

Health profile of elderly patients registered in the Elderly Home Based Primary Care, Dubai, United Arab Emirates

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ABSTRACT

Introduction: The proportion of the elderly population in the United Arab Emirates is constantly growing. The aging population presents a challenge for the public healthcare system. Accurate health data is required both from an epidemiological and strategic health care planning perspective.

Objectives: To estimate the prevalence of disease, impairment and disability among the elderly.

Methodology: A retrospective study was carried out and records of comprehensive assessment forms of elderly patients aged 60 years and over registered in the elderly home based primary care at Dubai Health Authority were reviewed and analyzed.

Results: The gender ratio of the elderly patients in the study was 2.1 female: 1.0 male. The mean (SD) age was 78.77 (9.50) years. The majority of elderly patients (70.4%) had 4 or more multiple chronic conditions. The most common prevalent disease was hypertension (67.5%), followed by dementia (57.8), diabetes mellitus (52.4%), osteoarthritis (45.6%) and cerebrovascular accident (38.8%). Almost 70% of elderly patients were either bed bound or chair bound. Functional Assessment (ADL) showed that, only 5.8% of elderly patients were independent.

Conclusion: This study provides a valuable insight into the magnitude of disease, impairment and disability among elderly patients. It revealed that, the prevalence of multiple chronic conditions is high. The aging population continues to need a high quality care program, focused on managing multiple chronic conditions and preventing impairment and disability in order to improve health and quality of life of elderly.

Key words: Elderly, Diseases, Impairment, Disability, Dubai

Introduction

Ageing is a universal process and it affects every individual, family, community and society. It is a normal, progressive and irreversible process. Ageing is generally defined as a process of deterioration in the functional capacity of an individual that results from structural changes, with advancement of age. (1) Population ageing is a global phenomenon. The proportion of the elderly population is growing much faster than the overall population due to decreasing fertility and increasing life expectancy. (2)

The Eastern Mediterranean Region is witnessing an increase in the number and percentage of the population aged 60 and above. In 2000, the number of persons aged 60 and older in the region was around 26.8 million (5.8% of the total population). By 2025, it is projected that the percentage will increase to 8.6% and in 2050 the elderly will make up 15% of the population. (3)

The same trend is observed in the United Arab Emirates (UAE); the proportion of elderly population is increasing constantly. The proportion of elderly population in the UAE aged 60 years and above was 5.1% in 2000 and is expected to increase by more than four fold in 2025 (23.6%). In addition, life expectancy had increased from 74 years in 2000 reaching 78 years in 2013. This could be attributed to the improvements in the standards of living, health care facilities and prevention of many communicable diseases.(3)

Health status is an important factor that has a substantial influence on the quality of life of the elderly population. Many health problems are known to increase with age. The health problems of the elderly are usually multiple which results in a rapid decline in health status and a greater likelihood of disability. (4)

Understanding the disability process may help elucidate interventions needed to improve the elderly's general health status. Impairments have been considered an intermediary between chronic disease and disability. For example, elderly patients with chronic arthritis may develop mobility impairment. Due to mobility impairment, the elderly may become unable to carry out tasks which are essential for independent living. (5-7)

The aging population presents a challenge for the public health-care system. Accurate health data is required both from an epidemiological and strategic health care planning perspective. Many countries have been making tremendous efforts to improve the understanding of the health status of this age group. This is especially important when characterizing elderly who are at greatest risk for disease, impairment and disability. (3,8)

There have been few studies on the health profile of the elderly in Arab countries in general, and in the Gulf Area in particular. A study was conducted in Saudi Arabia (2011) which reported that 50.4% of elderly had four or more chronic health conditions. (9)

Objective

Objective of the study is to estimate the prevalence of disease, impairment and disability among the elderly.

Methodology

Study design & setting

Retrospective study was conducted in Primary health care sector at Dubai Health Authority.

Target population

Elderly patients aged 60 years and over registered in the elderly home based primary care (EHBPC) at Dubai Health Authority from 2011- 2013.

Data collection

Records of comprehensive assessment forms of elderly patients were reviewed and analyzed. Indications for service were:

- Elderly patient with physical, cognitive or social disability which prevents them from attending health care.
- Elderly patients requiring follow up care post hospitalisation.
- Elderly patients who require special nursing care.

The comprehensive assessment form was filled in by the physician. It includes the following sections:

- System review section includes: cardiovascular, respiratory, gastrointestinal, endocrine, neurological, mental, musculoskeletal, cancer, kidney and liver diseases.
- Impairment section includes: vision, hearing, mobility (bed bound or chair bound) and urinary incontinence.
- Disability section includes: activities of daily living (ADLs) and focuses on six basic activities: bathing, dressing, toileting, transfer, continence and feeding. Each activity is categorized as follow (independent, assisted, totally dependent). A score of (1) means independent, score of (2) means assisted and score of (3) means totally dependent. The maximum total score of ADLs questions is 18 points and categorized as follows: score of 6 = independent, 7-17 = assisted and 18 = totally dependent.

Statistical Analysis

Statistical Package for social science (SPSS) program, version 20 was used for analysis of data as follows:

- Descriptive statistics were carried out in the form of mean, standard deviation, and range for quantitative values.
- Frequency and percentage was done for qualitative variables.

Results

The present study comprised 206 elderly patients. The age ranged from 60-113 years with a mean of 78.77 ± 9.50 . The gender ratio of the elderly patients was 2.1 female: 1.0 male. (Table 1)

Table 1: Distribution of elderly patients registered in EHBPC in Dubai according to socio-demographic characteristics

Socio-demographic characteristics		No. (%) (n=206)
Age (years)	60-	38 (18.4)
	70-	68 (33.0)
	80-	79 (38.3)
	90-	14 (6.8)
	>100	7 (3.4)
	$\bar{X} \pm SD$	78.77 ± 9.50
	Range	60-113
Sex	Male	67 (32.5)
	Female	139 (67.5)

Table 2 illustrates the prevalence of multiple chronic conditions among elderly patients. There was a high level of morbidity, with two chronic conditions experienced by 11.7%, three conditions by 18.0% and four or more conditions by 70.4% of the elderly patients. The number of elderly chronic conditions ranged from 2-8 with a mean of 4.62 ± 1.62 .

Table 2: Prevalence of multiple chronic conditions among elderly patients registered in EHBPC in Dubai

No. of chronic conditions	No. (%) (n=206)
Two chronic conditions	24 (11.7)
Three chronic conditions	37 (18.0)
Four or more chronic conditions	145 (70.3)
$\bar{X} \pm SD$	4.62 ± 1.62
Range of chronic conditions	2-8

Table 3 (next page) reveals that, a total of 30 diseases were reported in this study; the most prevalent disease was hypertension (67.5%), followed by dementia (57.8), diabetes mellitus (52.4%), osteoarthritis (45.6%) and cerebrovascular accident (38.8%). Diseases of the neurological system were more prevalent among elderly males. Osteoarthritis and osteoporosis were more common among elderly females (48.2% and 25.9% respectively) in comparison to elderly males (40.3% and 10.4% respectively). The least prevalent diseases were colon cancer (0.5%), thyrotoxicosis (1.0%) and breast cancer (1.5%).

Table 3: Distribution of diseases among elderly patients registered in EHBPC in Dubai according to sex

Disease group	Specific Condition	Male No. (%)	Female No. (%)	Total No. (%)
Cardiovascular	Hypertension	45 (67.2%)	94 (67.6%)	139 (67.5%)
	Dyslipidemia	17 (25.4%)	42 (30.2%)	59 (28.6%)
	Ischemic heart disease	12 (17.9%)	19 (13.7%)	31 (15.0%)
	Peripheral vascular disease	7 (10.4%)	10(7.2%)	17 (8.3%)
	Cardiac Arrhythmia	3 (4.5%)	11 (7.9%)	14 (6.8%)
	Pulmonary embolism	2 (3.0%)	12 (8.6%)	14 (6.8%)
	Heart failure	6 (9.0%)	7 (5.0%)	13 (6.3%)
	Deep venous thrombosis	2 (3.0%)	5 (3.6%)	7 (3.4%)
Respiratory	Chest infection	10 (14.9%)	11 (7.9%)	21 (10.2%)
	Chronic obstructive pulmonary disease	3 (4.5%)	11 (7.9%)	14 (6.8%)
Gastrointestinal	Gastritis	3(4.5%)	5(3.6%)	8 (3.9%)
	Oesophagitis	1 (1.5%)	3 (2.2%)	4 (1.9%)
Endocrine	Diabetes	35 (52.5%)	73(52.5%)	108 (52.4%)
	Hypothyroidism	3 (4.5%)	9 (6.5%)	12 (5.8%)
	Thyrotoxicosis	1 (1.5%)	1 (0.7%)	2 (1.0%)
	Hyperparathyroidism	0 (0%)	6 (4.3%)	6 (2.9%)
Neurological	Dementia	40 (59.7%)	79 (56.8%)	119 (57.8%)
	Cerebrovascular accident	33 (49.3%)	47 (33.8%)	80 (38.8%)
	Parkinsonism	16 (23.9%)	19 (13.7%)	35 (17.0%)
	Epilepsy	9 (13.4%)	17 (12.2%)	26 (12.6%)
	Transient ischemic attack	6 (9.0%)	6 (4.3%)	12 (5.8%)
Mental	Depression	24 (35.8%)	55 (39.6%)	79 (38.3%)
	Psychotic disorder	9 (13.4%)	17 (12.2%)	26 (12.6%)
Musculoskeletal	Osteoarthritis	27 (40.3%)	67 (48.2%)	94 (45.6%)
	Osteoporosis	7 (10.4%)	36 (25.9%)	43 (20.9%)
Cancer	Prostate	4 (6.0%)	-	-
	Breast	0 (0%)	3 (1.5%)	3 (1.5%)
	Colon	0 (0%)	1 (0.7%)	1 (0.5%)
Others	Kidney Diseases	13 (19.4%)	15 (10.8%)	28 (13.6%)
	Liver Diseases	2 (3.0%)	3 (2.2%)	5 (2.4%)

Concerning the prevalence of impairments, Figure 1 displays that, more than two thirds of the elderly patients had mobility impairment and urinary incontinence. Moreover, one third of the elderly patients had visual impairment and almost one in five had hearing impairment.

Figure 1: Prevalence of impairments among elderly patients registered in EHBPC in Dubai

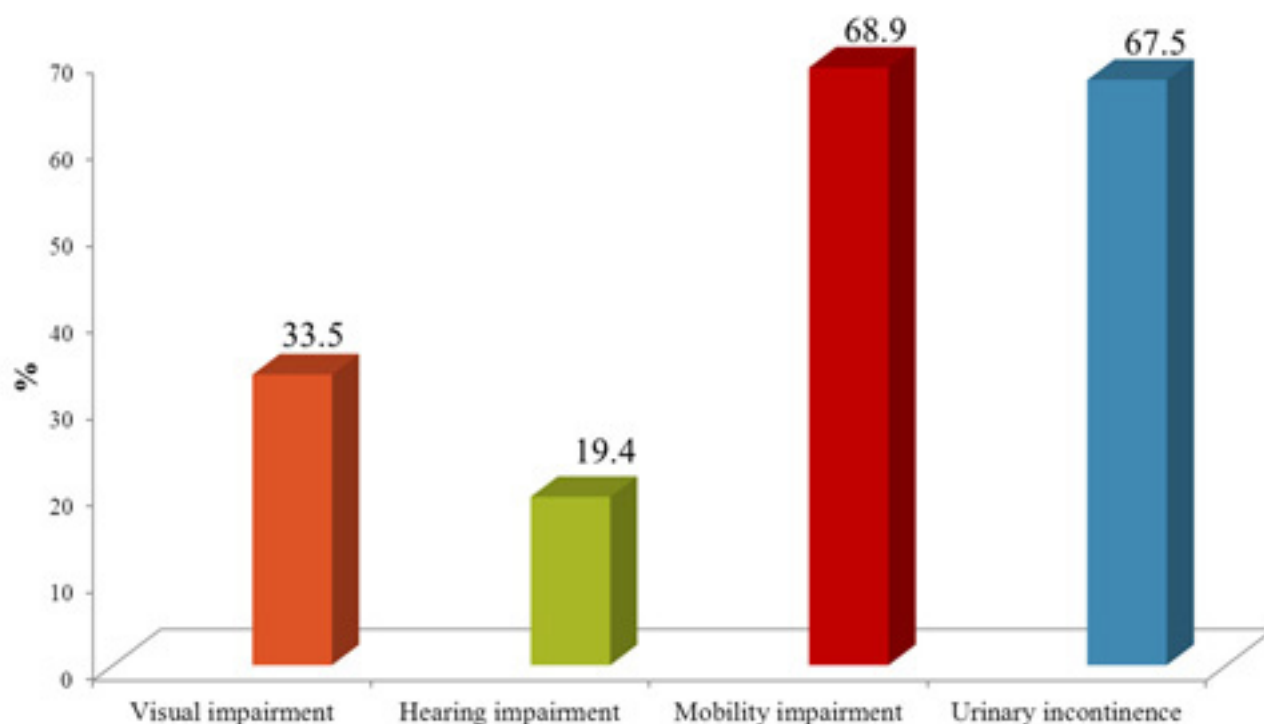
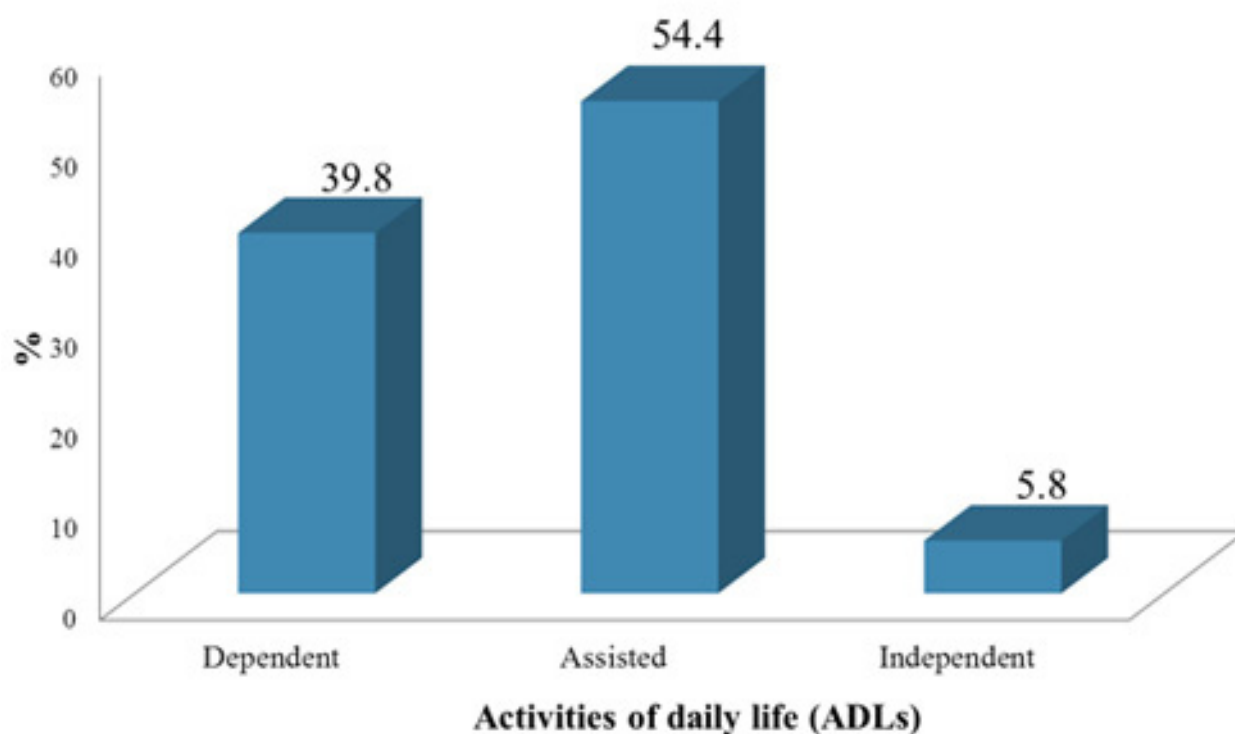


Figure 2 summarizes the distribution of elderly patients registered in EHBPC in Dubai according to Activities of daily life (ADLs). The figure demonstrated that only 5.8% of elderly patients were independent.

Figure 2: Distribution of elderly patients registered in EHBPC in Dubai according to Activities of daily life (ADLs)



Discussion

The United Arab Emirates like most countries in the world is facing the challenge of an ageing population. Elderly Primary home care service is a vital source of health care for the aging population which helps maintain elderly patients in their own homes with a multi-disciplinary team approach. The recent increases in the proportion of elderly has raised attention to issues concerning the morbidity profile of this potentially vulnerable age group. The Physical functioning and psychological wellbeing of elderly are influenced by their morbidities. (10)

In this study, it was observed that the average number of morbidities among elderly patients was 4.62 ± 1.62 , which is lower than an Indian study (2000) (10) but higher than other studies in Korea (2003) (11) and Saudi Arabia (2011) (9) where the mean number of morbidities among the elderly was 1.62 ± 1.35 , 3.7 ± 1.70 and respectively.

The differences in morbidity can be partly explained by the differences in the racial and ethnic origin of the study population. Moreover, in this study, morbidity was assessed by a physician which could partly explain the reason for higher morbidity as physician assessment generally tends to be more comprehensive.

In the current study, hypertension was the most common chronic disease among the elderly. The finding is consistent with previous studies in India (1999) (12), Korea (2003) (11) and Saudi Arabia (2011). (9) A systematic review of the overall worldwide prevalence of hypertension, showed no gender difference. (12) This study further supports this finding.

Diabetes mellitus is a public health concern in the United Arab Emirates. The increasing prevalence of diabetes mellitus is well documented. The risk of developing diabetes increases as the age increases. A study was conducted among the elderly population in the UAE by Margolis et al and reported that the prevalence of diabetes was high.(14) This finding is in accordance with the present study which revealed that diabetes mellitus was among the top most common chronic diseases among elderly patients.

The rapid urbanization and social modernization in the United Arab Emirates has brought transformation in the family structure from the extended family towards the nuclear family. This change has brought breakdown in the framework of family support and social isolation leading to a host of psychological illnesses among the elderly. Furthermore, impairments and disabilities among the elderly increase the likelihood of physiological illness. It has been documented that the elderly are more prone to psychological problems and depression is the commonest geriatric psychiatric disorder.(15,16)

In view of this fact, the current study showed that 38.3% of the elderly patients had depression.

The prevalence of depression is comparable with previous studies in the UAE (2004)(17), Jordan (2004)(18), Sudan (2010)(19), and India (2010).(20) Depression in the elderly is an illness that

should be diagnosed and treated early in order to speed up remission rates, prevent relapse and improve the elderly's quality of life.

Visual impairment among the elderly is a major health problem. With advancing age, the normal function of eye tissues decreases and there is an increased incidence of ocular pathology. Visual impairment was the single most important cause of preventable impairment among the elderly aged 60 years and above as reported by Venkatarao et al in India study.(21)

In this study, one third of the elderly patients had visual impairment. This emphasises the urgent need to screen for visual impairment among the elderly population as elderly patients may not complain of or recognize that their vision is impaired.

ADLs refer to a basic set of everyday activities or tasks that an individual should be able to perform in order to live independently. ADLs are widely used in developed countries as predictors for the need for long-term care either in the community or in institutional settings. (22) In the current study, 39.8% of the elderly patients were dependent. This finding is higher than studies in Saudi Arabia (1995)(23) and Oman (2010)(24) where 18.8% and 25.2% of the elderly were respectively dependent. This could be explained by this study being conducted among elderly patients and not among the general elderly population.

Conclusion

This study provides a valuable insight into the magnitude of disease, impairment and disability among elderly patients. It revealed that the prevalence of multiple chronic conditions is high. This emphasises the need for high quality care programs, focused on managing multiple chronic conditions and preventing impairment and disability in order to improve health and quality of life of elderly.

References

1. Harman D. The free radical theory of aging (2003). *Antioxid Redox Signal*, 5(5):557-561.
2. United Nations. Global Issues: Ageing. <http://www.un.org/en/globalissues/ageing/index>. Accessed 25 December 2013.
3. World Health Organization. A strategy for active, healthy ageing and old age care in the Eastern Mediterranean Region 2006-2015. <http://applications.emro.who.int/dsaf/dsa542.pdf>. Accessed 2 November 2013.
4. Abolfotouh MA, Daffallah AA, Khan MY, Khattab MS, Abdulmoneim I. Psychosocial assessment of geriatric subjects in Abha City, Saudi Arabia (2001). *EMHJ*, 7(3):481-491.
5. Gavrilov LA, Heuveline P (2003). Aging of Population. In Demeny P, McNicoll G (Ed), *The Encyclopedia of Population* (pp32-37). New York: Macmillan.
6. Pérès K, Verret C, Alioum A, Barberger-Gateau P. The disablement process: factors associated with progression of disability and recovery in French elderly people (2005). *Disability and rehabilitation*, 27(5):263-276.
7. Mahfouz EM, AwadAllah H. Determinants of disability among elderly population in rural Minia, Egypt. *Determinants of disability*, 13(1):3-15.

8. Al-Ghanim SA. Profiling Elderly and Younger Patients Attending Health Care Facilities: Implications for Health Care Planning (2010). *Journal of King Abdulaziz University: Economics & Administration*, 24(2):243-270.
9. Al-Modeer M, Hassanien S, Jabloun C. Profile of morbidity among elderly at home health care service in Southern Saudi Arabia (2013). *J Family Community Med*, 20(1):53-57.
10. Joshi K, Kumar R, Avasthi A. Morbidity profile and its relationship with disability and psychological distress among elderly people in Northern India (2003). *International Journal of Epidemiology*, 32(6):978-987.
11. Woo EK, Han C, Jo SA, Park MK, Kim S, Kim E, Park MH, Lee J, Jo I. Morbidity and related factors among elderly people in South Korea: results from the Ansan Geriatric (AGE) cohort study (2007). *BMC public health*, 7(10):1-9.
12. Swami HM, Bhatia V, Dutt R, Bhatia SPS. A Community Based Study of the Morbidity Profile among the Elderly in Chandigarh, India (2002). *Bahrain Medical Bulletin*, 24(1):13-16.
13. Kearney P, Whelton M, Reynolds K, Muntner P. Global burden of hypertension: analysis of worldwide data (2005). *Lancet*, 365(9455):217-223.
14. Margolis S, Carter T, Dunn EV, Reed RL. The health status of community based elderly in the United Arab Emirates (2003). *Gerontology and Geriatric*, 37(1):1-12.
15. Banker K, Prajapati B, Kedia G. Study of health profile of residents of geriatric home in Ahmedabad district (2011). *National Journal of Community Medicine*, 2(3):378-382.
16. Ranjan S, Bhattarai A, Dutta M. Prevalence of depression among elderly people living in old age home in the capital city Kathmandu (2013). *Health Renaissance*, 11(3):213-218.
17. Ghubash R, El-Rufaie O, Zoubeidi T, Al-Shboul QM, Sabri SM. Profile of mental disorders among the Elderly United Arab Emirates population: sociodemographic correlates (2004). *Int J Geriatric Psychiatry*, 19(4):344-351.
18. Youssef RM. Comprehensive health assessment of senior citizens in Al-Karak governorate, Jordan (2005). *Eastern Mediterranean Health Journal*, 11(3):334-348.
19. Assil SM, Zeidan ZA. Prevalence of depression and associated factors among elderly Sudanese: a household survey in Khartoum State (2013). *Eastern Mediterranean Health Journal*, 19(5):435-440.
20. Vishal J, Bansal RK, Swati P, Bimal T. Study of depression among aged in Surat city (2010). *National Journal of Community Medicine*, 1(1):47-49.
21. Venkatarao T, Ezhil R, Jabbar S, Ramakrishnan R. Prevalence of disability and handicaps in geriatric population in rural South India (2005). *Indian J Public Health*, 49(1):11-17.
22. Katz S, Ford AB, Moskowitz AW, Jackson BA, Jaffe MW. Studies of illness in the aged. The index of ADL: a standardized measure of biological and psychosocial function (1963). *JAMA*, 185(12):914-919.
23. AL-Shammari SA, Al Mazrou Y, Jarallah JS, AL Ansary L, Ali ME, and Bamgboye EA. Appraisal of Critical, Psychosocial, and Environmental Health of Elderly in Saudi Arabia: A Household Survey (2000). *The International Journal of Aging and Human Development*, 50(1):43-60.
24. Al-Sabahi SH, Al Sinawi HN, Al-Hinai SS, Youssef RM. Rates and Determinants of Functional Limitations among the Elderly Population in Al-Dakhlyia Region, Sultanate of Oman. *Middle East Journal of Age & Ageing* 2013; 10(5):3-15.