

**DRUG CLASSES PROFILE AMONG ELDERLY PATIENTS  
ADMITTED TO GERIATRIC UNIT  
BY**

Sherihan Ahmed <sup>a</sup>, Lamia M. El Wakeel <sup>b</sup>, Sarah A. Hamza <sup>c</sup>,

**FROM**

a: Teaching Assistant, Faculty of Pharmacy, Nahda University, Beni Sueif, Egypt

b: Assistant Professor of Clinical Pharmacy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt

c: Professor of Geriatrics and Gerontology, Faculty of Medicine, Ain Shams University, Cairo, Egypt

**ABSTRACT**

**Background**

Elderly people have a higher prevalence of chronic illness, disability and dependency and are more likely to be on medication than younger people. They are often taking several drugs at once to treat concomitant disease processes.

**Aim**

To identify and classify different types of drugs and comorbid diseases encountered among hospitalized elderly patients.

**Methods**

Data were prospectively collected from 320 patients aged  $\geq 65$  hospitalized at the Department of Geriatrics and Gerontology at a university teaching hospital in Egypt among 17 month study period. Patient's medical profiles were studied carefully for identification and classification of different types of drugs and comorbid diseases encountered among hospitalized elderly patients.

**Results**

There were different types of comorbid diseases encountered among the patients, with a median of five per patient and a range of 1-11 per patient. The most common medical disorders among the studied patients were hypertension (52.8%), diabetes (42.5%) and chronic liver diseases (40.3%). The total number of medications prescribed was 2985; median number of medications per patient was nine (range 2-20). The most commonly prescribed medications were antacids and peptic ulcer medications (78.1%), antiplatelet and anticoagulants (77.2%) and antibiotics (68.1%). While the less frequently prescribed drugs were skeletal muscle relaxant (0.6%) and antifungal drugs (0.3%).

**Conclusion**

Results of the current study have reported the presence of poly-pharmacy and poly-morbidity among this Egyptian elderly patient's profile.

**Key words:** elderly, drugs, comorbid diseases, geriatric

## Introduction

Elderly individuals are a heterogeneous population, and many of them have several chronic illnesses that require multiple medications, making them vulnerable to adverse drug events that contribute to elevated medical costs but are preventable (**Zhang *et al.*, 2009**). Appropriate pharmaceutical care for the elderly has been determined based on clinical trials conducted with younger adults. However, because of changes in pharmacokinetics and pharmacodynamics associated with aging, greater attention is needed in pharmacy management for patients aged >65 years (**Akazawa *et al.*, 2010**).

Factors such as age-related changes in drug pharmacokinetics and pharmacodynamics complicate medication prescribing. In addition, the presence of multiple co-morbidities and the consequent prescribing of many concurrent medications increase the likelihood of other problems, such as drug interactions, failure to adjust doses in the elderly, failure to monitor and review medication, unnecessary prescribing and problems with medication management in the home (**Basger *et al.*, 2008**).

People over the age of 65 years have a higher prevalence of chronic illness, disability and dependency than those <65 years. They are more likely to be on medication than younger people. They are often taking several drugs at once to treat concomitant disease processes (**Gallagher *et al.*, 2007**).

Geriatricians are trained, when faced with an older individual presenting with multiple different symptoms, to consider several diagnoses rather than a single unifying diagnosis. Most very elderly patients do have several concomitant chronic conditions (**Fortin *et al.*, 2005; Marengoni *et al.*, 2008**). Hypertension, heart failure, stable angina, atrial fibrillation, hypercholesterolemia, diabetes, osteoarthritis, chronic obstructive lung disease, and osteoporosis, as well as dementia and depression represent the most frequent chronic diseases encountered in the geriatric population (**Zhang *et al.*, 2010; Stevens *et al.*, 2010**).

Presenting with multiple comorbidities is associated with diminished quality of life, physical disability, psychological disorders, increased use of health care resources, multiple health care providers, poly-medication and an overall increased risk of adverse events (**Budnitz *et al.*, 2006; Lang *et al.*, 2010**). All of these factors influence the risk-benefit ratio of drug therapy and other treatments. Elderly patients with multiple comorbidities must generally master self-management tasks, a process influenced not only by the disease burden or level of morbidity, but also by specific psychosocial factors (**Vogt-Ferrier, 2011**).

Older subjects use a higher number of drugs than younger ones, to treat a higher number of conditions. Poly-pharmacy is frequent in this population, and this carries an increased risk of medication-related problems, including adverse drug reactions (ADRs) and drug-drug interactions (**Juurlink *et al.*, 2003**). Susceptibility to suffer these problems increases with age for a number of reasons, including age-related changes in pharmacokinetics and pharmacodynamics, poly-pharmacy, comorbidity, disability,

social aspects, and the exclusion of the oldest, frailest patients from drug research (Conejos *et al.*, 2010).

In the United States, 12.5% of the population is over 65 years of age but consume 32% of all prescription medications and account for 25% of drug expenditure and 30% of total national healthcare expenditure (Gupta *et al.*, 1996; Golden *et al.*, 1999). In Ireland, people over the age of 65 years comprise 11.13% of the population but consume 47% of all prescription medications (Barry, 2002). In Europe, people over 65 years of age consume on average 2.3 times the amount of health care than do those <65 years of age (Masoodi, 2008). These figures indicate that older people are the greatest consumers of medications and healthcare resources in developed countries. Population demographics are changing worldwide, with life expectancy and the proportions of older persons increasing. It is reasonable to assume that as more drugs become available and longevity continues to increase, the consumption of prescription drugs by older people will increase further and the incidence of potentially inappropriate prescribing will grow (Gallagher *et al.*, 2007).

The use of several drugs concomitantly is justified in the treatment of multiple chronic diseases. However, poly-pharmacy is known to dramatically increase the risk of ADRs, drug–drug and drug–disease interactions (Juurlink *et al.*, 2004; Holbrook *et al.*, 2005). It has been claimed that patients taking two drugs face a 13% risk of adverse drug interactions, rising to 38% when taking four drugs and to 82% if seven or more drugs are given simultaneously (Goldberg *et al.*, 1996). With poly-pharmacy, duplicative prescribing within the same drug class is prevalent and unrecognized drug adverse-effects are often treated with more drugs thus leading to prescribing cascades, e.g. using levodopa to treat the Parkinsonian adverse-effects of neuroleptic medications. Poly-pharmacy also makes compliance with medications more challenging. Non-compliance with prescribed medications can result in sub-optimal therapeutic effectiveness and can have major clinical consequences (Monane *et al.*, 1997). If the existence of non-compliance is not recognized, the physician may increase the dose of the initial medication or add a second agent, increasing both the risk and the cost of treatment (Gallagher *et al.*, 2007).

The hospitalized patients – who often receive multiple medications – are likely to be the victims of a prescribing cascade which leads to an increased likelihood of receiving inappropriate drug therapy (Tiwari and Kapur, 2007). Hence, the aim of current study was to identify and classify different types of drugs and comorbid diseases encountered among hospitalized elderly patients.

## Patients and methods

### Study subjects

Data were prospectively collected from 320 patients aged  $\geq 65$  hospitalized at the Department of Geriatrics and Gerontology at a university teaching hospital in Egypt among 17 month study period. All patients admitted to the geriatric department whether at the critical care area or hospital inpatients wards were assessed for eligibility according to the following criteria:

**Inclusion Criteria**

All hospital inpatients aged  $\geq 65$  years old were included in the study irrespective their medical condition.

**Exclusion Criteria**

Patients previously included in the study and are being admitted to the hospital for the second time.

**Data collection**

The patient data were collected with the help of consultants and senior residents at the Department of Geriatric Medicine at the time of hospital admission. The collected patient's medical data include basic demographic characteristics (age, sex), medical history, problem list, medical co-morbidities and concurrent medications. This clinical data was collected from medical records directly in wards, because the electronic medical reports were unavailable.

Supplementary information was obtained from the patient, geriatric resident and hospital record when necessary, e.g. precise dose and duration of therapy, analgesic history, baseline renal function and blood pressure profile.

**Assessed parameters**

Patient's medical profiles were studied carefully for identification and classification of different types of drugs and comorbid diseases encountered among hospitalized elderly patients.

**Statistical analysis**

Continuous variables were expressed as means  $\pm$  S.D., and categorical variables were expressed as frequencies and percentages.

**Results**

Patients' demographics are presented in Table (1). Out of the 320 patients analyzed, the majority of patients (70.6%) belonged to the age group of 65-74 years, while 19.7% were in the age group of 75-84 years and only 9.7% were over 84 years of age.

In current study, there were different types of comorbid diseases encountered among the patients, with a median of five per patient and a range of 1-11 per patient. Patients with 3 to 6 comorbid diseases comprised  $>70\%$  of the total number of patients. The most common medical disorders among the studied patients were hypertension (52.8%), diabetes (42.5%), chronic liver diseases (40.3%) and ischemic heart diseases (34.1%). Table (2) presents the number and different types of morbidities encountered among the studied elderly patients.

A total of 2985 medications were prescribed for these 320 elderly patients, with a median of nine per patient and a range of 2-20 per patient. Approximately  $>75\%$  of patients took seven medications and more, but only 8.4% took fewer than five medications. Table (3)

Table (4) represents the different drug classes administered to patients. The most commonly prescribed medications were antacids and peptic ulcer medications (78.1%), antiplatelet and anticoagulants (77.2%), antibiotics (68.1%) and antihypertensive drugs (67.2%). While the less frequently prescribed drugs were skeletal muscle relaxant (0.6%), thyroid hormones (0.6%) and antifungal drugs (0.3%).

Table (5) showed that the most frequently used groups of antihypertensive drugs were diuretics followed by ACE inhibitors.

**Table (1):** Patients' demographics

Demographics			Total (n=320)
<b>Age</b>	<b>(years);</b>	<b>n</b>	<b>(%)</b>
65-74			226 (70.6%)
75-84			63 (19.7%)
≥ 85			31 (9.7%)
Age in years; Mean (± S.D)			71.6 (± 6.9)
<b>Sex;</b>	<b>n</b>	<b>(%)</b>	
-		Male	164 (51.3%)
-		Female	156 (48.8%)

**Table (2):** Number and Types of morbidities encountered among the patients

Number of morbidities per patient	No. of patients (%)
1	1 (0.3)
2	12 (3.8)
3	45 (14.1)
4	54 (16.9)
5	77 (24.1)
6	59 (18.4)
7	35 (10.9)
≥ 8	37 (11.6)
Total number of patients	320 (100)
Median (Range)	5 (1-11)
Different types of morbidities	No. of patients (%)
HTN	169 (52.8)
DM	136 (42.5)
chronic liver diseases	129 (40.3)
ISHD	109 (34.1)
COPD	91 (28.4)
renal failure	89 (27.8)
CHF	84 (26.3)
Osteoarthritis	77 (24.1)
Chronic Constipation	49 (15.3)
Bronchitis	44 (13.8)
AF	42 (13.1)
Peptic Ulcer	38 (11.9)
Dementia	30 (9.4)
Chest Infection	25 (7.8)
DVT	19 (5.9)
Bronchial Asthma	18 (5.6)
Prostatism	18 (5.6)
Osteoporosis	17 (5.3)
ACS	13 (4.1)
Falls	12 (3.8)
Urinary incontinence	12 (3.8)
MI	9 (2.8)
Depression	8 (2.5)
Rheumatoid arthritis	6 (1.9)
Thyroid diseases	5 (1.6)
Schizophrenia	5 (1.6)
Parkinsonism	4 (1.3)
GERD	4 (1.3)
Alzheimer	3 (0.9)
Epilepsy	2 (0.6)

HTN; hypertension, DM; diabetes mellitus, ISHD; ischemic heart disease, COPD; chronic obstructive pulmonary disease, CHF; congestive heart failure, AF; atrial fibrillation, DVT; deep venous thrombosis, ACS; acute coronary syndrome, MI; myocardial infraction, GERD; gastro-esophageal reflux disease

**Table (3):** Number of Drugs administered by the patients

No. of Drugs	No. of patients (%)
(1-2)	2 (0.6)
(3-4)	25 (7.8)
(5-6)	44 (13.8)
(7-8)	66 (20.6)
(9-10)	73 (22.8)
(11-12)	54 (16.9)
(13-14)	27 (8.4)
(≥ 15)	29 (9.1)
Total number of patients	320 (100)
<b>Total number of drug prescribed</b>	2985
<b>Median (Range)</b>	9 (2-20)

**Table (4):** Classes of Drugs administered to patients

Drug's Groups	No. of patients (%)
Antacids and anti-ulcerative	250 (78.1)
Antiplatelet/Anticoagulant	247 (77.2)
Antibiotic	218 (68.1)
Antihypertensive	215 (67.2)
Vitamins and Minerals	189 (59.1)
Anti-asthmatic	125 (39.1)
Lipid lowering agents	123 (38.4)
Cardiovascular agents	122 (38.1)
Anti-hyperglycemic	93 (29.1)
Analgesic and Anti-inflammatory	80 (25)
Laxatives	77 (24.1)
Electrolyte replacement	56 (17.5)
Antidiarrheal	52 (16.3)
Prostate preparation	45 (14.1)
Circulatory disturbance agents (Vascular Insufficiency)	39 (12.2)
Corticosteroids	32 (10)
Antispasmodic	30 (9.4)
Central nervous system agents	30 (9.4)
Anti-emetic	21 (6.6)
Anti-Gout	21 (6.6)
Hepatoprotective agents	19 (5.9)
Bone agents	8 (2.5)
Antihistaminic	7 (2.2)
Antihemorrhagic	7 (2.2)
Antiviral	3 (0.9)
Anti-hemorrhoids	2 (0.6)
Skeletal muscle relaxant	2 (0.6)
Thyroid hormones	2 (0.6)
Antifungal	1 (0.3)

**Table (5):** Antihypertensive Drugs administered by patients

Class	Generic name	No. of patients (%)
<b>Diuretics</b>	hydrochlorothiazide	4 (1.3)
	furosemide	100 (31.3)
	torseamide	4 (1.3)
	spironolactone	76 (23.8)
	amiloride	5 (1.6)
<b>Centrally Acting Drugs</b>	methyl dopa	5 (1.6)
<b>Beta-Blockers</b>	propranolol	19 (5.9)
	bisoprolol	19 (5.9)
	atenolol	13 (4.1)
<b>Mixed Blockers</b>	carvedilol	3 (0.9)
<b>Calcium Channel Blocker</b>	diltiazem	27 (8.4)
	nifedipine	8 (2.5)
	amlodipine	27 (8.4)
	verapamil	2 (0.6)
<b>ACE Inhibitors</b>	captopril	101 (31.6)
	enalapril	14 (4.4)
	lisinopril	3 (0.9)
	ramipril	2 (0.6)
	fosinopril	9 (2.8)
	perindopril	3 (0.9)

## Discussion

As the population ages, medical practice has to attend to the special needs inherent to the care of elderly patients. Because of the decline in the physiologic functions, the elderly patients are more vulnerable to drug-related problems; about half of which are known to be preventable (**Gurwitz et al., 2003**). Moreover, the longer one's life is, the more chronic the medical conditions one may accumulate and therefore, a larger number of drugs are needed for the treatment of ailments in geriatric patients (**Chang et al., 2004**).

In the current study, there was a nearly equal proportion of male to female elderly patients. The number of morbidities ranged from (1-11) per patient and more than 75% of the patients were suffering from  $\geq 4$  diseases (poly-morbidity).

The most common medical disorders observed in the studied elderly patients were hypertension (10.1%) followed by diabetes (8.1%), chronic liver diseases (7.7%) and ischemic heart diseases (6.5%), which is consistent with the study of Stanford and

colleagues that documented hypertension and ischemic heart diseases to be the most common morbidities among their studied elderly patients (Stafford *et al.*, 2011).

In the present study, the mean number of prescribed medications was 9.3, with approximately >75% of patients receiving  $\geq 7$  medications. On the contrary, other studies have documented lower means (Liu *et al.*, 2012; García-Gollarte *et al.*, 2012). On the other hand, our mean was lower than that of the study of Pyszka and colleagues that reported a mean number of 12.9 medications on admission, 14.2 on discharge and 14.1 during follow-up, indicating that poly-pharmacy is generally common among the elderly population (Pyszka *et al.*, 2010). Hence, reducing the number of medications, despite being worthwhile, should not be the main target in improving drug safety in the elderly. Poly-pharmacy is sometimes unavoidable and can be appropriate when it is carefully managed and monitored.

The university hospital are usually considered tertiary referral hospital who admit cases in advanced stages. In the current study, the most commonly prescribed medications were antacids and peptic ulcer medications (78.1%), antiplatelet and anticoagulant (77.2%), antibiotics (68.1%) and antihypertensive drugs (67.2%). In contrast, Stafford and colleagues reported that the most commonly prescribed medications in their sample were: analgesics and antipyretics (56.8%), antithrombotic agents (52.7%), drugs for peptic ulcer and gastro-esophageal reflux disease (43.8%), antidepressants (36%) and high-ceiling diuretics (30.8%) (Stafford *et al.*, 2011). The difference between these results and ours can be attributed to the difference in disease prevalence and distribution amongst different countries.

Prescribing appropriately for older patients is complex, and there is a wide variation in experience with geriatric pharmacotherapy among physicians of all specialties and levels (Gallagher *et al.*, 2011).

## Conclusion

Older people are a heterogeneous group, often with multiple co-morbidities and multiple prescriptions of many concurrent medications which increase the likelihood of other problems, such as drug interactions, failure to adjust doses in the elderly, failure to monitor and review medication, unnecessary prescribing. Pharmacist's interventions are very important to improve the quality of life of the elderly patients which may be performed by studying drugs' information, collecting patients' data including the study of each patient's history and patients' data evaluation for the presence of any drug related problems and medication errors.

## REFERENCES

- Akazawa M., Imai H., Igarashi A., and Tsutani K. (2010). Potentially inappropriate medication use in elderly Japanese patients. *The American Journal of Geriatric Pharmacotherapy*, 8(2), 146–160.
- Barry M. (2002). Drug expenditure in Ireland 1991-2001. *Irish Medical Journal*, 95(10), 294.

- Basger B. J., Chen T. F., and Moles R. J. (2008).** Inappropriate medication use and prescribing indicators in elderly Australians. *Drugs and Aging*, 25(9), 777–793.
- Budnitz D. S., Pollock D. A., Weidenbach K. N., Mendelsohn A. B., Schroeder T. J., and Annest, J. L. (2006).** National surveillance of emergency department visits for outpatient adverse drug events. *Jama*, 296(15), 1858–1866.
- Chang C., Liu P. Y., Yang Y. K., Yang Y., Wu C., and Lu F. (2004).** Potentially Inappropriate Drug Prescribing Among First - Visit Elderly Outpatients in Taiwan. *Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy*, 24(7), 848–855.
- Conejos M. M., Sanchez C. M., Delgado S. E., Sevilla M. I., Gonzalez-Blazquez S., Montero, E. B., and Cruz-Jentoft A. (2010).** Potentially inappropriate drug prescription in older subjects across health care settings. *European Geriatric Medicine*, 1(1), 9–14.
- Fortin M., Bravo G., Hudon C., Vanasse A., and Lapointe L. (2005).** Prevalence of multimorbidity among adults seen in family practice. *The Annals of Family Medicine*, 3(3), 223–228.
- Gallagher P., Barry P., O’Mahony D., Mrcpi P. G. M. B. M. B., and Frcp D. O. M. F. (2007).** Inappropriate prescribing in the elderly. *Journal of Clinical Pharmacy and Therapeutics*, 32(2), 113–121.
- Gallagher P. F., O’Connor M. N., and O’Mahony D. (2011).** Prevention of potentially inappropriate prescribing for elderly patients: a randomized controlled trial using STOPP/START criteria. *Clinical Pharmacology and Therapeutics*, 89(6), 845–854.
- García-Gollarte F., Baleriola-Júlvez J., Ferrero-López I., and Cruz-Jentoft A. J. (2012).** Inappropriate drug prescription at nursing home admission. *Journal of the American Medical Directors Association*, 13(1), 83.e9–83.e15.
- Goldberg R. M., Mabee J., Chan L., and Wong S. (1996).** Drug-drug and drug-disease interactions in the ED: analysis of a high-risk population. *The American Journal of Emergency Medicine*, 14(5), 447–450.
- Golden A. G., Preston R. A., Barnett S. D., Llorente M., Hamdan K., and Silverman M. A. (1999).** Inappropriate medication prescribing in homebound older adults. *Journal of the American Geriatrics Society*, 47(8), 948–953.
- Gupta S., Rappaport H. M., and Bennett L. T. (1996).** Inappropriate drug prescribing and related outcomes for elderly medicaid beneficiaries residing in nursing homes. *Clinical Therapeutics*, 18(1), 183–96.

- Gurwitz J. H., Field T. S., Harrold L. R., Rothschild J., Debellis K., Seger A. C., and Kelleher M. (2003).** Incidence and preventability of adverse drug events among older persons in the ambulatory setting. *Jama*, 289(9), 1107–1116.
- Holbrook A. M., Pereira J. A., Labiris R., McDonald H., Douketis J. D., Crowther M., and Wells P. S. (2005).** Systematic overview of warfarin and its drug and food interactions. *Archives of Internal Medicine*, 165(10), 1095–1106.
- Juurlink D. N., Mamdani M., Kopp A., Laupacis A., and Redelmeier D. A. (2003).** Drug-drug interactions among elderly patients hospitalized for drug toxicity. *Jama*, 289(13), 1652–1658.
- Juurlink D. N., Mamdani M. M., Kopp A., Rochon P. A., Shulman K. I., and Redelmeier D. A. (2004).** Drug - Induced Lithium Toxicity in the Elderly: A Population - Based Study. *Journal of the American Geriatrics Society*, 52(5), 794–798.
- Lang P. O., Hasso Y., Dramé M., Vogt-Ferrier N., Prudent M., Gold G., and Michel J. P. (2010).** Potentially inappropriate prescribing including under-use amongst older patients with cognitive or psychiatric co-morbidities. *Age and Ageing*, 39(3), 373–381.
- Liu C.-L., Peng L.-N., Chen Y.-T., Lin M.-H., Liu L.-K., and Chen L.-K. (2012).** Potentially inappropriate prescribing (IP) for elderly medical inpatients in Taiwan: a hospital-based study. *Archives of Gerontology and Geriatrics*, 55(1), 148–151.
- Marengoni A., Winblad B., Karp A., and Fratiglioni L. (2008).** Prevalence of chronic diseases and multimorbidity among the elderly population in Sweden. *American Journal of Public Health*, 98(7), 1198.
- Masoodi N. A. (2008).** POLYPHARMACY: TO ERR IS HUMAN, TO CORRECT DIVINE POLYPHARMACY: TO ERR IS HUMAN, TO CORRECT DIVINE. *British Journal of Medical Practitioners*, 1(1), 6–9.
- Monane M., Monane S., and Semla T. (1997).** Optimal medication use in elders: key to successful ageing. *Western Journal of Medicine*, 167, 233–237.
- Pyszka L. L., Seys Ranola T. M., and Milhans S. M. (2010).** Identification of inappropriate prescribing in geriatrics at a Veterans Affairs hospital using STOPP/START screening tools. *The Consultant Pharmacist*, 25(6), 365–373.
- Stafford A. C., Alswayan M. S., and Tenni P. C. (2011).** Inappropriate prescribing in older residents of Australian care homes. *Journal of Clinical Pharmacy and Therapeutics*, 36(1), 33–44.
- Stevens L. A., Li S., Wang C., Huang C., Becker B. N., Bomback A. S., and McFarlane S. I. (2010).** Prevalence of CKD and comorbid illness in elderly

patients in the United States: results from the Kidney Early Evaluation Program (KEEP). *American Journal of Kidney Diseases*, 55(3), S23–S33.

**Tiwari P., and Kapur V. (2007).** Inappropriate drug prescribing identified among Indian elderly hospitalized patients. *The International Journal of Risk and Safety in Medicine*, 19(3), 111–116.

**Vogt-Ferrier N. (2011).** Older patients, multiple comorbidities, polymedication... should we treat everything? *European Geriatric Medicine*, 2(1), 48–51.

**Zhang M., Holman C. D. J., Price S. D., Sanfilippo F. M., Preen D. B., Bulsara M. K., and Morgan. (2009).** Comorbidity and repeat admission to hospital for adverse drug reactions in older adults: retrospective cohort study. *BMJ: British Medical Journal*, 338, 155–158.

**Zhang X., Decker F. H., Luo H., Geiss L. S., Pearson W. S., Saaddine J. B., and Albright A. (2010).** Trends in the prevalence and comorbidities of diabetes mellitus in nursing home residents in the United States: 1995–2004. *Journal of the American Geriatrics Society*, 58(4), 724–730.

### الملخص العربي

الأنواع المختلفة للأدوية التي تستخدم من قبل مرضى كبار السن المتواجدين في قسم المسنين

للسادة الدكتورة

<sup>1</sup> شريهان أحمد سيد ، <sup>2</sup> لمياء محمد الوكيل ، <sup>3</sup> سارة أحمد حمزة

### م

<sup>1</sup> معيدة بكلية الصيدلة، جامعة النهضة، بنى سويف، جمهورية مصر العربية

<sup>2</sup> أستاذ مساعد الصيدلة الإكلينيكية، كلية الصيدلة، جامعة عين شمس، القاهرة، جمهورية مصر العربية

<sup>3</sup> أستاذ طب و صحة المسنين، كلية طب، جامعة عين شمس، القاهرة، جمهورية مصر العربية

إن كبار السن و المسنين هم أكثر فئة عمرية عرضة للإصابة بالعديد من الأمراض مما يؤدي إلى تناولهم العديد من الأدوية المتزامنة في آن واحد. ينتج عن ذلك زيادة نسبة حدوث الأخطاء و المشكلات الصحية مثل الجرعات الزائدة أو المنخفضة أو وجود تفاعلات بين الأدوية المستعملة. تمت دراسة مستقبلية لحوالي عام و نصف على عدد من المرضى المسنين المتواجدين بقسم طب المسنين بمستشفيات جامعة عين شمس لملاحظة و معرفة الأنواع المختلفة للأدوية و الأمراض المزمنة المنتشرة لدى المرضى المسنين المتواجدين في المستشفى. تم استخدام جداول خاصة لتسجيل بيانات المرضى و البيانات الخاصة بالأدوية و مدى ملائمتها لحالة المريض. أوضحت النتائج أن عدد د الأمراض في كل مريض يتراوح من ١ إلى ١١ مرض بمتوسط ٥ أمراض لكل مريض. و قد أظهرت النتائج أن نسبة الأمراض الآتية في المرضى المسنين كانت كالآتي: ضغط الدم (٥٢.٨%)، مرض السكر (٤٢.٥%) ، أمراض الكبد المزمنة (٤٠.٣%). كما أنه وجد أن عدد الأدوية المستخدمة لدى المرضى وصل إلى ٢٩٨٥ دواء يتراوح عدد الأدوية الموصوفة في كل مريض من ٢ إلى ٢٠ دواء بمتوسط تسعة أدوية لكل مريض. و قد أظهرت النتائج أن من أكثر الأدوية المستعملة لدى المرضى كانت أدوية علاج قرح المعدة و أدوية مضادات الحموضة و أدوية مضادات التجلط و أدوية المضادات الحيوية. كما اوضحت نتائج البحث أن الأدوية المرخية للعضلات و الأدوية المضادة للفطور كانت من أقل الأدوية المستخدمة لدى مرضى المسنين.