



DETERMINANTS OF PRESCRIBING FOR THE ELDERLY IN PRIMARY HEALTH CARE

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ABSTRACT

Objectives: - To evaluate determinants of prescribing for the elderly in primary care such as diagnoses types, sources and availability of medications.

Design: - Cross sectional study of elderly patients in primary care.
Setting / Institution: -Training primary care center in Riyadh (AL Rabwah primary care center).

Subjects: - 100 elderly patients randomly selected from Rabwah primary care center.

Main Measures: - Number of concomitant diseases, diagnoses, number, types and sources of medications for elderly in primary care.

Results: - The study showed 51% of patients are being followed up in primary care center, 56% of patients had two and more diseases, and 31% of patients are on three or

more medications. 61% of patients get their medications from primary care center and 95% of elderly medications may be available in primary care center.

Conclusions: - Most of elderly patients depend on primary care center for their health care. Well-organized elderly care systems need to be in effect urgently in primary care settings coupled with appropriate educational programs for the health care team members.

Key words: Health, Prescribing, Elderly, primary care.

Introduction:

The global increase in people aged 60 years and above had attracted the attention of the world to the magnitude of the problems of providing health care for the elderly(1) . The proportion of geriatric population in developed countries reached between 12 and 18% of total population and expected to increase in coming years(2,3), a phenomenon known as the "baby boomers" in the west. Similar changes noticed in developing countries(4), and Saudi Arabia is not an exception. In Saudi Arabia studies on general population in primary health care PHC showed an average of 3.2 ± 0.04 drugs per prescription and an average of 1.8 ± 0.3 drugs per patient. Higher numbers are expected to be found in the elderly population which composes about 20.7% of patients attending PHC (5,6).

Traditional teaching suggests that a prescription should be safe, necessary, effective and economical.

Since increasing number of elderly patients, a group with special medical needs, will be seen in PHC, the objective of the present study was conducted to evaluate the essential drugs list available now (7) taking into consideration the needs of this age group.

Subjects and methods:

This is a cross sectional study that was conducted in Riyadh. During April-July 2001.

The study population was elderly patients aged 60 years and above, who were registered in a training (Rabwah) primary health care (PHC) center.

A pilot study was conducted in King Fahad PHC center and relevant changes in questionnaire were made after ward. The final questionnaire completed included the following: -

1. Demographic data such as age, gender, level of education and place for follow up of disease.
2. Health variables such as number of concomitant diseases, diagnoses, number, types,

sources and availability of medications used by patient, whether patient is using any medical appliances and information related to it, i.e. devices like diabetes kits.

The population in the area covered by Rabwah PHC center is 27,042 of whom 85% were registered in the center. The elderly account for 2671 (9.8%) in this populace.

The study sample is composed of 100 registered elderly patients 50 male and 50 female patients selected randomly. This number represents 3.7% of the elderly population living in Rabwah.

Physicians working in Rabwah PHC center interviewed all patients. The data was entered and analyzed in a personal computer using "Data Star Software for data entry "Systat" Software-version 9" for statistical analysis .

Results:

The total number of elderly patients involved in the study was 100 out of which (50%) were females. The overall mean age was 66.8 year \pm 5.8. (Between 60 to 85 years) (Table 1). Fifty one percent of patients are followed up in PHC center, while 49% of patients are being followed up in both PHC and hospital.

Forty four percent of patients were found to have one disease while 32% of patients had two diseases. Patients who had three diseases or more accounted for 24%. Table 2 shows that more than half the sample size (56%) represented with at least two or more diseases.

Table 1: Age - sex distribution of the elderly participants			
Age group (year)	No. of patients (M=50, F=50)		Total (100)
	Male (%)	Female (%)	
60-69	28 (56%)	38 (76%)	66 (66%)
70-79	19 (38%)	11 (22%)	30 (30%)
\geq 80	3 (6%)	1 (2%)	4 (4%)

Table 2: Number of diseases by sex in elderly patients involved in the study

Age group (year)	No. of patients (M=50, F=50)		Total (100)
	Male (%)	Female (%)	
One disease	21 (42%)	23 (46%)	44 (44%)
Two diseases	11 (22%)	21 (42%)	32 (32%)
Three diseases or more	18 (36%)	6 (12%)	24 (24%)

The diagnosis most commonly seen in elderly patients was endocrine and metabolic diseases mainly diabetes mellitus followed by diseases of cardiovascular system CVS mainly hypertension. Musculoskeletal and joint diseases represented only 9% (Table 3). Forty three percent of patients are using only one medication (Table 4).

Almost one third of patients are on three or more medications. Type: Forty five percent of elderly patients are on drugs for Diabetes, 34% of patients on drugs for hypertension, 11% of patients on drugs for musculoskeletal and joints disease mainly non-steroidal anti-inflammatory drugs NSAID, 4% of patients on drugs for gastrointestinal tract GIT mainly antacids and ulcer healing drugs (Table 5). Of the above medications 35% were prescribed by physicians in PHC center, 43% by physicians in both hospital and PHC center and 22% by physicians in other places.

Sources: The sources from which elderly patients in the study get their medications were PHC center (61 percent) hospital (8 percent); both hospital and PHC center (30 percent) and only 1% of patients get their medications from other places. Indicating that PHC center is the main source of medications.

Availability: On questioning these elderly patients about availability of their medications 5% of patients indicated that their medications are always not available in PHC center, 70% of patients indicated that their medications are some times available in PHC center, while 25% of patients indicated that their medications are always available in PHC center.

Discussion:

This study has shown that the health care for the majority of elderly patients is provided by PHC center that agree with previous publications (8). More than half the sample size had two or more diseases with endocrine and metabolic the commonest encountered diseases, which is expected in this age group. The prevalence of diabetes is known to increase with age; therefore it is not an unexpected finding in this study that diabetes mellitus was at the top of the list of metabolic diseases seen in elderly patients. This also

explains why the medications for diabetes were the most common drugs used by elderly in PHC.

Table 3: Classification of diseases by gender in elderly patients involved in the study.

Diseases	No. of patients (M=50)(F=50)		Total (100)
	Male (%)	Female (%)	
Endocrine and Metabolic disease	23 (46%)	19 (38%)	42 (42%)
Cardiovascular system	13 (26%)	21 (42%)	34 (34%)
Musculoskeletal and joint diseases	5 (10%)	4 (8%)	9 (9%)
Respiratory system diseases	3 (6%)	4 (8%)	7 (7%)
Digestive system disorder	2 (4%)	0	2 (2%)
Others	4 (8%)	2 (4%)	6 (6%)

Table 4: Number of medications by gender for elderly patients involved in the study.

No. of medication	No. of patients (M=50)(F=50)		Total (100)
	Male (%)	Female (%)	
One medication	17 (34%)	26 (25%)	43 (43%)
Two medications	12 (24%)	14 (28%)	26 (26%)
Three medications	8 (16%)	4 (8%)	12 (12%)
Four medications	7 (14%)	2 (4%)	9 (9%)
Five or more	6 (12%)	4 (8%)	10 (10%)

Concerning medications; it was also found that almost one third (31%) of the study sample were using three or more medications. Poly pharmacy (three or more drugs prescribed per patient) is considered a problem in Saudi Arabia (5) and constitutes a concern in terms of its economic and medical burdens as well as issues relating to its public safety (9). However, in the elderly patients seen in this study, this issue can be due to the presence of two or more diseases in large proportion of the studied group of elderly patients, and the fact that almost half of studied sample were seen in both hospitals and PHC center which mean that they were being seen by two or more doctors and put on regimens with medications prescribed from both the hospital and PHC center.

The study also showed that 95% of medications used by the elderly may be available at times in PHC center and in turn are covered by essential drugs list for PHC centers.

The lack of geriatrics and personnel as well as specialized facilities for the elderly population might contribute to limiting the diagnosis of diseases in this age group. Those diseases include endocrine diseases other than diabetes such as osteoporosis and menopause, or cardiovascular diseases such as ischemic heart disease, or other health problems including dementia, visual impairment, and hearing disability to name but a few.

These defects and deficiencies might explain low utilization of drugs other than those present in essential drugs list provided by ministry of health in Saudi Arabia.

Other studies of drug compliance are warranted in the elderly population to better provide a comprehensive health care system targeted towards patients more than 60 years of age.

Conclusions:

Most of elderly patients depend on primary health care for their health needs. Elderly care system or clinic need to be applied in primary health care.

Training of physicians, nurses and other health care team members on needs of elderly patients is highly needed as well as providing facilities for diagnosis and screening of elderly health problems.

Table 5: Types of drugs used by patients involved in the study:

Type of drug	No. of patients (n = 100)	(%)
Endocrine system (Insulin, OHA.. etc.)	45	(45%)
CVS (Beta blockers, diuretics.. etc)	34	(34%)
Musculoskeletal and joint disease (NSAIDs.. etc)	11	(11%)
GIT (ulcer healing drugs, antacids,.. etc)	4	(4%)
Respiratory system (ventolin, Becotide.. etc)	4	(4%)
Eye, ear and others	2	(2%)

CVS = cardiovascular system, OHA = oral hypoglycemic agents, GIT = gastrointestinal tract, NSAID = nonsteroidal anti-inflammatory drugs.

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