

THE PROFILE OF LONG-TERM CARE PATIENTS IN AL-KHOBAR AND DAMMAM, SAUDI ARABIA

Ali M. Al- Hazmi, MBBS, FFCM (KFU),* Nabil Y. Kurashi, MBBS, FFCM (KFU)[†]

*Ministry of Health & College of Health Sciences, Jizan, [†]Department of Family & Community Medicine, College of Medicine, King Faisal University, Dammam, Saudi Arabia

هدف الدراسة: إيجاد صورة عامة للمرضى الذين يمكثون في المستشفى أكثر من 20 يوماً في منطقتي الخبر والدمام. **طريقة الدراسة:** هذه عبارة عن دراسة وصفية مقطعية باستخدام استبيان واحد وقد شملت الدراسة عينة عشوائية قدرها 159 مريضاً من بين 318 مريضاً تم تحديدهم بأنهم قد مكثوا في المستشفى لأكثر من 20 يوماً خلال العام 2000م.

نتائج الدراسة: بلغت نسبة كبار السن 43%، وقد شكل كبار السن ما نسبته 63% من مجموع المرضى في المستشفيات الخاصة بينما بلغت نسبتهم في المستشفيات الحكومية 12% فقط وبلغت نسبة السعوديين منهم 80% في المستشفيات الحكومية و 94% في المستشفيات الخاصة. وبلغ متوسط معدل الإقامة 358.6 ± 776 يوماً في المستشفيات الحكومية و 1018.3 ± 1014.4 يوماً في المستشفيات الخاصة وبلغت نسبة المرضى الذين تم الكشف عليهم من قبل الأطباء كحالات مستقرة 66.7% في المستشفيات الحكومية و 93.9% في المستشفيات الخاصة. وقد اتفق الأطباء على ان حوالي ثلثي المرضى يمكن معالجتهم بالمنزل. بلغت نسبة أمراض الجهاز العصبي وأعضاء الإحساس 67.9% حسب التشخيص يليها أمراض الغدد الصماء والتمثيل الغذائي (37.1%) وأمراض جهاز الدورة الدموية (32.7%) والأمراض السرطانية (1.9%) بينما كان مرضى السكري (53.2%) والحوادث الوعائية المخية (53.7%) والخرف (50%) وارتفاع ضغط الدم (46.8%) في المستشفيات الخاصة. وكان مرضى السكري (57.1%) وارتفاع ضغط الدم (42.9%) وقرحة السرير (28.6%)، وما بعد عملية خزع الرغامي (14.3%) في المستشفيات الحكومية هي الأمراض الأكثر شيوعاً لمرضى فترات الرعاية الطويلة.

إن المشاكل النشطة لـ 25% و 23.5% للمرضى هي العناية بعملية خزع الرغامي وجهاز التنفس الاصطناعي على التوالي، بينما نجد أن 57.2% من المرضى ليس لديهم مشاكل نشطة.

الخلاصة: إن مرضى فترات الرعاية الطويلة يقعون في المستشفيات الخاصة أطول مدة من المستشفيات الحكومية. وإن حالتهم تبدو مستقرة من دون مشاكل نشطة ويمكن معالجتهم بالمنزل. وإن الأمراض السائدة بينهم تتعلق بالجهاز العصبي والغدد الصماء والتمثيل الغذائي.

الكلمات المرجعية: مرضى الفترات الطويلة، الرعاية الصحية المنزلية.

Objectives. To find out the profile of patients who stay more than 20 days in hospital in Al-Khobar and Al-Dammam.

Methods. A cross sectional descriptive study was designed using a questionnaire completed by health care providers (physicians, nurses, physiotherapists, and social workers) of a random sample of 159 patients out of 318 patients identified as having stayed in the hospital for more than 20 days.

Results. The mean length of stay of the patients were 358.6 ± 776 days in government hospitals, and 1014.4 ± 1018.3 days in private hospitals. Patients were seen as stable by their doctors, 66.7% in government hospitals and 93.9% in private hospitals (statistically significant different at $p < 0.001$). Physicians agreed that about two thirds of the patients could have been managed at home. 57.2% of the patients had no active problems. Diseases of the nervous system and sense organs accounted for 67.9% of the diagnoses, followed by endocrine, nutritional, and metabolic diseases (37.1%), diseases of the circulatory system (32.7%), and neoplasms (1.9%). Diabetes mellitus was the commonest illness making up 53.2% and 57.1% of the long-term patients in private and government hospitals respectively. The active problems of 25% and 23.5% of the patients was tracheostomy care and ventilation respectively.

Correspondence to:

Dr. Nabil Y. Kurashi, Department of Family & Community Medicine, College of Medicine, King Faisal University, P.O. Box 40024, Al-Khobar 31952, Saudi Arabia - E-mail: dr_nabil_kurashi@yahoo.com

Conclusions. *Long-term patients tended to stay longer in private hospitals than in government hospitals, had diseases related to the nervous and endocrine systems and nutritional metabolism, were in stable condition with no active problems, and could thus, be managed at home.*

Key Words: *Long-Term Patients, Home Health Care*

INTRODUCTION

Home visits formed a major part of the family physician's work in North America fifty years ago.¹ Home visiting by general practitioners remains an important feature of British general practice and is one of the factors that distinguishes primary care in Britain from primary care in many other countries.^{2,3} However, annual home visiting rates declined by 27% between 1981-2 and 1991-2, from 411/1000 patient years to 299/1000.

In a survey done by Aylin et al³ in September 1991 and August 1992 to investigate the association between the home visit rates by general practitioners and patients' characteristics, the data of the fourth national survey of morbidity in general practice was studied. They found that 10.1% of contacts with general practitioners took place in patients' homes and the average annual home visiting rate was 299/1000 patient years.

Home health care (HHC) is a formal, regulated program of care provided by a variety of health care professionals in the patients' home¹ which has become an essential component of the health care system in developed countries. It has been growing rapidly in the past two decades in many countries such as the United States,¹ Canada, Australia, European Union, and Japan as a result of the steady increase in demand for health services and cost effectiveness. The rapid rise for the demand for HHC especially in this past decade is due to the steady increase in the prevalence of chronic diseases, aging population, and maintaining hospital costs which has reduced the length of hospital stay, and the desire of patients and relatives to avoid prolonged expensive care, particularly at the end of the patient's life.¹ HHC is a favored alternative to hospital care since the patients are more inclined to receive care at home and reduce the risk of cross-infection. As a result, according to the American Hospital Association, hospital beds occupancy rate, and the average length of stay in the USA decreased in 1993 in comparison to 1990. In Saudi Arabia, the HHC program started

in 1980 as a hospital-based program after health providers felt the need for this, but its implementation is not widespread.

Hospital use and spending greatly increased in 2001 and 2002 in the USA. In a study, Shactman and colleagues estimated that if the current trends continued, real hospital per capita spending could increase by 75% between 2002 and 2012.

Hospital costs form the largest component of healthcare expenditure. Their growth accounted for half the increase in healthcare costs between 2000 and 2001. Inpatient hospital costs are now rising 6% to 12% a year. Thus, HHC seems to be one of the most popular alternatives in the United States. According to the National Associations for Home Care, more than eight million people in the US require some form of HHC; more than 20,000 HHC providers exist today; two-thirds of HHC recipients are women; almost two-thirds of HHC recipients are aged over 65; conditions requiring HHC most frequently include heart disease, cancer, diabetes, and hypertension; and approximately 36 billion dollars was spent on HHC in 1999.

Rising hospital costs and the advantages of HHC seen in other countries make it a worthwhile program for its possible implementation in the management of long-term patients in the Kingdom. A study on the nature of long-term patients in Saudi Arabia will contribute to the database for HHC programs.

RATIONALE

The information from the present study will serve as baseline data for developing HHC programs.

OBJECTIVES

The present study tried to identify the profile and HHC needs of patients who stay more than 20 days in hospitals in Al-Khobar and Al-Dammam.

METHODOLOGY

In order to assess the insights of health care professionals in the profile of long-term patients

at Al-Khobar and Al-Dammam and find out these patients' needs of HHC services, a cross-sectional descriptive study was designed using a specially-developed questionnaire for the purpose. The study was conducted with 637 health care providers (207 physicians, 339 nurses, 67 physiotherapists, and 28 social workers) on a random sample of 159 patients who were chosen from a list of 318 long-term patients identified in the year 2000 as having stayed for more than 20 days in 27 hospitals that had more than 49 beds each. Sixty (60) patients from government hospitals and 99 from private hospitals were selected by a two-stage stratified random sampling with proportional allocation. From the samples of health care professionals, 65% of the physicians, 57% of the nurses, 45% of the physiotherapists, and 50% of the social workers worked in government hospitals.

The instruments for data collection were: the questionnaire, file review and the attending physicians' and nurses' patient assessment. The 5-part questionnaire was as follows: Part I - 8 items dealing with the patients' demographic data; Part 2 comprised 6 items dealing with patient clinical assessment; Part 3 had 2 items dealing with home management for home health team members; Part 4 comprised 17 items eliciting data on the services received in the hospital ward, and Part 5 had 4 items which elicited information from the patient's companion on the patient's ability to communicate. Cronbach's alpha reliability test was 0.85 and Guttman split-half reliability test was 0.82.

Data analysis was performed both in analytic and descriptive techniques. Frequency and percentage distribution tables were constructed. Chi-Square (X^2) analysis was used as appropriate with the significance level less than 0.05. Ethical considerations were observed. Each health team member's personal consent was secured. The collection, analysis, and reporting of the data were anonymous.

RESULTS

The mean age of patient-respondents who participated in the study was 51.5 ± 28.0 years. The mean lengths of stay of patients were 358.6 ± 776 days and 1014.4 ± 1018.3 days in government and private hospitals respectively, significantly different at $p < 0.001$ as shown in Figure 1.

Physicians in government and private hospitals assessed 66.7% and 91.7% of their patients, respectively, to be in stable condition

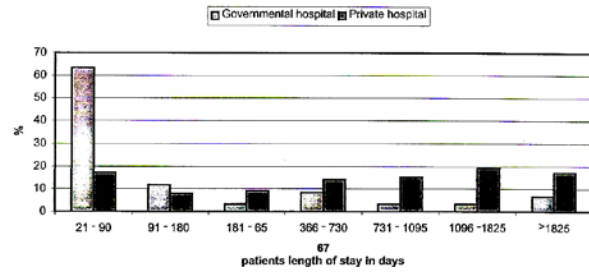


Figure 1: Patients length of stay in the hospital, Eastern Province, Saudi Arabia

Table 1: Clinical assessment of the patients, Eastern Province, Saudi Arabia

Assessment	Govt. N=60 No. (%)	Private N=99 No. (%)	Total N=159 No. (%)	p-value*
Current medical status:				<0.001
Physicians' opinion				
Stable	40 (66.7)	91 (91.9)	131 (82.4)	
Complicated	18 (30.0)	7 (7.1)	25 (15.7)	
Critical	2 (3.3)	1 (1.0)	3 (1.9)	
Nurses' opinion				0.001
Stable	44 (73.3)	93 (93.9)	137 (86.2)	
Complicated	13 (21.7)	5 (5.1)	18 (11.3)	
Critical	3 (5.0)	1 (1.0)	4 (2.5)	
Active problems				0.005
Yes	34 (56.7)	34 (34.3)	69 (42.8)	
No	26 (43.3)	65 (65.7)	91 (57.2)	

*Chi-square test

Table 2: Opinion of health team regarding the home management and their willingness to share in the home management of the patients, Eastern Province, Saudi Arabia

Assessment	Govt. N=60 No. (%)	Private N=99 No. (%)	Total N=159 No. (%)	p-value
Possibility of home management:				
Physicians' opinion				<0.350
Yes	33 (55.0)	50 (50.5)	83 (52.2)	
No	27 (45.5)	49 (49.5)	76 (47.8)	
Nurses' opinion				0.007
Yes	34 (56.7)	76 (76.8)	110 (69.2)	
No	26 (43.3)	23 (23.2)	49 (30.8)	
Physiotherapists' opinion				<0.001
Yes	19 (31.7)	88 (88.9)	107 (67.3)	
No	2 (3.3)	4 (4.0)	6 (3.8)	
Not applicable	39 (65.0)	7 (7.1)	46 (28.3)	
Willingness to share in the management:				
Physicians' opinion				0.355
Yes	24 (40.0)	29 (29.3)	53 (33.3)	
No	9 (15.0)	20 (20.2)	29 (18.2)	
Not applicable	27 (45.0)	50 (50.5)	77 (48.4)	
Nurses' opinion				<0.001
Yes	25 (41.7)	73 (73.7)	98 (61.6)	
No	9 (15.0)	2 (2.0)	11 (6.9)	
Not applicable	26 (43.3)	24 (24.2)	50 (31.4)	
Physiotherapists' opinion				<0.001
Yes	12 (20.0)	68 (68.7)	80 (50.3)	
No	7 (11.7)	20 (20.2)	27 (17.0)	
Not applicable	41 (68.5)	11 (11.1)	52 (32.5)	

with a statistically significant difference of $p < 0.001$. Government hospital physicians assessed half of their patients as having active problems, while only one third of those in private hospitals viewed patients as having active problems, showing statistically significant difference between the two groups ($p = 0.05$) as shown in Table 1.

Although 89.9% and 36.7% of the patients in private and government hospitals, respectively were bedridden (Figure 2), the difference of which was statistically significant at $p > 0.001$, physicians agreed that 55% of the patients from government and 50.5% of those from private hospitals could have been managed at home, as shown in Table 2. A greater number of nurses (69.2%) are more willing to share in the home management than physiotherapists (67.3%) and physicians (33.3%), the difference of which is $p < 0.001$. 57.2% of the patients had no active problems; 43.3% of these patients were in government hospitals and 65.7% in private hospitals ($p = 0.006$).

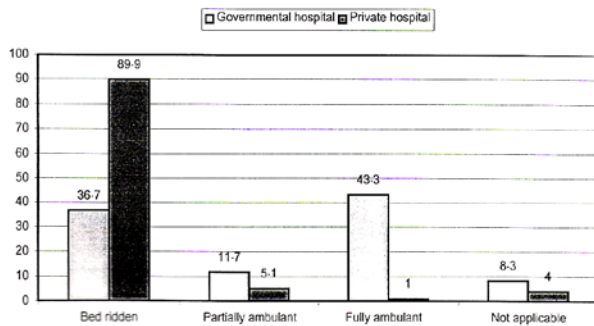


Figure 2: Patients mobility in the hospital, Eastern Province, Saudi Arabia

Diseases of the nervous system and sense organs, shown in Table 3, accounted for the 67.9% of diagnosis, followed by endocrine, nutritional, and metabolic diseases (37.1%), diseases of the circulatory system (32.7%), and diseases of the respiratory system (17.0%).

The patients' diagnosis (Table 4) differed according to the age groups and health sectors. The most common diagnosis for patients <18 years (17.6% of all patients) were seizure disorders (43.8%) in private hospitals and premature babies (16.7%), tracheoesophageal fistula (16.7%) and cerebral palsy (16.7%) in government hospitals. The most common diagnosis for the patients aged between 18 to 44 years (23.3% of all patients) were road traffic accidents (50.0%) in private hospitals and schizophrenia (33.3%) in government hospitals. About 50.0% of the patients from the government hospital group aged between 45 to 64 years had diabetes mellitus, (14.3%) had cerebrovascular accidents, (35.7%) were hypertensive, and in the private hospitals, 81.8% had diabetes mellitus 45.5% were hypertensives, and 9.1%, were post tracheostomy. The most common diagnosis in patients aged above 65 years (43.4% of all patients) was diabetes mellitus (53.2%), cerebrovascular accidents (53.2%), dementia (50.0%) and hypertension (46.8%) in private hospitals, and diabetes mellitus (57.1%), hypertension (42.9%), bed sores (28.6%) and post tracheotomy (14.3%) in government hospitals.

Table 3: Types of diseases as presented to government and private hospitals, Eastern Province

Characteristics	Government N=60 No. (%)	Private N=99 No. (%)	Total N=159 No. (%)
Diseases of the nervous system and sense organs	22 (36.7)	86 (86.9)	108 (67.9)
Endocrine, Nutritional and Metabolic Diseases	14 (23.3)	45 (45.5)	59 (37.1)
Diseases of the circulatory system	12 (20.0)	40 (40.4)	52 (32.7)
Diseases of the respiratory system	8 (13.3)	19 (19.2)	27 (17.0)
Diseases of the musculoskeletal system and connective tissue	3 (5.0)	18 (18.2)	21 (13.2)
Diseases of the genitourinary system	7 (11.7)	14 (14.1)	21 (13.2)
Mental disorders	15 (25.0)	5 (5.1)	20 (12.6)
Injury and poisoning	7 (11.7)	10 (10.1)	17 (10.7)
Diseases of the digestive system	2 (3.3)	13 (13.1)	15 (9.4)
Post surgical states	6 (10.0)	7 (7.1)	13 (8.2)
Congenital anomalies	5 (8.3)	7 (7.1)	12 (7.5)
Diseases of the skin and subcutaneous tissues	3 (5.0)	8 (8.1)	9 (5.7)
Diseases of the blood and blood-forming tissue	1 (1.7)	4 (4.0)	7 (4.4)
Infectious and parasitic diseases	2 (3.3)	2 (2.0)	4 (2.5)
Certain conditions originating in the perinatal period	32 (3.3)	2 (2.0)	4 (2.5)
Neoplasms	3 (5.0)	0	3 (19.9)

Table 4: Percentage distribution according to the major clinical diagnosis of patients of different age groups, Eastern Province, Saudi Arabia

Clinical diagnosis	Aged <18		Aged 18 – 45		Aged 45 – 64		Aged ≥ 65	
	Gov't	Private	Gov't	Private	Gov't	Private	Gov't	Private
Diabetes mellitus	0	0	0	0	50.0	81.8	57.1	53.2
Hypertension	0	0	0	0	35.7	45.5	42.9	42.9
Bed sore	0	0	0	0	0	0	28.6	0
Cerebrovascular accident	0	0	0	0	14.3	54.5	14.3	53.2
Dementia	0	0	0	0	0	36.4	0	50.0
Hemiplegia	0	0	0	0	0	0	0	0
Coronary artery disease	0	0	0	0	0	0	0	0
Seizure disorder	0	43.8	7.4	30.0	0	0	0	0
Mental retardation	0	25.0	0	30.0	0	0	0	0
Microcephaly	0	25.0	0	0	0	0	0	0
Cerebral palsy	16.7	25.0	0	0	0	0	0	0
Premature baby	16.7	0	0	0	0	0	0	0
Tracheoesophageal fistula	16.7	0	0	0	0	0	0	0
Infective endocarditis	16.7	0	0	0	0	0	0	0
Road traffic accident	0	0	18.5	50.0	0	0	0	0
Schizophrenia	0	0	33.3	0	0	0	0	0
Bipolar affected disorder in manic episode	0	0	11.1	0	0	0	0	0
Mental retardation	0	0	7.4	0	0	0	0	0
Limb fracture	0	0	7.4	30.0	0	0	0	0
Renal failure	0	0	7.4	0	0	18.2	0	0
Post tracheostomy	0	0	0	0	14.3	0	0	0
AV malformation	0	0	0	0	14.3	0	0	0
Respiratory failure	0	0	0	0	0	18.2	0	0
Obstructive uropathy	0	0	0	0	0	0	0	0

DISCUSSION

The present figure of 539 days as the mean duration of the length of stay in a government hospital is higher than the figure recorded in 1993, i.e., 229 days-in all MOH hospitals with 100-bed capacity or more.⁴

The findings that 82.4% of patients were stable and that 52.2% of patients could have been managed in their homes are in agreement with the Al-Shammari et al⁵ finding that 55% of long stay patients could be managed at home. Fifty-seven percent of patients did not have an active problem. If there were medical health services support for families at home, more than half of the beds with long-term occupancy could be utilized for acute patient management.

The data showing that diseases relating to the nervous system and sense organs constituted more than two-thirds of patients' illnesses while one-third of patients suffered from endocrine and nutritional metabolic diseases demonstrates that the majority of patients occupying beds for long periods can be managed at home, if health care support in the form of manpower and medical equipment were available.

All except three patients in the government hospitals who were referred to higher centers for arteriovenous malformation (two patients) and

bladder injury, in the adult age group could be candidates for home health care according to American Academy of Home Care Physicians.⁶ Almost all chronic diseases can be managed at home.⁶ The current trend is that with advanced technology and simple medical equipment patients could remain at home and receive care.^{6,7} Technological advances have enabled more clients to receive the necessary healthcare at home. However, the health team responsible for the patients reported that more than half of the long-stay patients could also be managed at home.^{6,7}

CONCLUSION

Forty three percent of the sample of long-stay patients were elderly patients whose mean duration of stay in private hospitals was 2.8 years and 0.98 year in government hospitals. Their prevalent diseases related to the nervous system, endocrine and nutritional metabolism, and were reported by their physicians and nurses as stable, with no active problems, and therefore could be managed at home.

RECOMMENDATIONS

Home health care must be integrated into PHCC activities in full coordination with hospitals

because PHCCs are more community-based and closer to the people. There is a need to plan the health care system in a way that would ensure the delivery of health care at home to special groups who need it, such as geriatrics, the handicapped, and terminally ill patients.

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