

Evaluation of health care services provided for older adults in primary health care centers and its internal environment

A step towards age-friendly health centers

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ABSTRACT

الأهداف: تقييم الخدمات الصحية المقدمة لكبار السن من قبل مراكز الرعاية الصحية الأولية في الرياض، المملكة العربية السعودية وسهولة استخدام هذه المراكز من قبل كبار السن.

الطريقة: بين أكتوبر 2013م ويناير 2014م أجرينا دراسة مقطعية وصفية لعدد 15 مركزاً صحياً تم اختيارها عشوائياً في مدينة الرياض، المملكة العربية السعودية. وركز التقييم على المؤشرات الأساسية للخدمات الطبية المقدمة وعلى العوامل التي تدل على سهولة استخدام هذه المراكز من قبل كبار السن. واستند تقييم مراكز الرعاية الصحية الأولية على الأدوات المستخدمة من قبل منظمة الصحة العالمية لتتكون المراكز الصحية مراعية للسن.

النتائج: وُجد أن الفحص الصحي للمؤشرات الصحية الأساسية (مثل: ضغط الدم، والسمنة، والسكري، والكوليسترول في الدم) جيدة عموماً، غير أن أقل من نصف هذه المراكز تعمل الفحص السنوي الشامل لكبار السن. ولم يكن هناك أي فحص لأعراض السرطان. وتقدم معظم المراكز الاستشارات الصحية لأنماط الحياة، ولكن لا يوجد بروتوكول موحد لتقديم تلك الاستشارات. كانت التغطية بالفحوصات لكبار السن دون المأمول. النسب واللاتفات الإرشادية في معظم المراكز كانت جيدة، باستثناء عدم وجود إشارات برايل. قد تكون هناك قضايا تتعلق بوصول كبار السن إلى المراكز الصحية بسبب نقص وسائل النقل العام، ونقص مواقف السيارات المخصصة لهم، ووجود السلالم والدراج الداخلي، وعدم وجود الدرابزين.

الخلاصة: الخدمات السريرية والبيئية الداخلية لمراكز الرعاية الصحية الأولية يمكن تحسينها. بيانات هذه الدراسة سوف تكون مفيدة لصانعي السياسات الصحية لتحسين مراكز الرعاية الصحية الأولية لتكون أكثر مراعاة للسن.

Objectives: To evaluate the health care services provided for older adults by primary health care centers (PHCCs) in Riyadh, Kingdom of Saudi Arabia (KSA), and the ease of use of these centers by older adults.

Methods: Between October 2013 and January 2014, we conducted a descriptive cross-sectional study

of 15 randomly selected PHCCs in Riyadh City, KSA. The evaluation focused on basic indicators of clinical services offered and factors indicative of the ease of use of the centers by older adults. Evaluations were based upon the age-friendly PHCCs toolkit of the World Health Organization.

Results: Coverage of basic health assessments (such as blood pressure, diabetes, and blood cholesterol) was generally good. However, fewer than half of the PHCCs offered annual comprehensive screening for the common age-related conditions. There was no screening for cancer. Counseling on improving lifestyle was provided by most centers. However, there was no standard protocol for counseling. Coverage of common vaccinations was poor. The layout of most PHCCs and their signage were good, except for lack of Braille signage. There may be issues of access of older adults to PHCCs through lack of public transport, limited parking opportunities, the presence of steps, ramps, and internal stairs, and the lack of handrails.

Conclusions: Clinical services and the internal environment of PHCCs can be improved. The data will be useful for health-policy makers to improve PHCCs to be more age-friendly.

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The number of older adults is continuously increasing in almost all global locations.¹ In 1990, persons aged 60 years or older constituted approximately 9.2% of the total global population. This increased to 11.7% in 2013 and it is expected that by 2050 this will reach up to 21.1%.¹ In the Kingdom of Saudi Arabia (KSA), older adults (aged ≥ 60 years) comprise approximately 5.2% of the total population.² This percentage is expected to reach 8.1% by 2025, and 21.8% by the year 2050.³ The increase in the number of people in this age group and in the proportion it contributes to the population is due to the combination of the decline in fertility/birth rate and improvements in the health, nutrition, and health care services.⁴ This demographic shift to older adults has important implications for health, society, economics, and epidemiology.⁵⁻⁷ The age-related demographic transition is associated with a concomitant increase in the rates of age-related chronic diseases (such as diabetes, heart disease, hypertension, rheumatic diseases, and dementia), and other conditions associated with aging such as fractures resulting from falls, osteoporosis, digestive problems, insomnia, depression, and so on, which all have a much higher prevalence in older adults.⁸ In addition, many older adults suffer from pain caused by a range of conditions, and this decreases their mobility.⁹ Once their activity level is reduced, the deterioration of other physical and cognitive activities is accelerated, and older adults consequently often face many psychosocial challenges.^{10,11} Several studies have shown a high prevalence of common chronic disorders (diabetes mellitus, hypertension, overweight and obesity, cardiac diseases, metabolic syndrome) in the Saudi population and some studies have shown that the prevalence increases significantly with age.¹²⁻²¹ To a large extent, this increase in prevalence is related to the combination of a sedentary life style, affluent diet, and genetics.^{18,22} Analysis of the quality of care in Saudi primary care services showed poor access and effectiveness of programs targeting chronic disease management and health education.²³ To date there has been a lack of studies on the health care services provided for older adults in primary health care centers (PHCCs) in KSA and the suitability of the internal

environment of these centers for older adults. The PHCCs are considered the backbone of the health care system and most preventive health care, screening, and management of chronic diseases takes place in the PHCCs. The World Health Organization has developed a toolkit to facilitate evaluation of PHCCs.²⁴ This toolkit provides questions that allow evaluation of health care service provision, of counselling services provision, of accessibility, and of user-friendliness. The aim of this study is to evaluate the health care services provided for older adults in PHCCs in Riyadh, KSA and the internal environment of these centers to generate necessary data required by the health-policy makers to improve the PHCCs to be age-friendly, and to improve their clinical effectiveness.

Methods. There are 103 PHCCs in Riyadh City distributed unequally across the 5 sectors of the city (north, south, central, east, and west).²⁵ Within each sector each PHCC was selected randomly according to the socioeconomic class (low, middle, and high), so that 3 PHCCs were selected from each sector, and 15 in total. These were Bader 1, Alshifa, Bader 2 (south sector), Alnaseem Aljunoobi, Alrawdah, and Alhamra (east sector), Almohammedia, Sultana Aljadeeda, and Alsulimania (north sector), Uraija Algharbi, Tuwaiq Algharbi, and Alsuwaidi (west sector), and Alrabwah, Alfotah, Olaisha (central sector). Ethical approval was obtained from the Ministry of Health, KSA.

We visited the selected PHCCs between October 2013 and January 2014, and evaluated the services and screening protocols provided for older adults. In addition, we evaluated the environmental suitability of these centers for older adults and the extent, to which these centers are physically and architecturally age-friendly center. The evaluations were based on the age-friendly PHCCs toolkit by the World Health Organization.²⁴ The toolkit comprised of list of questions (answerable by yes or no) related to clinical services offered or environment. We used the questions from the checklists that are environmentally and culturally appropriate and acceptable. We did not interview patients attending the PHCCs or their carers.

Data are expressed as number and percentage of positive responses to each evaluation questions.

Results. Fifteen PHCCs were evaluated and the complete data is available. In this study, we organized the findings according to the subject of the evaluation (services: clinical services and health assessments offered, counselling services offered; environment: accessibility, and signage).

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Evaluation of clinical services and health assessments offered (Table 1). Most centers assessed blood pressure, height, weight, and obesity, blood cholesterol, diabetes mellitus, and cardiovascular disease although there was only 100% coverage for the blood cholesterol and diabetes testing. No centers assessed breast, colorectal or prostate cancer, and only one conducted pap smears. Eight centers assessed vision, depression, and urinary incontinence, and 5 assessed hearing. Seven centers offered annual comprehensive screening for the common age-related conditions (memory, depression, urinary incontinence, falls, immobility, acute weight loss, vision, and hearing). Pneumococcal, influenza and tetanus vaccination were offered. None of the centers

offered all 3 vaccinations, and 4 centers did not offer any of these vaccinations.

Evaluation of health and lifestyle counselling offered (Table 2). All centers offered counselling on physical activity. Most, but not all centers, offered counselling on calcium intake, healthy eating, tobacco use, sun exposure, oral health, injury prevention, and polypharmacy. Eight centers offered counselling on drug and alcohol use.

Evaluation of accessibility (Table 3). None of the centers was served by public transport, and only 5 had a parking area dedicated to disabled people and older adults. Fourteen centers had steps at the entrance, with the number of steps varying from 2-5. There are centers that had steps at the entrance also had a ramp. The centers without steps had a ramp. Ramps were all gently sloping. Fourteen of the centers were accessible to wheel chair users. The entrance to all centers was >900 mm wide, in most cases being 1500 mm wide. Nine centers occupied the ground floor only, while 6 had more than one floor; none of these had a lift. No centers had a public telephone in the entrance. The reception counter was easily identifiable in all centers. Most centers were

Table 1 - Evaluation of clinical services and health assessments offered at the 15 primary health care centers (PHCCs) in Riyadh, Saudi Arabia.

Clinical service	n	(%)
Blood pressure measurement	14	(93.3)
Height, weight and body mass index measurement	14	(93.3)
Cholesterol testing	15	(100)
Dyslipidemia	14	(93.3)
Cardiovascular disease assessment and discussion	12	(80.0)
Diabetes	15	(100)
Hemoglobin A1c	14	(93.3)
Pap smear	1	(6.7)
Mammography	0	
Colorectal cancer assessment	0	
Prostate cancer assessment	0	
Vision assessment	8	(53.3)
Hearing assessment	5	(33.3)
Urinary incontinence	8	(53.3)
Depression	8	(53.3)
Annual comprehensive geriatric screening	7	(46.7)
Pneumococcal vaccination	5	(33.3)
Influenza vaccination	5	(33.3)
Tetanus vaccination	5	(33.3)
All 3 vaccinations	0	

Table 2 - Evaluation of health and lifestyle counselling offered at the 15 primary health care centers in Riyadh, Saudi Arabia.

Health and lifestyle counselling	n	(%)
Calcium intake	11	(73.3)
Tobacco use/cessation	12	(80.0)
Drug and alcohol use	8	(53.3)
Healthy eating	13	(86.7)
Physical activity	15	(100)
Sun exposure	10	(66.7)
Oral health	13	(86.7)
Injury prevention	13	(86.7)
Poly pharmacy	13	(86.7)

Table 3 - Summary of accessibility at 15 primary health care centers (PHCCs) in Riyadh, Saudi Arabia.

Accessibility	PHCCs answering Yes	
	n	(%)
Served by public transport	0	
Dedicated disabled persons parking	5	(33.3)
Steps at entrance	14	(93.3)
Ramp at entrance	13	(86.7)
Entrance wider than 900 mm	15	(100)
Entrance accessible to wheel chair users	14	(93.3)
Emergency exits easily identifiable and accessible	12	(80.0)
Public phone near entrance	0	
Reception counter near entrance	15	(100)
Room layout logical	14	(93.3)
Door widths greater than 900 mm	15	(100)
Seating arrangements comfortable	12	(80.0)
Floor non-slippery and well maintained	11	(73.3)
Furniture and fittings have low fall/injury risk	15	(100)
Availability of spare wheelchair	15	(100)
Corridors and rooms well lit and ventilated	15	(100)
Corridors wide enough for wheelchair	15	(100)
Corridors free of obstructions	15	(100)
Hand rails or grab bars in corridors	2	(13.3)
Toilets near waiting area	14	(93.3)
Toilets wheelchair accessible	9	(60.0)
Grab bars around toilet	6	(40.0)
Fittings easy to use and accessible	13	(86.7)
Accessible shower	1	(6.7)
Eating outlet in building	0	

well laid out, with wheelchair accessible corridors. Only one center did not have a toilet in the waiting area. Only one center had a shower in the toilet area. Stairs in those centers with more than one floor were accessible and had handrails or grab bars. No centers had an eating outlet.

The evaluation of signage (Table 4). Signage was generally good, except for the lack of Braille signage. Seven centers had a name board that included all staff and job title, including the receptionist. All centers made staff easily identifiable by name badges or name boards.

Discussion. There are few studies assessing and evaluating the age-friendliness of PHCCs for older adults in KSA. Thus, the research described here is important in providing up-to-date and relevant data for use by policy makers in KSA. The main health concerns of relevance to older adults would be obesity, type-2 diabetes, and its complications, cardiovascular disease, cancer, cognitive decline, and dementia, and bone health. There may be concerns with frailty, especially in those with certain diseases or co-morbidities, and with infections, which older adults, the frail, and those with disease are more susceptible. The evaluation focused on basic indicators of clinical services offered, and upon factors indicative of the ease of use of the center by older adults.

Screening was good in some areas of health: most centers assessed blood pressure; height, weight, and obesity; blood cholesterol; diabetes; and cardiovascular disease although there was 100% coverage only for blood cholesterol and diabetes testing. No centers assessed breast, colorectal or prostate cancer, and only one conducted pap smears, which this is a significant concern that requires urgent attention. Approximately 50% of the centers assessed vision, depression, and urinary incontinence, while only one-third assessed hearing. Less than 50% of the centers offered annual comprehensive screening for common age-related conditions. Reduction in risk of infectious disease can be achieved through vaccination. The coverage of common vaccinations in older adults was poor, with only one-third of the centers offering each of the 3 vaccines. Almost one-quarter of the centers offered none of these vaccines. Thus, older adults using these centers would be at risk of pneumonia, influenza, and tetanus. These findings suggest significant room for improvement, and provide a focus for attention of health regulators and policy makers. In general counselling on improving lifestyle

Table 4 - Summary of signage at the 15 primary health care centers (PHCCs) in Riyadh, Saudi Arabia.

Signage	PHCCs answering Yes n (%)
Characters and backgrounds are non-glare	15 (100)
Characters contrast with background	15 (100)
Visual display is simple and easy to understand	14 (93.3)
Colors used, and used effectively	11 (73.3)
Familiar pictures used where possible	11 (73.3)
Braille signage used	0
Tone of signage is welcoming	14 (93.3)
Signs displayed at eye level	14 (93.3)
Letter sizes appropriate	15 (100)
Staff easily identified using name badges and boards	15 (100)
Name board with all staff and job title	7 (46.7)

was good: all centers offered counselling on physical activity and most offered counselling on calcium intake, healthy eating, tobacco use, sun exposure, oral health, injury prevention, and polypharmacy. Counseling on sun exposure was provided by two-thirds of the centers, which may have significance for vitamin D status and bone health, among other conditions. However, there were no standard protocols for counseling across the centers. Development of such protocols would be useful in assuring appropriate coverage and level of counseling provision.

There may be issues of access of older adults to health centers through lack of public transport, limited parking opportunities, the presence of steps, ramps, and internal stairs, and the lack of handrails. However, the layout of most centers and their signage are good, except for a lack of Braille signage. Using picture symbols should be considered for those who have visual impairment or are illiterate, as signage may be inadequate in these cases. Improvement of PHCCs for older adults in terms of design, internal environment, and health services provided, would attract older adults to visit PHCCs for health screening and for follow up appointments.

The findings of the current study need to be viewed in the context of existing literature. When elderly people living in Asir region, located in the southwest of the KSA, were interviewed in respect to their satisfaction of accessibility of services in PHCCs, Mahfouz et al²⁶ found that the long waiting times in the centers and lack of availability of a telephone at the centers generated the least satisfaction. The current study identified an absence of public telephones near the entrance of the centers surveyed. However, since the current study audited centers, but did not interview patients it is not certain

what the main causes of satisfaction and dissatisfaction are among patients visiting the PHCCs in Riyadh. This is a limitation of the current study.

The limited availability of parking facilities at PHCCs was a cause of significant dissatisfaction among patients, including the elderly in Tehran, Iran.²⁷ The age-friendliness of primary care services for older adults was assessed in Hong Kong using focus groups of elderly people and also of service providers who care of them, based on the WHO guidelines including those for signage, facilities, and physical environment for age-friendly primary care.²⁸ The results indicated that older adults may face some difficulties with signage when moving to a new clinic, and that adequate signage is extremely important for the visually impaired and illiterate. This highlights a need for improving signage and for additional use of suitable picture symbols. In addition, the study highlighted that availability of seating and toilets is a key concern of older adults and that the seating arrangements and layout of waiting areas is important, especially for patients in wheelchairs who need to be next to the accompanying persons who can be seated instead of standing by the wheelchair or sitting elsewhere while waiting.²⁸ These findings highlight that issues of accessibility, layout, seating and basic facilities need to be a focus in the creating of age-friendly PHCCs.

The provision of necessary health services in respect of application of screening protocols and health assessments that are commensurate with the nature of older adults would inevitably reduce the risk of developing chronic diseases or their complications. Consequently, this would result in a better return on investment to the economies of the Ministry of Health in terms of reducing health expenditure for the treatment of chronic diseases and their complications, and indirectly will reduce the requirement for hospitalization and the length of hospital stay. However, it is important to consider that, although frail and homebound older adults have higher rates of complex comorbidities including dementia,²⁹ they are not seen regularly by PHCC physicians due to the challenges they face to access care.³⁰ Thus, home-based primary care may become necessary for older adults with limited access to care. This will provide further challenges to the health and social care systems.

In conclusion, we expect that the findings of this study will provide a strong base for development of future health-care strategies for the wellbeing of the older Saudi adults through development of age-friendly PHCCs. Our main recommendations are: improvement of cancer screening for older Saudis; improvement in

coverage of routine common vaccinations for older Saudis; improvement in the number of PHCCs engaging in an annual comprehensive geriatric screening program; improvement in using Braille signage in PHCCs; development of a strategy for better access of older Saudis to PHCCs through public transport and improved parking. Further, research should audit PHCCs in other regions, including less urban ones, in order to gain a broader view of the services offered and the environment of PHCCs across KSA. Future research could also interview patients and their carers to gain further insights. The outcomes and recommendations from this study provide important information for Saudi health-policy makers for the implementation of more age-friendly PHCC. Follow-up audits should assess whether improvements have been achieved.

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