

Health Assessment of Elderly Attending Daycare Centers in Bahrain

Mona M Al Shaikh Al Mahmood¹, Randah R Hamadeh², Majida Fikree¹, Mona A Nasser¹, Marya Aljowder¹, Fatima Habib¹, Amjad Al Hashimi¹, Naeema Ahmed¹, Bushra Alhindi¹, Khadija Saleh¹, Thakryate Hijres¹

1 Ministry of Health, Kingdom of Bahrain

2 College of Medicine and Medical Sciences, Arabian Gulf University, Kingdom of Bahrain

ABSTRACT

ID # (2866)

Received: 05/03/2017

In-revised: 14/02/2018

Correspondent Author:

Majida Fikree

E-mail: MFikri@health.gov.bh

KEYWORDS

health assessment, elderly health, day care centers, mini mental state examination, depression scale, activities of daily living, instrumental activities of daily living, body mass Index, blood pressure

Objective: to perform a multidimensional health assessment for Bahraini elderly and identify areas of need. Design: Cross sectional study.

Setting: Elderly 60 years and more who are attending elderly daycare centers in Bahrain.

Method: A total of four hundred and fifteen men and women attending elderly daycare centers were interviewed. Mini mental state examination, depression scale, activities of daily living and instrumental activities of daily living were assessed through a questionnaire designed for the purpose of this study. Furthermore, body mass index (BMI), blood pressure and random blood sugar were measured.

Results: 76.8% of the women and 57.3% of the men were hypertensive. The prevalence of diabetes was 58.8% in women and 57.4% in men.

Overweight was present among 22.4% of elderly. Three quarters of the elderly had an unremarkable mental status based on the mental and functional assessment scale.

Conclusion: Attendees of elderly daycare centers in Bahrain were generally independent. However, counseling on lifestyle modification and monitoring of their health status is required.

التقييم الخاص بكبار السن المترددين على المراكز الاجتماعية النهارية في البحرين

منى الشيخ المحمود¹، رنده حماده²، ماجده فكري¹، منى ناصر¹، ماري الجودر¹، فاطمه حبيب¹، أمجد الهاشمي¹، نعيمة أحمد¹، بشرى الهندي¹، خديجة صالح¹

1 وزارة الصحة، مملكة البحرين.

2 كلية الطب والعلوم الطبية، جامعة الخليج العربي، مملكة البحرين

المُستخلص

التصميم: دراسة مقطعية عرضية. الإعداد: كبار السن 60 سنة فأكثر الذين يحضرون مراكز الرعاية النهارية لكبار السن في البحرين. الطريقة: تم إجراء مقابلات مع مجموعته 415 من كبار السن من الرجال والنساء الذين يرتادون مراكز الرعاية النهارية. وقد تم فحص الحالة النفسية، وقياس حالة الاكتئاب، وتقييم أنشطة الحياة اليومية والأنشطة الخاصة بالحياة اليومية باستخدام الأدوات، وذلك باستخدام المقاييس المعتمدة لهذه المؤشرات. وعلاوة على ذلك تم قياس كتلة الجسم ونسبة السكر في الدم.

النتائج: تبين أن 76% من النساء و 57% من الرجال مصابين بارتفاع ضغط الدم. وكان معدل انتشار مرض السكري بين النساء 58.8% والرجال 57.4%. ومعدل انتشار السمنة 22.4%، كما أن ثلاثة أرباع العينة كانوا يتمتعون بحالة عقلية ممتازة حسب مقياس القدرات العقلية.

الاستنتاج: أغلبية كبار السن في المراكز النهارية ذو نشاط جسمي وعقلي جيد، وهم في حاجة إلى المزيد من المشورة بشأن رصد حالتهم الصحية وتعديل نمط الحياة من أجل صحة أفضل.

رقم المسودة: (2866)

تاريخ استلام المسودة: 05/03/2017

تاريخ المسودة المعدلة: 14/02/2018

الباحث المراسل: ماجده فكري

بريد الكتروني: MFikri@health.gov.bh

الكلمات الدالة

التقييم الصحي، صحة المسنين، مراكز الرعاية الصحية، فحص الحالة العقلية المصغر، مقياس الاكتئاب، أنشطة الحياة اليومية، الأنشطة الأساسية للحياة اليومية، مؤشر كتلة الجسم، ضغط الدم.

Introduction

The proportion of elderly over 60 years is expected to rise to 22.0% globally in 2050 due to the increase in life expectancy and decline in fertility (World Health Organization 2015). The total population of Bahrain in the 2010 census was 1,234,571 of whom 46.0% were Bahraini nationals with those >60 years comprising 6.3%, (Ministry of health web site, 2016). The proportion is expected to rise to 14.2% by 2025 and 24.3% by 2050. Elderly health assessment is important in planning for elderly health care.

There are 24 primary health care centres and two clinics in the kingdom of Bahrain that provide medical care to all citizens including elderly, in addition to the three main hospitals: Salmaniya Medical complex, Bahrain Defence Force Hospital and King Hamad University Hospital. Furthermore, there are several private hospitals and clinics. The primary care services at the Ministry of Health also provide home care for the elderly (sixty years and over) who are unable to visit the health centres, (Ministry of health web site, 2016).

There are eight elderly daycare centers in Bahrain, scattered all over the kingdom and attended by elderly in the morning period in order to have some social activities (Ministry of Social Affairs web site, 2016).

Rationale: The proportion of elderly population is increasing in the kingdom of Bahrain. To our knowledge, their health needs have not yet been assessed in the country.

The aim of the study was to make a multidimensional health assessment of Bahraini elderly and identify areas of need.

Methods

A cross sectional study was conducted in 2012 on all those 60 years and older who were registered in the eight elderly daycare centers in Bahrain. Ethical approval was taken from Ministry of Health Research Technical Support Committee. The elderly were asked to attend a health assessment session, which included an interview using a pre-structured closed ended questionnaire done for the purpose

of elderly health assessment. Verbal consent was obtained from each patient prior to the interview. The questionnaire had demographic variables, list of medical problems, mini mental state examination to test the cognitive dysfunction, and depression scale, activities of daily living (ADL) and instrumental activities of daily living (IADL). (expalin tools note 2) Furthermore, blood pressure fasting blood sugar, weight and height were checked and BMI calculated. A trained group of nurses and physicians interviewed the elderly. The assessment was done by physicians and nurses among the authors (four physicians and two nurses). The same physician or nurse were assigned to complete the same section of the questionnaire for all study participants, in order to reduce inter rater bias and increase the reliability of the questionnaire. Interviews were carried out in the eight elderly health centers from January 2012 till December 2012 while the team was arranging for a visit for each center. The questionnaire was analyzed using SPSS version 20. Chi square test, t-test were used to analyze differences where appropriate.

Body mass Index (BMI) was classified according to World Health Organization standards (<18.5 underweight, 18.5-24.9 normal, 25-29.9 overweight, 30-34.9 is moderate obesity, 35-39.9 severe obesity, =>40 morbid obesity) (World health organization,2016).

According to the WHO classification for blood pressure measurement, individuals with systolic blood pressure (SBP) ≥ 140 mmHg or diastolic blood pressure (DBP) ≥ 90 mmHg are considered hypertensive (World health organization, 2003).

The mini mental state examination was used for mental assessment. It consists of ten questions. It was validated by (Tom N.Tombaugh, et al, 1992). Each item has equal weight, one point was given for each correct answer and the result were calculated as the total number of errors: (0-2 = intact, 3-4 = mild, 5-7 =moderate and 8-10 = severe).

Fifteen items were used for depression scale (geriatric Depression Scale 15) which was validated previously,(Anton J. M and de Craen1, 2003). It consists of 15 positive and negative items, the

elderly were asked to choose the best answer for how he felt over the past week, the items are answered simply by Yes or No. The score ranges from 0 to 15. A score of 5 or more indicate probable depression. It is recommended to be used to screen for depression among elderly by the Royal College of Family Physician (Katona CLE and Katona P M, 1997) (Mullan E, et al., 1994) (D'Ath P, et al., 1994). It was translated to Arabic and validated to be used for elderly Bahrainis in a previous study (Al Haddad MK, 2000).

The activity of daily living was measured using 6 items, for each item the elderly was either (I= independent) or (NA= need assistance) or (D = dependent). Eight items were used to measure the instrumental activity of daily living, for each item the elderly was either (I= independent) or (NA=

need assistance) or (D = dependent), (Bassem Elsayy, et al, 2011). Chi-square and Fisher's exact test were used to compare differences among males and females with respect to the activities.

Results

A total of four hundred and fifteen men and women were interviewed. Their average age was 69+7 years, and 55.2% were men. There were some statistically significant variations in the socioeconomic characteristics of the attendees of elderly homes (Table 1). Previous employment was significantly more among men than women (98.4%, 44.5%). Very few elderly depended on pension and private income (7.0%). Almost half of them had an active driving license with a higher proportion in men (77.9%) than women (21.7%)

Table 1. Sociodemographic Characteristics of Elderly

	Male No. %	Female No. %	Total No. %	P-Value
Marital Status				
Married	175 94.1	69 30.1	244 58.8	<0.0001
Other	11 5.9	160 69.9	171 41.2	
Currently Employed				
Yes	8 4.3	7 3.1	15 3.6	0.499
No	178 95.7	222 96.9	400 96.4	
Previously Employed				
Yes	183 98.4	102 44.5	285 68.7	<0.0001
No	3 1.6	127 55.5	130 31.3	
Financial Support				
Yes*	4 2.2	25 10.9	29 7.0	<0.0001
No	182 97.8	204 89.1	386 93.0	

* Pension and private income

Overweight was present among 22.4% of the elderly, while obesity of moderate or severe or morbid type was present among 14.5%. The majority of the elderly did not smoke (39.5%).

In general, women had a higher prevalence of history of non-communicable diseases, compared to men.

On examination, 76.8% of the women and 57.3% of the men were hypertensive ($p<0.0001$), of whom 7.0% and 10.8% were detected for the first time, and 28.1%, 17.3%, uncontrolled, respectively (Figure 1).

Although the prevalence of diabetes in women (58.8%) and men (57.4%) was similar, a higher proportion of women (F: 30.7%, M: 20.8%) had uncontrolled diabetes (Figure 1).

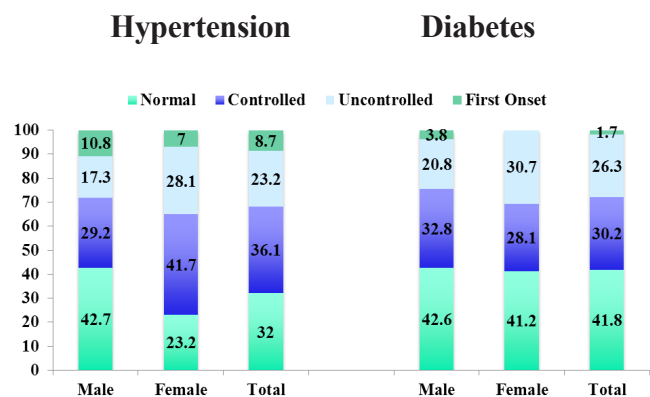


Figure 1. Prevalence of Hypertension and Diabetes (%) among elderly population attending day care centers in Bahrain

Three quarters of the elderly had an unremarkable mental status based on the mental and functional assessment scale, 7% had moderate to severe mental impairment (Figure 2). Depression was detected in 6.7%, (5.9% men; 7.4% women).

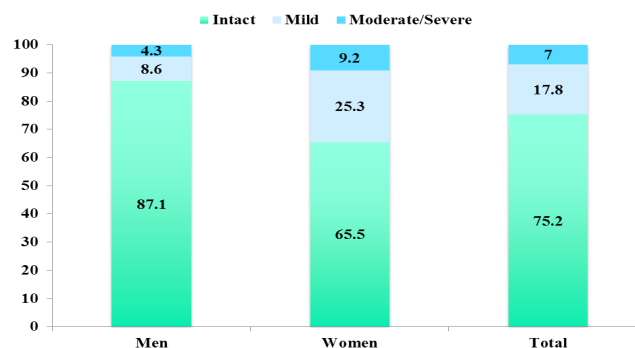


Figure 2. Mental and Functional Assessment by Gender among elderly population attending day care centers in Bahrain.

Over 85.0% of the elderly were independent in their daily personal care activities. There were marginal differences by gender except for ambulatory ($p<0.05$) where more men (89.8%) than women (83.0%) were independent (Table 2). Half of the elderly were independent in their instrumental activities of daily living (Table 2). Women had statistically significant higher proportions in performance of domestic chores (meal preparation (M=51.6%, F=76.0%, $p<0.0001$), housework (M=51.1%, F=60.3%, $p=0.008$) and laundry (M=43.5%, F=56.3%, $p=.008$) but lower in handling own money (M=91.9%, F=84.3%, $p=.005$), shopping (M=83.3%, F=70.3%, $p=0.006$), and travel (M=59.1%, F=41.9%, $p=0.001$). There were no statistically significant differences by gender with respect to using the phone and taking own medication.

Table 2. Daily living and Instrumental activities of the elderly by gender

Daily Living Activity	Independent		Need assistance		Dependent		Total	
	No	%	No	%	No	%	No	%
Toilet Use								
Male	183	98.4	2	1.1	1	0.5	186	100
Female	221	96.5	6	2.6	2	0.9	229	100
Total	404	97.3	8	1.9	3	0.7	415	100
Feeding								
Male	186	100	0	0	0	0	186	100
Female	225	98.3	3	1.3	1	0	229	100
Total	411	99.0	3	0.7	1	0.2	415	100
Dressing								
Male	184	98.9	1	0.5	1	0.5	186	100
Female	224	97.8	3	1.3	2	0.9	229	100
Total	408	98.3	4	1.0	3	0.7	415	100
Grooming								
Male	176	94.6	9	4.8	1	0.5	186	100
Female	221	96.5	7	3.1	1	0.4	229	100
Total	397	95.7	16	3.9	2	0.5	415	100
Ambulate								
Male	167	89.8	19	0.2	0	0	186	100
Female	190	83.0	33	14.4	6	2.6	229	100
Total	357	86.0	52	12.5	6	1.4	415	100
Bathing								
Male	183	98.4	3	1.6	0	0	186	100
Female	223	97.4	4	1.7	2	0.9	229	100
Total	406	97.8	7	1.7	2	0.5	415	100
Instrumental Activity								
Phone Use								
Male	160	86.0	13	7.0	13	7.0	186	100
Female	185	80.8	29	12.7	15	6.6	229	100
Total	345	83.1	42	10.1	28	6.7	415	100
Shopping								
Male	155	83.3	24	12.9	7	3.8	186	100
Female	161	70.3	47	20.5	21	9.2	229	100
Total	316	76.1	71	17.1	28	6.7	415	100
Meal preparation								
Male	96	51.6	63	33.9	27	14.5	186	100
Female	174	76.0	41	17.9	14	6.1	229	100
Total	270	65.1	104	25.1	41	9.9	415	100
House Work								
Male	95	51.1	58	31.2	33	17.7	186	100
Female	138	60.3	73	31.9	18	7.9	229	100
Total	233	56.1	131	31.6	51	12.3	415	100

Laundry								
Male	81	43.5	72	38.7	33	17.7	186	100
Female	129	56.3	79	34.5	21	9.2	229	100
Total	210	50.6	151	36.4	54	13.0	415	100
Travel								
Male	110	59.1	63	33.9	13	7.0	186	100
Female	96	41.9	98	42.8	35	15.3	229	100
Total	206	49.6	161	38.8	48	11.6	415	100
Takes own medication								
Male	168	90.3	17	9.1	1	0.5	186	100
Female	208	90.8	18	7.9	3	1.3	229	100
Total	376	90.6	35	8.4	4	1.0	415	100
Handles own money								
Male	171	91.9	14	7.5	1	0.5	186	100
Female	193	84.3	21	9.2	15	6.6	229	100
Total	364	87.7	35	8.4	16	3.9	415	100

Discussion

In this study, hypertension seems to be a major medical condition among elderly females 76.8%, of whom 28.1% were uncontrolled. This is a major area of improvement in elderly health care. Stressing the control of hypertension would prevent major medical complications.

In this study a relatively small percentage (3.8%) of men had diabetes detected for the first time. None of the females were found to have hyperglycemia for the first time. This may be explained by the hesitancy of males to ask for screening tests at the health sector.

Smoking in elderly was more among males than females (10.8%, 3.1, respectively, which is similar to the observed behavior in all the GCC adults 18 year and older: males (13.4% to 37.4%), females (0.5% to 20.7%), (Najlaa Aljefree, 2015).

The prevalence of depression among Bahraini elderly attending primary health care centers was 41.5% as studied earlier, (Fatima Habib, 2009). This is far more than the rate found in this study in elderly home care centers. This can be explained by the differences in the settings as elderly at health centers are usually attending for follow up of their sickness or chronic disease. However, the elderly

in China had a similar depression rate (4.9% men; 7.9% women), and 37% of elderly patients, attending primary health care centers screened positive for depression in the United States of America, (Zhi Bin Li1, et al, 2004, Robert C. Abrams, MD, et al, 2015).

As 6.7% of the elderly in this study were found to be depressed, this fact is an area for improvement in elderly care where short depression screening test could be applied at all primary care setting, or added in the screening clinics at primary care. It would encourage referral to psychiatry primary care clinics and treatment as needed.

There is no comparable population data on obesity among elderly Bahraini in the population, and the latest survey reported overweight prevalence among Bahrainis who were 60-64 years old as (51.7%), (Ministry of Health, 2010). The prevalence of obesity in adults (>18 years) in the Gulf Council Countries ranged from 22% to 34.1% in males and from 26.1% to 44% in females, respectively, (Najlaa Aljefree, et al, 2015).

In this study, 7% of the elderly had moderate to severe mental cognitive dysfunction involving memory and concentration. The proportion is more than that reported in a study from the Netherlands (4%), (Anne H, et al, 2015).

As expected elderly attending elderly daycare centers in Bahrain were highly independent regarding (ADL) and partially independent for (IADL), the world health Organization report 2015 showed

similar pattern in an Australian study. Furthermore, there are marked differences among countries in the percentage of people requiring assistance with at least one basic ADL. A Swedish study assessed the activities of daily living and instrumental activities of daily living (ADL) in a population of 76-year-olds, 13% were dependent in both instrumental and personal activities, (Sonn U, Asberg KH, 1991). Females in this study were more active than men in performing domestic chores and housework which could be explained by the cultural difference in the area.

Although the study has several strengths including coverage of all day care centers in the Kingdom of Bahrain at the time of the study, it has several limitations: not all elderly people attend those day care centers and thus our findings does not represent all the elderly population in Bahrain. Furthermore, elderly care units attenders are mainly independent as they are more mobile and have better access to elderly units. Moreover, the Bahraini culture supports family care of the parents and elderly which might have impact on the type of elderly care attendees.

Conclusions

Attendees of elderly daycare centers in Bahrain were generally independent. However, counseling on lifestyle modification and monitoring of their health status is required. The directorates of public health and health promotion in the Ministry of Health should focus on the elderly population in their preventive programs.

Future research should focus on assessing elderly health needs in the community.

References

Abrams, RC, Bone, B, Reid MC, Adelman, RD, Breckman, R, Goralewicz, R, Palombo, M, Stern, A, Shengelia, R and Teresi, J. Psychiatric assessment and screening for the elderly in primary care: design, implementation, and preliminary results. *J Geriatr.* 2015; 2015: doi:10.1155/2015/792043.

Al Haddad MK.(2000). Depression in Elderly Primary Care Attendees in Bahrain. *The Arab Journal of psychiatry*; 11(1): 48-55.

Aljefree, N, and, Hindawi,FA. Prevalence of cardiovascular disease and associated risk factors among adult population in the Gulf Region: A systematic review. *Advances in Public Health.* 2015; 2015), Article ID 235101, 23 page

Anton J. M De Craen, AJ, Heeren, TJ, and Gussekloo J. (2003). Accuracy of the 15-item geriatric depression scale (GDS-15) in a community sample of the oldest old. *Int J Geriatr Psychiatry* 2003; 18: 63–66.

Bassem Elsayy, et al, 2011. The Geriatric Assessment January 1, 2011 . Volume 83, Number 1 www.aafp.org/afp American Family Physician

D'Ath P, Katona P, Mullan E, et al (1994). Screening, Detection and Management of Depression In Elderly Primary Care Attendees I: The Acceptability and Performance of the 15 Item Geriatric Depression Scale (GDS15) and the Development of Short Versions. *Family Practice*; 11(3): 2260-6.

Elsawy B, and Higgins KE. The Geriatric Assessment. Am Fam Physician. 2011; 83(1):48-56. Habib, F. (2009). Incidence of depression among elderly attending primary health care centers. *Bahrain Medical Bulletin.* 2009; 31(4): 166-169

Katona CLE, Katona P M (1997). Geriatric Depression Scale Can be Used in Older People in Primary Care. *BMJ*; 315(7117): 1236.

Li, ZB, Ho SY, Chan, WM, Ho, KS, Li ,MP, Leung GM, Lam, TH.(2004). Obesity and depressive symptoms in Chinese elderly. *Int J Geriatr Psychiatry* 2004; 19: 68–74.

Ministry of Health, Kingdom of Bahrain.2010,
National Non-communicable Diseases. Risk
Factors Survey 2007, Kingdom of Bahrain.

**Ministry of Health, Kingdom of Bahrain web
site.** <http://www.moh.gov.bh/AR/> , last
accessed 30/5/2016.

Ministry of Social Affairs, Bahrain web site:
<http://www.social.gov.bh/elderly>, last accessed
14/2/2016, accessed 26/6/2016.

Mullan E, Katona P, D'Ath P, et al (1994).
Screening, Detection and Management of
Depression in Elderly Primary Care Attendees
II: Detection and Fitness for Treatment: A Case
Record Study. Family Practice; 11(3): 267-70.

Sonn, U, and, Asberg KH.(1991). Assessment of
activities of daily living in the elderly. A study
of a population of 76-year-olds in Gothenburg,
Sweden. Scandinavian Journal of Rehabilitation
Medicine .1991; 23(4):193-202.

**Tom N.Tombaugh PHD,CPsychy Nancy
J.McIntyre MA.(1992).** The Mini-Mental
State Examination: A Comprehensive Review.
Journal of the American Geriatric Society.
Volume 40, Issue 9. September 1992 ,Pages
922–935.

**VanHouwelingenet,AH,denElzen,WP,leCessie,
S, Blom JW, Gussekloo J1.** Consequences of
interaction of functional, somatic, mental and
social problems in community-dwelling older
people. PLoS One. 2015; 21; 10(4):e0121013.
DOI:10.1371/journal.pone.0121013 April 21,
2015.

World Health Organization. World Health
Organization World Report on Ageing and
Health, 2015.

**World Health Organization. Global database
on BMI,** [http://apps.who.int/bmi/index.
jsp?introPage=intro_3.html](http://apps.who.int/bmi/index.jsp?introPage=intro_3.html) last seen on 21
July 2016.

**World Health Organization, International
Society of Hypertensive Writing Group.
World Health Organization, 2003/
International Society of Hypertension (ISH)
statement on management of hypertension.
Journal of Hypertension; 12 (11):1983-92.**