak, et al., 2011).

Some of these differences could contribute largely to health disparities in older adults as they experience the common pitfalls associated with healthcare systems in Arab countries. These common pitfalls comprise limitations of the healthcare package in most Arab countries (i.e. dental services), long waiting periods to get healthcare services in the public sector driving people to seek healthcare in private settings, people with mental retardation, low educational status, and living in rural areas. All of these situations make access to healthcare difficult and therefore inadequate (Kronfol, 2012). In the light of health disparities, most of Arab countries lack the comprehensive strategies of prioritizing the health equities as major health outcomes. Only four countries, Jordan, Oman, Morocco, and Sudan have such a strategy (Salem, 2009 as cited in IUSSP Scientific Panel, seminar, 2009). In 2008, the Jordanian strategy was named as "The National Jordanian Strategy for Senior Citizens", aiming to ameliorate the quality of daily life for Jordanian senior citizens. This strategy is originally based on 'Arab and Islamic values', 'the principles of UN 1991 regarding older adults', 'the regional and international action plans', and 'the Jordanian referential documents.' (NCFA, 2008, p. 10).

In United States, Health People has been launched presenting 10-year national objectives to promote the health of all Americans. In the context of pertinent *Healthy People 2020* objectives, the topics categorized under Older Adults group are the most likely to be applicable for Jordanian older adults. Older Adult is a new field that has been added to *Healthy People 2020*, intending to improve the quality of life in elders. Such topics include ameliorating behavioral determinants, eliminating health disparities among minorities, and promoting the quality of healthcare services and its access (Healthy People, 2014). These goals are in concordance with what the Jordanian professionals are attempting to fulfill within the upcoming few years, cultivating the proposed strategies of older adults, in particular, the *National Jordanian Strategy For Senior Citizens*. *Healthy People 2020* project contains health objectives that could be beneficial to Jordanian health professions.

## I.
## Significance of the problem

In order to explore health disparities objectively in Jordan, it is important to report briefly the essential efforts being spent by Jordanian health authorities to deliver the essential health services to all Jordanian

people prior to pointing out the roots of health disparities. The World Development Indicators show that the public health expenditure in Jordan is 4.3% of GDP, which is the highest among the other countries in the Middle East and North Africa (as cited in Iqbal, 2006). In addition, it is common for some Jordanian people to enroll in more than one health insurance (World Health Organization and Jordan's Ministry of Health, 2011).

Despite the large public health expenditures and wide-spread health insurance to promote the health status of Jordanian people, including older adults, the way the Jordanians live stands in opposition to what the healthcare professionals intend to recommend regarding healthy diet and exercises. It is clearer than any other time that obesity, unhealthy diet, and low physical activity are essential reasons behind the increasing burden of chronic diseases on healthcare services system in Jordan, and it will continue to be over upcoming years (Zindah, et al., 2008). Zindah and colleagues (2008) recommend that it is important to educate the Jordanian people about the importance of physical activity and raise their children in active play rather than spending time on the computer or television, and urge the policy makers who can help by establishing a positive atmosphere that encourages people to partake in daily physical activity.

The economical factor also comes to play in the court of health disparities, attenuating the combined endeavors to promote the health status of older adults over the whole country. In 2006, the percentages of poverty are different from one area or governorate to another, varying from the lowest poverty level in Amman (9.43%) to the highest level in Mafraq (22.98%) (World Bank, DOS, 2009). These huge discrepancies in poverty offer different levels of healthcare quality targeting older people in Jordan.

**Health Expenditures in 2002**

| Country | Health Expenditure (% of GDP) | | | Health Expenditure (US$ per capita) |
|---|---|---|---|---|
| | Public | Private | Total | |
| Algeria | 3.2 | 1.1 | 4.3 | 77 |
| Arab Republic of Egypt | 2.4 | 3.6 | 6.0 | 79 |
| Islamic Republic of Iran | 2.9 | 3.1 | 6.0 | 104 |
| Jordan | 4.3 | 5.0 | 9.3 | 165 |
| Lebanon | 3.5 | 8.0 | 11.5 | 568 |
| Morocco | 1.5 | 3.1 | 4.6 | 55 |
| Syria | 2.3 | 2.8 | 5.1 | 58 |
| Tunisia | 2.8 | 2.8 | 5.6 | 126 |
| Republic of Yemen | 1.0 | 2.7 | 3.7 | 23 |
| Middle East and North Africa | 2.9 | 3.0 | 5.9 | 89 |
| Lower-middle-income countries | 2.5 | 3.3 | 5.8 | 75 |

Table 1. World Development Indicators (as cited in Iqbal, 2006).

**Biologic and Genetic Issues**

The prevalence of diabetes among Jordanian people is considered as one of the highest ratios in the region and the world, in which the prevalence of diabetes was 13.4% (14.9% in males, 12.5% in females) (Ajlouni, Jaddou, & Batieha, 1998). Gallagher, Gebhard, and Nash (2008) have posited an explanation for the high incidence of diabetes and obesity in Jordan is what is called "starvation or thrifty gene" (p. 9). They justified their postulation based on a theory proposed by James Neel in 1962, stating Pima Indians had experienced periods of feast and famine on a regular basis, pushing these people to keep fat in order to face the time of famine. Thus, a thrifty gene has developed contributing to these people becoming over-weighted and vulnerable to diabetes (NIDDK, n.d.). Jordanian medical professionals observe that the historical roots of living as "nomadic Bedouins" in the past make the Jordanian population more vulnerable to diabetes (Ajlouni, personal interview, 2008 as cited in Gallagher, et al., 2008), similar to Pima Indians (NIDDK, n.d.). This point could be used to explain the high relative risk of having diabetes in Jordanian people, as a thrifty gene could have developed in the same way as it did in the Pima Indians. The strategy of combating diabetes in Jordan implies the holistic approach, recommending eating healthy food, encouraging physical activity, controlling hyperglycemia, improving diabetes management, as well as minimizing the modifiable risk factors of diabetes ("MENA Diabetes Leadership," 2010). Zindah and colleagues (2008) reported that a Behavioral Risk Factors Surveillance Survey (BRFSS) issued by the MOH in collaboration with the CDC revealed performing physical activity on a daily basis is followed by less than half of Jordanian adults only.

**Sociocultural Issues**

In terms of social structure, most of the Jordanian older adults who participated in Mahasneh's survey (2000) live with their spouses and unmarried children (44.3%). In addition, 38% of the sample lives without any assistance at home. Not being safe at home reported by older participants in the same study is due to family issues, fearing of living alone, uncomfortable winter temperatures (Mahasneh, 2000). The common life style that Jordanian people have become accustomed to puts them at a higher risk for developing chronic diseases (i.e. diabetes) as a result of a lack of physical activity on a daily basis (Gallagher, et al., 2008). In addition, the high membership cost of fitness centers, which could reach JD1000 annually, gets in the way of practicing regular physical activities and exercises (Naffa, personal interview, 2008 as cited in Gallagher, et al., 2008). Another reason contributing to low physical activity is that the local authorities have not paid enough attention to "prominent parks or public recreational areas" in

concordance with the dramatic change in infrastructure in Amman (Gallagher, et al., 2008). As a member of the Jordanian culture, Jordanians consider their job is a kind of exercises that perform on a routine basis, overlooking the standard definition of exercise, which denotes the practicing activities for a defined time on a regular basis. This cultural view arises from lack of the awareness of the importance of performing exercises as preventive strategy against the health issues.

In terms of economical conditions, Jordan is considered as an upper-middle income country (GDP $ 28.87 billion in 2012), around 0.1% of its population are under international poverty headcount ratio ($1.25 a day) and 13.3% under poverty headcount ratio at national poverty line (The World Bank, 2012), which place Jordanian older adult at stake with financial burdens while seeking for healthcare services. In addition, older adults with some of chronic diseases could get in their way of finding job opportunities. For instance, people with mental health problems are likely to have less education chances and job opportunities, which in turn, put these patients at higher risk for being poor in their life and vice-versa, and as a result, less life chances leading to disruptive mental health (World Health Organization, Mental Health and Poverty Project, 2010). On the other side, continuous influxes of refugees from surrounding countries, in particular, Syria, contributes to disturbing the social cohesion, which is one of the distinguished features of Jordanian culture. Consequently, older adults have less social support as a result of lack of social cohesion, and face "increased social tension, violent crime, targeting of certain groups, human rights violations, and, ultimately, conflict."(Ministry of Planning, 2013, p. 101). As a result, more health disparities become prominent, depriving older adults with chronic diseases of the appropriate assistance from their social context in a timely manner.

**Environmental Issues**

Geographical distribution of Jordanian population affects the quality of healthcare services provided by health professionals. Alongside health inequities based on rural-urban differences, people living in rural areas are largely exposed to poverty and social exclusion issues (Boutayeb & Helmert, 2011). Jordanian elders face these challenges while intending to get high quality healthcare services in the major urban areas coming from rural areas. Despite presence of appropriate, designated, health infrastructure, geographic disparities are clear and shown through the number of beds in hospitals per capita in the capital, Amman, and some rural governorates (3:1) and, by the same token, the number of physicians working in Amman compared to some other rural governorates (3:1) (World Bank, 1997). The previous geographic disparities could not be explained by the variation in population between

Amman and other cities. In 2012, the Jordanian population in Amman was 2,473,400 and in the second ranked city, Irbid was 1,137,100 (DOS, 2012).

Remarkably, the quality of healthcare services delivered by hospitals is significantly varied over the different regions in Jordan vis-à-vis gender, age and region; people living in south have less quality of health services than who living in north (Abu-Kharmeh, 2012). As a result, older adults could be treated unequally based on the region they reside in resulting in health disparities.

**Health Behaviors**

Jordanians are increasingly accustomed to be more westernized in their daily routine denoting less actively engaged, eating unhealthy food, and living under stressful situations (Haddad, Al-Ma'Aitah, & Grace Umlauf, 1999). Developing social marketing programs that promote health promotion could be effective in encouraging people to perform several types of exercise in light of the inadequate preventive healthcare (Haddad et al., 1999). In the light of Jordan's Behavioral Risk Factors Surveillance Survey (BRFSS) 2007 and Jarash and Ajloun s' (Two Jordanian governorates) BRFSS 2012 conducted by Al-Nsour (2012), physical inactivity deprives a lot of Jordanian people, including older adults, of health benefits associated with higher physical activity levels and regular exercise. Such benefits play a positive health role through protecting individuals from various health issues, such as premature death, chronic diseases, less aerobic capacity, and muscle weakness (PCPFSRD, 2008).

Regarding Jordanian older adults, on the first hand, they are less likely to participate in health-promoting behaviors (B=-0.126) in comparison with adult population. On the other hand, Jordanian adults are more likely to engage in the physical actives (B=0.135) compared to Jordanian older adults (B=-0.150) (Ammouri, 2008). And thus, this is a distinct discrepancy in adopting health promotion activities on a daily basis, which in turn, could raise health disparities in the context of the desired health outcomes between older adults and other age populations.

In addition, women could be more vulnerable to adverse health outcomes related to sedentary life characteristic of the Arab custom, which hinders women from exercising in public (Haddad, Al-Ma'aitah, & Umlauf, 1998) impacting older adult women more than older adult men. In addition to the previous point, the problem of not incorporating exercise into daily life or not making it a higher priority in the life of Jordanian people has risen due to lack of efforts spent from schools, universities, and local organizations in community (Haddad, et al., 1998). Therefore, it is recommended that surveys targeting healthy life style components, including physical activity and healthy diet based on age groups, should be conducted to address this issue

deeply, provide necessary information, and tailor the appropriate interventions for Jordanian older adults. Convincing these people that physical inactivity and lack of exercise contributes to chronic illness is an important goal for an intervention and is essential in promoting well-being and a higher quality of life regardless of their current level of health.

**Health Literacy**

The Health Resources and Services Administration (HRSA) has conceptualized health literacy as "the degree to which individuals have the capacity to obtain, process and understand basic health information needed to make appropriate health decisions and services needed to prevent or treat illness." (HRSA, n.d., para. 1). Health literacy is a multi-dimensional, entailing "seven distinct dimensions: functional literacy, factual and procedural knowledge, awareness, a critical dimension, an affective dimension and attitudes." (Frisch, Camerini, Diviani, & Schulz, 2012, p. 124). In which age, educational status, and income predict to which extent older adult engages in physical activity (Browning, Sims, Kendig, & Teshuva, 2009) considering their existing health conditions.

Jordan, represented by the Jordanian Ministry of Education, intended to eliminate illiteracy to reach 5% in 2010 (UNESCO, 2003). The World Bank reported that the illiteracy rate reached 8.9%, which is the third lowest illiteracy rate among Arab countries in 2009 (World Bank, 2009). However, a half of Jordanian older adults are illiterate (50.7%) and only around one third have less than a high school education (30.2%) (DOS, 2004 as cited in NCFA, 2008). Unlike younger adults, older adults are more vulnerable to inadequate health literacy with aging (Zamora & Clingerman, 2011) correlating to general health literacy, resulting in poor undesired outcomes (Pearce & Clark, 2013). In addition to the previous point, significant correlation has been shown in the pertinent studies between health literacy and cognitive ability of older adults (Serper, et al., 2014). Alongside, the full lack of health literacy studies in Jordan; healthcare professionals need to be made aware of comprehension of health information by older adults with chronic diseases. Thus, the proposed interventions (i.e. distributing brochures, poster, flyers, informational meetings, and surveys alongside getting family, younger generations, and peers involved by primary healthcare providers at local centers) should comply with the characteristics of Jordanian older adults themselves

In addition, social myth about falls, injuries, and fractures that pertains to the ability to exercise at an advanced age plays a major role in hindering the older adults' willingness toward performing regular exercise, demanding more effort to be undertaken to eradicate such misconceptions. In light of the previous discussion, combating the health illiteracy among older

adults should be an important priority that Jordanian authorities have within the upcoming few decades. Because of close-knit family structures, Jordanian culture has a high level of social support. Social support could play a major role in encouraging the physical activity in middle-aged and older adults (White, Wójcicki, & McAuley, 2012). Some demographic issues, such as illiterate older adults, could get in the way of the sustainability of regular exercise on a weekly basis which might be addressed by close-knit family structure; highly educated older adults are more likely to engage in physical activity than others (Browning, et al., 2009). However, health literacy studies focusing specifically on Jordanian older adults are regrettably lacking.

**Conclusion**

Jordanian older adults with chronic diseases have increasingly confronted several emerging health issues that get in the way of the successful aging in their later life. Such health issues could arise from health discrepancies between older adults and other segments of the Jordanian population vis-à-vis biologic, genetic, socio-cultural, and environmental factors, health behaviors, and health literacy. The *National Jordanian Strategy For Senior Citizens* has been launched as a primary step in an attempt to shed light on this fastest-growing group in the Jordanian population, rather than leaving them forgotten as age. All health disparities related-issues necessitate prompt actions and combined efforts spent by personnel in both private and public sectors, in which their efforts are directed toward health research, education, and practice as well as infrastructure specific to older adults.

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