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RESEARCH

STATUS OF NON-COMMUNICABLE DISEASES AND SOME OTHER MAJOR HEALTH PROBLEMS AND ASSOCIATED RISK FACTORS AMONG PATIENTS AGED 65 YEARS AND OVER PRESENTING TO A FAMILY HEALTH CARE CENTER IN KYRENIA

Abstract

Status of non-communicable diseases and some other major health problems and associated risk factors among patients aged 65 years and over presenting to a family health care center in Kyrenia

Introduction: The objective of this study was to determine the status of non-communicable (chronic) diseases and some other major health problems and associated risk factors of people aged ≥65 years presenting to a family health care center in a county of the Turkish Republic of Northern Cyprus and to contribute to the activities of healthy aging.

Materials and Method: The study was a descriptive record survey, conducted in the primary health care center of Near East University. The data were collected in December 2016 from data collection forms of patients and the NEU Medical Faculty Hospital information database system. The data were evaluated using the SPSS 18.0 statistical program, with a significance level of $p<0.05$.

Results: The study was conducted on 396 patients aged 65–96 years, of whom 51% were males and 49% were females. The participants were British 95.5% and Turkish Cypriots 1.5%. The most frequent diagnoses were accidents and injuries, ischemic heart disease, hypertension, lower respiratory infections, and cancer. The results of this study were similar to findings of other country older population groups.

Conclusion: Adoption of preventive measures with the aim of decreasing the risk factors of most frequent health-related problems might reduce their prevalence, with specific environmental precautions to prevent accidents and injuries. Prospective community-based studies could provide new data for the proper evaluation of the aging population and yield evidence-based information for designing future intervention studies.

Keywords: Aged; Aging; Chronic disease; Risk factors

ARAŞTIRMA

GİRNE'DE BİR AİLE SAĞLIĞI MERKEZİNE BAŞVURAN 65 YAŞ VE ÜZERİ HASTALARDA BULAŞICI OLMAYAN HASTALIKLARIN VE DİĞER BAZI ÖNEMLİ SAĞLIK SORUNLARININ VE İLİŞKİLİ RİSK ETMENLERİNİN DURUMU

Öz

Giriş: Bu araştırmanın amacı, Kuzey Kıbrıs Türkiye Cumhuriyeti'nin bir ilçesinde bir aile sağlığı birimine başvuran 65 yaş ve üstü nüfusta bulaşıcı olmayan (kronik) hastalıkların ve sağlığı etkileyen kimi önemli sağlık sorunlarının durumunu ve ilişkili risk etmenlerini belirlemek ve Kuzey Kıbrıs'ta sağlıklı yaşlanma kavramı kapsamındaki çalışmalara katkıda bulunmaktır.

Gereç ve Yöntem: Araştırma tanımlayıcı bir kayıt araştırmasıdır. Araştırmanın verileri, Yakın Doğu Üniversitesi birinci basamak birimi olarak görev yapan bir aile hekimliği merkezine ait dosyalardaki veri toplama formlarından ve Yakın Doğu Üniversitesi Tıp Fakültesi Hastanesi tıbbi bilgi depolama sisteminden Aralık 2016'da toplanmıştır. Veriler SPSS 18,0 istatistik paket program ile değerlendirilmiştir. $P<0.05$ olan değerler istatistiksel olarak önemli kabul edilmiştir.

Bulgular: Katılımcı sayısı 396, yaş aralığı 65-96 arasındadır. Erkekler %51, kadınlar %49 düzeyindedir. Katılımcıların %95,5'i İngilz, %1.5'i Kıbrıslı Türk'tür. Sağlık merkezine başvuruların en sık nedeni kaza ve yaralanmalar, iskemik kalp hastalıkları, hipertansiyon, alt solunum yolu enfeksiyonları ve kanser olmuştur. Bu sonuçlar, diğer ülkelerin aynı yaş grup araştırma sonuçlarıyla benzer bulunmuştur.

Sonuç: Sık görülen sağlık sorunlarının risk etmenlerini düşürmeye yönelik koruyucu önlemler, bu hastalıkların sıklığını azaltacak bir ilk adım olarak önerilebilir. Özellikle en sık görülen kaza ve yaralanmaları önleyici özel çevresel önlemler alınması önemlidir. Konuya ilişkin ileriye dönük toplumsal araştırmaların yapılması, ülkedeki yaşlı nüfusun sağlık açısından daha doğru değerlendirmesi için veri oluşturacak ve gelecekte müdahale çalışmalarının yapılması için kanıta dayalı bilgi sağlayacaktır.

Anahtar sözcükler: Yaşlı; Yaşlanma; Kronik hastalık; Risk etmenleri

INTRODUCTION

Biologically, aging denotes the gradual accumulation of a variety of molecular and cellular damage, resulting in a decline in physiological reserves and an increased risk of many non-communicable or chronic disease (NCDs) which account for morbidity and mortality (1,2).

The modern global strategy on aging and health defines the concept of active aging as "the process of optimizing opportunities for health, participation and security to enhance quality of life as people age" (2). Therefore, the World Health Organization (WHO) adopted the Global Strategy and Action Plan on Ageing and Health 2016–2020 (3-5).

A significant upsurge in the aging population during the last century has introduced the concept of an aging population (6). The 2015 data of the Turkish Statistical Institute states the total population of people aged ≥65 years as 6,475,239(8.2%). The life expectancy at birth is 75.3 years for males and 80.7 for females, with 78 years on an average (7).

In 2015, the global population of the elderly was 8.5% of the overall population. According to the United Nations' 2015 report, the elderly population is estimated to increase from 901 million in 2015 to 2.1 billion by 2050 (6-8) with people >80, numbering 434 million (8). The projections in Turkey reveal that the aging population will rise to 10.2% in 2023, and 27.7% in 2075 (9).

NCDs have a substantial prevalence among people aged ≥65 years and are most commonly attributed to socioeconomic conditions and lifestyle behaviors, such as poor nutrition, smoking, excess alcohol intake, and insufficient physical exercise. Degenerative, genetic, and hereditary factors also have considerable influence as the primary causes of NCDs at advanced ages (10).

Older adults exhibit common characteristics regarding health issues. Relevant research for health planning on preventive and promotive measures for them is mandatory for the well-being of the whole society.

In the Turkish Republic of Northern Cyprus (TRNC), as per the 2011 census, the population of people aged ≥65 years was 23,258, constituting 8.1% of the overall population and the number of people aged ≥65 in Kyrenia was 5653. There is a lack of knowledge about the population health situation in general and specifically on the senior people aged 65 years of age and over in TRNC. Since non-communicable (chronic) diseases (NCDs) comprise one of the major health problems and causes of death of the aging population, there appears to be a need for data on this group of diseases regarding the relevant population group. Thus, our intension was to investigate the data of a family health center in the county of Kyrenia associated with a university hospital, where the records were kept sufficiently by the health center and the medical school. Our main aim was to evaluate the information on NCDs and associated factors but other health problems which were important risk factors for the well-being of this age group were also noted and reported in the study.

The objective of this study was to determine primarily the status of NCDs, some other major health problems and associated risk factors among the older individuals visiting a family health center in a county of TRNC. The long-term objective was contributing to the activities in TRNC for enhancing their health as recommended by WHO.

MATERIALS AND METHOD

The survey was conducted in December 2016 in a family health care center in Kyrenia, serving since 2013 and becoming the primary health unit of the Near East University Medical Faculty (NEUMF) in 2015. The public health system in TRNC does not have a widespread primary health care

organization. The unit of first presentation for the patient may be private offices of doctors, public hospitals or one of the few public health centers, none of which are population based. Kyrenia health center is unique in this respect, serving as a health center of a medical school. Most of the patients in the study were followed for at least five years in this center by a practitioner doctor. However, the health center does not have a registered population either.

The study design was descriptive, based on health and disease records of the described center. The survey was conducted on records of 396 older patients visiting the center from 2013 to 2016, where data were recorded using data collection forms. The older population was defined as people aged ≥65 years.

Variables of the study included the age; sex; nationality; marital status; occupation; status of having hepatitis A, B, and C and tuberculosis tests; hepatitis A and B vaccinations; lung X-ray; smoking, alcohol, tea and coffee consumption, performing physical exercises as independent variables. The status of being diagnosed with an NCD; being hospitalized; having undergone a surgery; and drug therapy etc. were dependent variables.

The data were obtained using data collection forms of the center and the medical information database system of NEUMF, which provided information on frequency and reason of visits, diagnoses and therapies.

Grouping of diseases

All of the diseases in the patient records were listed and grouped according to systems and disease causes in some cases. The groups of diseases recorded and drugs prescribed are as follows:

Cardiovascular diseases: Hypertensive heart disease, heart failure, atherosclerotic cardiovascular disease, aortic aneurysm, aortic valve stenosis, angina pectoris, atrial fibrillation and flutter, heart murmur, arrhythmia, tachycardia, bradycardia, claudication, syncope

Muscle-skeleton system diseases: Fibromyalgia, chronic fatigue syndrome, carpal tunnel syndrome, rotator cuff syndrome, cervical disc disease, intervertebral disc disorders, Dupuytren's contracture, fractures, meniscal tears, synovitis, arthritis, gonarthrosis, polyarthritis, hallux rigidus, osteophytes, chondromalacia

Respiratory system diseases: Pulmonary embolism, pneumothorax, pneumonia, asthma, COPD, bronchitis, interstitial lung disease, emphysema

Neurological diseases: Parkinson's disease, Alzheimer's disease, multiple sclerosis, dementia, cerebrovascular disease, cerebral aneurysm, subarachnoid hemorrhage, middle cerebral artery syndrome, radiculopathy, polyneuropathy, sciatalgia, tremor

Ear, nose, throat diseases: Vertigo, sensori-neural hearing loss, otitis media, cerumen impaction, septal deviation, rhinitis, acute sinusitis, acute pharyngitis, sialadenitis, lymphadenitis

Dermatological diseases: Psoriasis, dermatitis, urticaria, actinic keratosis, viral warts, tinea corporis, xerosis cutis, cellulitis, subcutaneous follicular lesions, nevus

Gastrointestinal system diseases: Gastrointestinal hemorrhage, gastroesophageal reflux disease, peptic ulcer disease, diverticulitis, ulcerative colitis, colonic polyps, gastroenteritis, constipation, diarrhea, acute pancreatitis, cholelithiasis

Urogenital system diseases: Urinary system infections, chronic renal failure, hydronephrosis, cystocele, prostatitis, benign prostate hypertrophy, impotence, dysmenorrhea, postmenopausal atrophic vaginitis

Oncological diseases: Adenocarcinoma; malignant neoplasms of the skin, brain, bladder; and breast, colon, rectum, prostate, lung cancers

Endocrine diseases: Hypothyroiditis, diabetes (types 1 and 2), adrenal gland dysfunction, dyslipidemia, gout, vitamin D insufficiency

Eye diseases: Glaucoma, hypermetropia, refraction disorders, conjunctivitis, blepharochalasis, keratoconus

Hematological diseases: Iron deficiency anemia, other anemias, Von Willebrand disease

Neurological diseases: Dementia, Alzheimer's disease, Parkinson's disease

Autoimmune diseases: Thyroiditis, arthritis, Sjogren's syndrome

Psychiatric diseases: Depression, schizophrenia, panic attack

Infectious diseases: Tuberculosis, pneumonia, poliomyelitis, bacteremia, septic shock

Traumas: War and road accident injuries, head traumas, falls from height, insect bites

Grouping of drugs

Antihypertensive drugs: Diuretics, selective/nonselective β-blockers, angiotensin-converting enzyme (ACE)inhibitors, calcium channel blockers, angiotensin II antagonists

Anticoagulants: Vitamin K antagonists, heparin, other platelet aggregation inhibitors

Gastrointestinal system diseases: Antacids, H_2-receptor antagonists, proton-pump inhibitors, synthetic anticholinergics, serotonin antagonists

Antihyperlipidemics: HMG CoA reductase inhibitors, fibrates

Vitamin supplementation: Vitamins and/or minerals (vitamins B1,B2,B6,B12,C, potassium, calcium, iron), bisphosphonates

Anti-inflammatories: Acetic acid derivatives, propionic acid derivatives, steroids

Drugs for COPD and asthma: Corticosteroids, inhaler adrenergics (α,β,selective, nonselective anticholinergics)

Insulin and oral hypoglycemics: Short, intermediate, or long-acting injectable insulin and analogues; biguanides; sulfonylureas

Hormonal medications: Systemic hormonal contraceptives, thyroid hormones, thiouracils

Antidepressants and sedatives: SSRIs, nonselective monoamine reuptake inhibitors, benzodiazepines

Antiarrhythmics: Class III antiarrhythmics

Gout therapy medications: Uric acid synthesis inhibitors, colchicine

Antiepileptics and Alzheimer's disease therapy: Barbiturate and derivatives, hydantoin derivatives, anticholinesterase

Antihistaminics: Aminoalkyl ethers, substituted alkylamines

Urogenital system drugs: Medications treating erectile dysfunction, α-adrenoceptor antagonists, testosterone-5α-reductase inhibitors

Antibiotics: Tetracyclines, sulfonamides, third-generation cephalosporins, fluoroquinolones, macrolides

Chemotherapeutics: Folic acid analogues, nitrogen mustard agents

Antivirals: Nucleosides other than the reverse transcriptase inhibitors (acyclovir, ganciclovir)

(The drugs in this list have been named according to ATC of WHO.)

The data were evaluated using the SPSS 18.0 statistical program. Descriptive statistics (frequency distribution, mean, standard deviations)

were calculated; marginal and cross tables were created. The differences were evaluated using c^2 test; $p<0.05$ was considered statistically significant.

The survey was approved by the Deanery of NEUMF and the NEU Ethics Committee.

RESULTS

In this study, the patient records of 396 people aged ≥65 years who visited the family health care center in Kyrenia from 2013 to 2016 were accessed. The reason of presentation and the related health problems were evaluated for each case.

Table 1 shows some socio-demographic features and habits of patients. Of the patients, 95.5% were from the UK, 1.5% from TRNC and the remaining 3% from Ireland, Sweden, Spain, Denmark, USA, and Canada. Of all patients, 16.7% were smokers, 85.4% and 98.1% consumed alcohol and coffee, respectively, and 76.2% performed physical exercises.

Of 381 patients, 85.6% were hospitalized at least once. The number of hospitalization occasions was an average of 2.89±2.27, ranging from 1 to 14. In addition, 68.2% had undergone at least one surgery, with a mean of 2.67±1.88.

Table 2 shows the presentation features, diagnoses, and medications of patients. The average number of visits is 9.09±9.34, with a maximum of 61. A friend's recommendation was the most common reason for choosing the health care center. According to the patient forms of the first presentation, the leading diseases diagnosed were hypertension (55.4%); high cholesterol (39.8%); heart disease, angina-heart murmur (25%); arthritis (19.6%); reflux (19.4%), lung disease (14.0%); cancer (12.9%), thyroid diseases (12.1%).

Of 231 participants using medications, 61% were receiving antihypertensive treatment, followed by antilipidemic agents at 42.4% and anticoagulants at 29%.

Table 3 reveals the most prevalent five diseases diagnosed and their distribution to sex, age group, and physical exercise practice. Accidents and injuries, ischemic heart disease, and hypertension were the three most common diseases followed by lower respiratory tract infections and cancer.

The frequency of the five top diseases according to sex revealed accidents and injuries to be significantly higher in females than in males($p=0.05$). The differences between genders regarding the other four most frequent diseases were not significant.

Table 4 alternatively, shows the findings related to the patient history upon presentations to the health center. These findings revealed a considerably higher frequency of hypertension in males with 117 patients (62.2%) as compared to females with 89 women (48.4%; *p=0.007). Notably, 11.4% of female patients and 5.3% of* male patients presented with asthma ($p=0.033$). Of female patients, 27.2% indicated arthritis as their disease, compared to 12.2% of males (*p<0.001). The frequency of thyroid disorders* was 20.7% for female patients and 3.7% for males ($p<0.001$), according to self-history. The sex differences were found to be significant for asthma, arthritis, and thyroid diseases, with higher frequencies in females. In contrast, hypertension cases were significantly more in males.

The comparison of patients according to the distribution of their diseases to some habits, such as tobacco and alcohol consumption and exercise, revealed no significant correlations.

No significant results were obtained regarding the five most frequent diseases among the age groups (*p>0.05). Accidents and injuries* were more commonly reported among patients not performing exercises (11.2%) than those performing exercises (6.3%); however, the difference was not statistically significant ($p=0.12$).

Table 1. Socio-demographic features and habits of patients aged ≥65 years presenting to a family health care unit in Kyrenia (December, 2016).

Sociodemographic features	**n**	**%**
Age group (years) (n=396)		
65–74	298	75.3
75–84	87	22.0
≥85	11	2.8
Mean±sd=71.62±5.45, Median=70, Mode=68, Minimum=65, Maximum=96		
Sex (n=396)		
Men	202	51.0
Women	194	49.0
Marital status (n=385)*		
Married	336	87.3
Single	49	12.7
Habits		
Smoking	63	16.7
Number of cigarette consumed a day (n=62)		
Mean±sd=18.56±9.35, Mode=20, Median=20, Minimum=2, Maximum=60		
Alcohol consumption (n=377)*	322	85.4
Amount of alcohol consumed (glasses/week) (n=304)		
Mean±sd=5.19±2.76, Mode=4, Median=5, Minimum=1, Maximum=16		
Coffee/tea consumption (n=378)*	371	98.1
Amount of coffee/tea (glasses/day) (n=355)		
Mean±sd=4.30±1.97, Median=4, Mode=4, Minimum=1, Maximum=17		
Exercise performance (n=374)*	285	76.2

* n<396, because information is missing from some records

Table 2. Presentation features, diagnoses, and medications of patients aged ≥65 years applying to a family health care unit in Kyrenia (December, 2016).

Number of visits (n=277)		
Mean±sd=9.09±9.34, Median=6, Mode=2, Minimum=1, Maximum=61		
References to the health unit (n=237)*	**n**	**%****
Friend recommendation	175	73.8
Reference from doctor	34	14.3
Internet information	19	8.0
For referral to another institution	9	3.8
Diseases diagnosed during presentations (n=372)*		
Hypertension	206	55.4
High cholesterol	148	39.8
Heart disease/angina/murmur	93	25.0
Arthritis	73	19.6
Reflux	72	19.4
Lung diseases/cough	52	14.0
Cancer	48	12.9
Thyroid diseases	45	12.1
Renal and bladder diseases	45	12.1
Dyspnea	43	11.6
Ear diseases	41	11.6
Eye diseases/glaucoma	41	11.0
Seasonal allergies	38	10.2
Diabetes	36	9.7
Tonsillitis	35	9.4
Psychiatric disorders	34	9.1
Asthma	31	8.3
Neurological problems	27	7.3
Swelling of ankle	26	7.0

Sinus problems	26	7.0
Head ache/migraine	24	6.5
Ulcer/colitis	22	5.9
Cerebrovascular disease	20	5.4
Hypotension	13	3.5
Anemia and/or hematological problems	12	3.2
Epilepsy	7	1.9
Medications (n=231)*		
Antihypertensives	141	61.0
Anti-hyperlipidemics	98	42.4
Anticoagulants	66	29.0
Gastrointestinal system drugs	57	24.7
Vitamin supplements	38	16.5
Anti-inflammatory drugs	35	15.2
COPD*** and asthma drugs	31	13.4
Insulin and oral hypogycemic drugs	24	10.4
Hormone drugs	24	10.4
Antidepressants and sedatives	21	9.1
Anti-arrythmic drugs	15	6.5
Gout therapy drugs	14	6.1
Antiepileptics, Alzheimer treatment	12	5.2
Antihistaminics	8	3.5
Urogenital system agents	8	3.5
Antibiotics	6	2.6
Chemotherapeutics	5	2.2
Antiviral agents	2	0.9

*n<396, because information is missing from some records
**Row percentages
***COPD:Chronic obstructive pulmonary disease

Table 3. The most prevalent five diseases and their distribution based on sex, age group, and physical exercise among patients aged ≥65 years applying to a family health care unit in Kyrenia (December, 2016).

Most prevalent five diseases(n=396)	n	%*
Accidents and injuries	32	8.1
Ischemic heart disease	29	7.3
Hypertension	27	6.8
Lower respiratory infection	21	5.3
Cancer	16	4.0

Disease (n=396)	Sex					
	Men		Women			
	n	%	n	%	Chi square	p
Accidents and injuries	11	5.4	21	10.8	3.86	0.05
Ischemic heart disease	15	7.4	14	7.2	0.01	0.94
Hypertension	10	5.0	17	8.8	2.26	0.13
Lower respiratory infections	10	5.0	11	5.7	0.10	0.75
Cancer	9	4.5	7	3.6	0.18	0.70

Disease (n=396)	Age group							
	65–74		75–84		≥85			
	n	%	n	%	n	%	Chi square	p**
Accidents and injuries	23	7.7	8	9.2	1	9.1	0.21	0.64
Ischemic heart disease	19	6.4	9	10.3	1	9.1	1.59	0.21
Hypertension	21	7.0	5	5.7	1	9.1	0.10	0.75
Lower respiratory infections	17	5.7	2	2.3	2	18.2	0.39	0.53
Cancer	13	4.4	3	3.4	-	-	0.32	0.57

Disease (n=396)	Exercise					
	Performer		Not performer			
	n	%	n	%	Chi square	p
Accidents and injuries	18	6.3	10	11.2	2.37	0.12
Ischemic heart disease	18	6.3	9	10.1	1.46	0.23
Hypertension	20	7.0	6	6.7	0.01	0.93
Lower respiratory infections	13	4.6	8	9.0		0.11***
Cancer	14	4.9	2	2.2		0.28***

*Row percentages
**75–84 and ≥85 age groups combined
***Fisher's Exact Test used

Table 4. The distribution of diseases according to case history of patients aged ≥65 years applying to a family health care unit in Kyrenia (December, 2016).

Disease (n=372)	Gender					
	Male		Female			
	n	%	n	%	Chi square	p
High cholesterol	79	42.0	69	37.5	0.79	0.373
Hypertension	117	62.2	89	48.4	7.23	0.007
Anemia/hematologic problems	3	1.6	9	4.9	3.24	0.072
Asthma	10	5.3	21	11.4	4.52	0.033
Tonsillitis	11	5.9	24	13.0	5.64	0.018
Head ache	9	4.8	15	8.2	1.75	0.187
Diabetes	23	12.2	13	7.1	2.84	0.092
Arthritis	23	12.2	50	27.2	13.16	<0.001
Cancer	23	12.2	25	13.6	0.15	0.697
Thyroid diseases	7	3.7	38	20.7	25.1	<0.001

DISCUSSION

This study was conducted on people aged 65–96 years, of whom 95.5% were British. The findings of the study on NCDs, other major health problems of the older people and related factors were compared to the available international data on these issues (7,9,11-20).

According to the patient forms of the first presentation, the leading diseases were hypertension, high cholesterol, heart disease, arthritis, reflux, lung disease, cancer and thyroid diseases. These findings are similar to the data on NCDs in other countries and WHO data (11-13).

The WHO data holds NCDs responsible for 67.9% of all deaths. Among these diseases, the leading causes of death in the elderly population are ischemic heart disease(13.2%); cerebrovascular disease(11.9%); chronic obstructive pulmonary disease(COPD; 5.6%); lower respiratory disease(5.5%); trachea, bronchus, and lung cancers(2.9%) (12).

The most common NCDs affecting the elderly in Turkey, in order of their frequencies, are hypertension (68.7%), diabetes (28.3%), dyslipidemia (25.1%), coronary heart disease (14.5%), chronic obstructive lung disease (COPD;14.3%), and asthma (7.8%) (9,11). Based on 2014 death statistics of Turkey, cardiovascular diseases accounted for the highest mortality in the older population at 46.7%, followed by benign and malignant neoplasms at 16.9%, and respiratory diseases at 12.8% (7).

In the United Kingdom, the most frequent causes of mortality for people aged 65–79 years were ischemic heart disease; trachea, bronchus, and lung cancers; and chronic lower respiratory disease in 2012 (13).

Hypertension was recorded significantly more in males than in females in our study, which is in accordance with a review of 2013 (20).

The most significant risk factors for NCDs such as tobacco and alcohol consumption, unhealthy nutrition, and insufficient physical activity are

preventable (14,15). Among the participants of our study, 16.7% were current smokers. In Turkey, as of 2011, 14.9% of people aged 65–74 years and 7% of people aged ≥75 years were smokers (11). The 2014 UK tobacco statistics indicate tobacco addiction in 11% of people aged ≥60 years, declining to 10.6 in 2016 (18).

The high frequency of smoking in our study might be attributed to the insufficiency of tobacco control activities and the low prices of cigarettes in TRNC.

The participants of this study revealed a high percentage of alcohol consumption (85.4%). In Turkey, alcohol consumption was observed in 7.5% of people aged 65–74 years and in 2.8% of people aged ≥75 years (11). The alcohol use among the elderly is also lower in the USA (6.5%) and the UK (5%) among people aged ≥65 years (16). The high consumption of tobacco and alcohol might have contributed to the high frequency of hospital visits of some patients.

Of the patients in the current study, 76.2%of patients performed regular exercises. In Turkey, the proportion of people doing physical activities was 12.7% for those aged ≥65 (11). However, a UK study, reflecting people of the same culture revealed high results similar to those of our study: 58% of men and 52% of women aged 65–74 years and 36% of men and 18% of women aged ≥75 years were performing physical activity in 2012 (17).

Regarding medication use, antihypertensive agents were the most commonly used drugs, in compliance with the high frequency of hypertension, followed by antihyperlipidemic and anticoagulant drugs. A study in the UK also revealed high consumption of antihyperlipidemic medications, succeeded by antihypertensives and analgesic/nonsteroidal anti-inflammatory drugs (21).

Asthma and thyroid diseases were found to be significantly higher among females in our study. A study of 2015 showed that asthma is more prevalent among females at advanced ages (22). Similarly, thyroid diseases are more prevalent in females, as reported in 2005 (23).

The female participants of this study experienced accidents and injuries twice as much as male patients. A similar finding was observed in a US-based study, where females experienced fall-related accidents 2.2 times more than males (24).

Cancer is diagnosed in one of two elderly people in the UK. More than half (53%) of cancer-related deaths in the UK were in people aged ≥75 years in 2012–2014 (25). Cancer was one of the most frequent diagnoses in our study, ranking fifth among the most prevalent diseases similar to the British population.

Preventive measures, such as hepatitis markers and vaccinations, tuberculin tests, and chest X-rays, were quantitatively insufficient. However, the frequency of using the Pap test and mammography screening were undergone by the majority of female patients. Some of the necessary tests and immunization programs recommended for people aged ≥65 years were missing from the records (5).

Similar to other countries, the level of hospitalization was high among patients in our study. A study in the UK revealed that 41% of inpatients were composed of people aged ≥65 years (19).

In conclusion, the most common reasons of presentations of people aged ≥65 years to health care center are similar to international data as accidents and injuries, ischemic heart disease, hypertension, lower respiratory infections, and cancer. Adoption of preventive measures to decrease the risk factors of these problems is a crucial step to reduce their prevalence, with specific environmental precautions to prevent accidents and injuries.

The results of this study demonstrate a deficiency of preventive medicine, especially immunizations among the studied population. There was a lack of information on the records about pneumococcal,

influenza, herpes zoster, tetanus, diphtheria, and pertussis vaccination status. Hence, encouraging educational activities on immunization for the elderly is of utmost importance. Prospective community studies could provide new data for the proper evaluation of the aging population and yield evidence-based information for designing future intervention studies and preventive measures.

Limitations of the study

Since the study is a descriptive study, the results do not represent the TRNC or Kyrenia's older population.

Because the study was based on patient records, the time periods in between the visits could not be evaluated.

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