PUBLIC HEALTH

LIFE HABITS AND SATISFACTION WITH HEALTH SERVICES BY THE ELDERLY IN THE REPUBLIC OF NORTH MACEDONIA

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Abstract

The aging of the population in North Macedonia is a big challenge. Life habits and satisfaction with health services are essential indicators for the evaluation of the situation. Objectives: The main objective of this study was to analyze some lifestyle habits and satisfaction with health services by the elderly in North Macedonia. Materials and Methods: A cross-sectional study was conducted in 36 urban areas. We received answers from 281 respondents over 65 years of age. The descriptive-statistical method was used for analyzing the results. Statistical analysis of data was done with the statistical software SPSS for Windows 26.0. The testing of the differences was done with the Chi-square test, Mann-Whitney U Test, Kruskal-Wallis test, Fisher Freeman Halton test and Spearman Rank order correlations. Values of p<0.05 were considered to be statistically significant. Results: There were 52 (18.05%) smokers, 22 (21.15%) were male and 30 (16.95%) female respondents. The average number of cigarettes smoked per day was 20.90±15.50 with no significant difference between genders and the three age categories. Most of the respondents had a visit to the family doctor for continuation of their therapy. No significant association was observed between respondents' gender/age category in terms of trust in the family doctor, adherence to the doctor's advice, and life satisfaction. Conclusion: The relevant authorities in our country should develop more comprehensive and social models of care for older adults, especially in rural areas such as prevention, long-term care, and palliative care.

ЈАВНО ЗДРАВЈЕ

ЖИВОТНИ НАВИКИ И ЗАДОВОЛНОСТ ОД ЗДРАВСТВЕНИТЕ УСЛУГИ НА СТАРИТЕ ЛИЦА ВО РЕПУБЛИКА СЕВЕРНА МАКЕДОНИЈА

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Извадок

Стареењето на населението во Северна Македонија е голем предизвик. Животните навики и задоволството од здравствените услуги се суштински показатели за процена на состојбата. Главната цел на оваа студија беше да се анализираат некои животни навики и задоволството од здравствените услуги кај постарите лица во Северна Македонија. Материјали и методи: Спроведена е студија на пресек во 36 урбани средини. Одговори добивме од 281 испитаник над 65 години. За анализа на резултатите се користеше дескриптивна статистички метода. Статистичката анализа на податоците е направена со статистичкиот софтвер SPSS за Windows 26.0. Тестирањето на разликите беше направено со Chi-square тест, Mann-Whitney U Test, Kruskal-Wallis тест, Fisher Freeman Halton тест и Spearman Rank корелации за редослед. Вредностите од p<0,05 се сметаа за статистички значајни. Резултати: Имаше 52 (18,05%) пушачи, 22 (21,15%) беа мажи и 30 (16,95%) жени. Просечниот број на испушени цигари дневно изнесува 20,90±15,50 без значајна разлика меѓу полот и трите возрасни категории. Најголем дел од испитаниците имале посета на матичен лекар за продолжување на терапијата. Не е забележана значајна поврзаност помеѓу полот/возрасната категорија на испитаниците во однос на довербата во матичниот лекар, почитувањето на советите од лекарот и задоволството од животот. Заклучок: Одговорните во нашата земја треба да развијат посеопфатни и социјални модели на грижа за постарите возрасни лица, особено во руралните области како што се превенција, долготрајна нега и палијативна нега.

Introduction

The elderly are a heterogeneous group with many variations in biological characteristics, individual lifestyles, and capabilities. Population aging causes demographic, epidemiological, and anthropological changes highlighting the importance of active and healthy aging.

A precise analysis of the elderly's health status cannot be performed if socio-medical aspects are not analyzed. As a result of better socio-economic and health services, the life expectancy of the population is increasing. But, this increase is already a big challenge for all countries[1]. Life expectancy at birth has increased due to better circumstances of life and medical progress. In countries of today's European Union (EU)-27, a newborn girl can expect to live 83,2 years, boys about 77,5 years, 5,7 years longer than a male newborn[2]. The ratio of older adults is increasing while that of working age population is decreasing. If current trends prevail until 2050, a person of working age might have to provide, on average, for twice as many retired people than today. In most EU countries, old age and survivor benefits make up the largest item of social protection expenditure (EU-wide, it amounted to 45.9% of total benefits in 2005)[3]. In the Republic of North Macedonia, 13.6% of the population is older than 65 years. When we analyze the structure of social protection expenditure in the EU, we can notice that old age and sickness/healthcare benefits – together account for 66.9% of total expenditure. In 2019, expenditure on all types of social protection in the EU was equivalent to 28.1% of Gross Domestic Product (GDP).

In the Republic of North Macedonia (MKD), social expenditure for 2019 was 14.5% of GDP[4]. According to data from the Ministry of Labour and Social Policy of the Republic of North Macedonia in 2022, the total number of retired persons was 228.364, these numbers increased to 333.322 with other groups of pension beneficiaries[5]. MKD is an upper middle-income country that has a huge healthcare infrastructural deficit; moreover, 12.1% of older adults lived alone in 2018 in MKD, and this trend is rising[6]. The extended family support system has dwindled over the years due to rural-urban migration and migration abroad. Family structures are changing, and the health and social systems have limited capacity to provide integrated and person-centered care, leaving older people in the country facing many health, social and economic issues. The challenge is bigger in developing countries such as MKD, and it is debatable whether the health system is ready to face such a burden for older adults. Faced with this kind of challenge, some countries have developed and promoted "individualized care plans". By using individualized care plans, room visits and hospitalization scan be reduced, and it can also help in retaining the quality of life and independence of the care recipient. Center for Diseases Control (CDC) has already created a Complete Care Plan (CCP)[7]. Investing in healthy aging is crucial for sustainable healthcare and social policy. To tackle the health and social challenges of the aging population, the Ministry of Labour and Social Policy of RN Macedonia adopted the National Strategy for Elderly People 2010–2020 and the Action Plan for

Healthy Ageing 2020. The Ministry of Health introduced several initiatives to provide greater access to health services for older people, such as home visits by community nurses (also called patronage nurses), the Rural Doctors Project[8], and mobile pharmacies, as well as introduction of pilot integrated health and social services[9].

The main objective of this study was to analyze some lifestyle habits and satisfaction with health services by the elderly in the Republic of North Macedonia.

Materials and methods

This cross-sectional study was conducted in 36 urban areas (municipalities) and ten villages between September 2020 and April 2021. The selection of respondents was made by applying a simple random sampling method. The study was conducted during the period of COVID-19 pandemic. Many people were socially isolated. The findings provided some insights about older adults in MKD, but 281 is not a representative number for MKD. A questionnaire was developed by the authors; it consisted of 49 questions and was distributed among respondents. Forty-two were multiple-choice answers with the option to choose one or several answers. The other seven questions were short answer questions. All respondents were informed about the aim of the study and they signed an informed consent. The questionnaire was written in their mother tongue, the Macedonian language. The questionnaire was pretested by five people. Questions were formulated in such a way as to give us an insight into the older adult's habits, and health condition and to assess their independence level during daily activities. We received answers from 281 respondents over the age of 65 years. Seventy questionnaires were completed through the method of physical observation of the interviewer. The other 211 were via Google Forms. The questionnaire was divided into four parts: the first part - general and demographic characteristics; the second part – life habits; the third part - satisfaction with the health services of the state and the fourth part - health condition and daily implications of various life activities. The descriptive-statistical method was used for analyzing the results. Although there are different ways to classify older adults, we decided to use the following classification: older adults between the ages of 65 and 74 years as youngest-old, those between ages 75 and 84 years as middle-old, and those aged over 85 years as oldest-old.Statistical analysis of data was done with the statistical software SPSS for Windows 26,0. The data are shown with absolute and statistical numbers. The testing was done with the Chi-square test, Mann-Whitney U Test, Kruskal-Wallis test, Fisher Freeman Halton test and Spearman Rank order correlations. Values of $p<0.05$ were considered to be statistically significant.

Results

The study included a total of 281 respondents, 177 (62.99%) females and 104 (37.01%) males, with a gender ratio of 1.7:1 and a significantly higher percentage representation of the female gender (Difference test: 25.98% [(17.79-33.66) CI 95%]; Chi-square=37.865; df=1; p=0.0001).

There were 245 (87.19%) respondents living in urban and 36 (12.81%) living in rural areas. There were 157 (55.87%) Macedonians, 36 (12.81%) Albanians, and from other nationalities - 88 (31.32%). Sixty-eight (24.55%) respondents had no education, 81 (28.82%) had primary education,70 (24.91%) secondary education, and 61 (21.71%) had higher education; men had a significantly higher educational level (Pearson Chi-square test=16.132; df=3; p=0.0011). The analysis according to marital status showed146 (51.96%) married respondents, 4 (1.42%) single, and 131 (46.62%) widowers with significantly more widows among female respondents (Fisher Freeman Halton exact test: p=0.00001). Regarding who they live with, 58 (20.64%) stated that they lived alone, 69 (24.55%) with a spouse/partner, 138 (49.11%) with children/grandchildren/relatives, and 16 (5.69%) in a nursing home. Living with a spouse, partner, or extended family was significantly more associated with male gender (Fisher Freeman Halton test: p=0.00002).

According to the inclusion criteria, the average age in the entire sample of respondents was 74.53±6.68 with a min/max age of 65/98 years and Median IQR = 73 (69-80). The age of men and women was respectively 74.55±6.80 vs. 74.52±6.62, with no significant difference between the genders (Mann-Whitney U Test: Z=0.0554; p=0.9557). Most of the respondents 158 (56.23%) were in the age category of early old age (65-74 years), 97 (34.52%) in the category of advanced old age (75-84 years), and 26 (9.25%) in old age (≥85 years).

There were 52 (18.05%) smokers, 22 (21.15%) male respondents and 30 (16.95%) female respondents, without a significant association of smoking status with the respondents' gender (Pearson Chi-square test=0.7679; df=1; p=0.3808). The average number of cigarettes smoked per day was 20.90±15.50 with no significant difference between genders (Mann-Whitney U Test: Z=-1.306; p=0.1915) and the three age categories (Kruskal-Wallis test:H(2) =0.8681; p=0.6479).

Forty-one (14.59%) respondents declared that they consumed alcohol, 27 (25.96%) were men and 14 (7.91%) women with a significant association of consumption with male gender (Pearson Chi-square test= 17.1303; df=1; p=0.00003). The most common alcoholic beverages consumed were wine, brandy, and beer. The average amount of alcohol consumed per day was 199.85±183.38ml with marginally insignificant consumption of a higher daily amount of alcohol by male subjects (Mann-Whitney U Test: Z=-1.8283; p=0.0675). The dominant frequency of alcohol consumption is every day represented by 22 (53.66%) of the consumers. The age category of respondents in early old age consumed a significantly higher amount of alcohol per day compared to the other two age categories (Kruskal-Wallis test: H(2)=6.8476; p=0.0326).

None of male and 5 (2.82%) female respondents rated their health status as very bad (Table 1 and Table 2). Better health condition was significantly associated with male gender (p=0.000001), and borderline insignificantly associated with the age category of respondents with early old age (p=0.0619).

The average number of annual visits to the family doctor by males and females respectively was 9.37±6.82 vs. 11.22±8.90 with a min/max of

0/48 visits, and no significant difference between genders was found (Mann-Whitney U Test: Z=1.3379; p=0.1809). Among the respondents in early, advanced and old age, the average number of annual visits to the family doctor was 10.48±8.34 vs. 10.43±7.60 vs. 11.31±9.91 with no significant difference between the three age categories (Kruskal-Wallis test: H(2)=0.0389; p=0.9807).

During one year, the average number of visits to a specialist among male and female respondents was respectively 4.49±4.52 with min/max 0/24 vs. 5.40±5.15 with min/max 0/28 visits, with no significant difference between genders (Mann-Whitney U Test: Z=1.2689; p=0.2045). Among the three age categories of respondents, there was no significant difference in the average annual number of visits to a specialist, which was 4.92±4.62 in early, 5.39±5.23 in severe, and 4.71±5.77 in old age (Kruskal-Wallis test: H(2)=0.3086; p=0.8570).

The analysis of health status and satisfaction with health services is given in Table 1 and Table 2. None of the respondents of both genders stated that the reason for visiting a family doctor was a request for a referral to a specialist. Most of the respondents had a visit to the family doctor for continuation of their therapy. No significant association was observed between respondents' gender/age category in terms of trust in the family doctor, adherence to the doctor's advice, and life satisfaction.

Table 1   Analysis of health status parameters by gender

Parameters	Gender		p
	Male	Female	
Health condition			
Good	56 (53.85%)	39 (22.03%)	X^2=28.38; df=2; p=0.000001*
Relatively good	41 (39.42%)	107 (60.45%)	
Bad	7 (6.73%)	26 (14.69%)	
Very bad	0 (0%)	5 (2.82%)	-
Flu vaccine every season			
Yes	29 (27.88%)	48 (21.12%)	X^2=0.019; df=1; p=0.8894
No	75 (71.12%)	129 (72.88%)	
Reason for visiting family doctor			
Continuation of therapy	67 (64.42%)	126 (71.19%)	X^2=1.393; df=1; p=0.2379
Acute illness check-up	32 (30.77%)	55 (31.07%)	X^2=0.003; df=1; p=0.9575
A visit to a doctor by personal request	28 (26.92%)	45 (25.42%)	X^2=0.076; df=1; p=0.7819
Request for specialist examination	-	-	-
Confidence in a family doctor			
Great confidence and very satisfied	82 (78.85%)	131 (74.01%)	X^2=1.927; df=2; p=0.3815
Partial trust and not very satisfied	21 (20.19%)	40 (22.60%)	
I have no confidence and I am not satisfied at all	1 (0.96%)	6 (3.39%)	

Adherence to doctor's advice			
Yes. always without exception	70 (67.31%)	125 (70.62%)	X^2=0.528; df=2; p=0.7678
Sometimes yes. sometimes no	29 (27.88%)	46 (25.99%)	
I rarely follow the advices	5 (4.81')	6 (3.39%)	
Never	-	-	-
Has a chronic illness			
Yes	89 (85.58%)	156 (88.14%)	X^2=0.3839; df=1; p=0.5355
No	15 (14.42%)	21 (11.86%)	
Has a malignant disease			
Yes	5 (4.81%)	3 (1.69%)	X^2=2.2948; df=1; p=0.1298
No	99 (95.19%)	174 (98.31%)	
Are you satisfied with life?			
Yes. a lot	41 (39.42%)	59 (33.33%)	[1]p=0.1013
Yes	49 (47.12%)	73 (41.24%)	
Partially	11 (10.58%)	30 (16.95%)	
No	3 (2.88%)	15 (8.47%)	
[1]Fisher Freeman Halton test;	Pearson Chi-square test=X^2; for p<0.05		*significant

Table 2 Analysis of health status parameters according to age categories

Parameters	Age categories			p
	Young old	Middle old	Very old	
Health condition				
Good	52 (32.91%)	21 (21.65%)	7 (26.92%)	[1]p=0.0619
Relatively good	91 (57.59%)	59 (60.82%)	13 (50%)	
Bad	14 (8.86%)	15 (15.46%)	4 (15.38%	
Very bad	1 (0.63%)	2 (2.06%)	2 (7.69%	
Flu vaccine every season				
Yes	41(25.95%)	27 (27.84%)	9 (34.62%)	X^2=0.857; df=2; p=0.6515
No	117 (74.05%)	70 (72.16%)	17 (65.38%)	
Reason for visiting family doctor				
Continuation of therapy	106 (67.09%)	72 (74.23%)	15 (57.69%)	X^2=3.0329; df=2; p=0.2194
Acute illness check-up	44 (27.85%)	30 (30.93%)	13 (50%)	X^2=5.125; df=2; p=0.0771
A visit to a doctor by personal request	41 (25.96%)	25 (25.77%)	7 (26.92%)	X^2=0.014; df=2; p=0.9929
Request forspecialist examination	-	-	-	-

Confidence in a family doctor				
Great confidence and very satisfied	123 (77.85%)	69 (71.13%)	21 (80.77%)	X^2=3.789; df=2; p=0.1504
Partial trust and not very satisfied	28 (17.72%)	28 (28.87%)	5 (19.23%)	
I have no confidence and I am not satisfied at all	7 (4.43%)	0 (0%)	0 (0%)	-
Adherence to doctor's advice				
Yes, always without exception	107 (67.72%)	69 (71.13%)	19 (73.08%)	X^2=0.628; df=4; p=0.9598
Sometimes yes, sometimes no	45 (28.48%)	24 (24.74%)	6 (23.08%)	
I rarely follow the advices	6 (3.80%)	4 (4.12%)	1 (3.85%)	
Never	-	-	-	-
Has a chronic illness				
Yes	135 (85.44%)	86 (88.66%)	24 (92.31%)	X^2=1.2289; df=2; p=0.5409
No	23 (14.56%)	11 (11.34%)	2 (7.69%)	
Has a malignant disease				
Yes	4 (2.53%)	2 (2.06%)	2 (7.69%)	X^2=2.4799; df=2; p=0.2894
No	154 (97.47%)	95 (97.94%)	24 (92.31%)	
Are you satisfied with life?				
Yes, a lot	56 (35.44%)	33 (34.02%)	11 (42.31%)	[1]p=0.0861
Yes	71 (44.94%)	44 (45.36%)	7 (26.92%)	
Partially	25 (15.82%)	13 (13.40%)	3 (11.54%)	
No	6 (3.80%)	7 (7.22%)	5 (19.23%)	
[1]Fisher Freeman Halton test;			Pearson Chi-square test;	
*significant for p<0.05				

Table 3 Non-parametric correlation between selected parameters

| Parameters	Spearman Rank order corellations			
	Gender	Age	Education	Adherence to doctor's advice
Confidence in a family doctor	R (281)=0.059; p=0.319	R (281)=0.009; p=0.868	R (281)=-0.025; p=0.673	R (281)=0.230; p=0.0001*
	Gender	Age	Chronic illness	Malignant disease
Life satisfaction	R (281)=0.116; p=0.052	R (281)=0.047; p=0.436	R (281)=0.150; p=0.012*	R (281)=0.015; p=0.802
	Gender	Age	Nationality	Level of education
Adherence to doctor's advice	R (281)=-0.038; p=0.529	R (281)=0.022; p=0.708	R (281)=-0.003; p=0.965	R (281)=-0.061; p=0.309
*significant for p<0.05				

A significant linear positive weak correlation was observed between trust in the family doctor and adherence to the doctor's advice (Spearman Rank order correlations: R (281)=0.230; p=0.0001) – as trust in the family doctor grows, so does adherence to the advice. A significant linear positive weak correlation was also found between life satisfaction and chronic disease (Spearman Rank order correlations: R(281)=0.150; p=0.012) as well as between life satisfaction and chronic disease – life satisfaction was higher in patients without chronic diseases (Table 3 and Figures1-3).
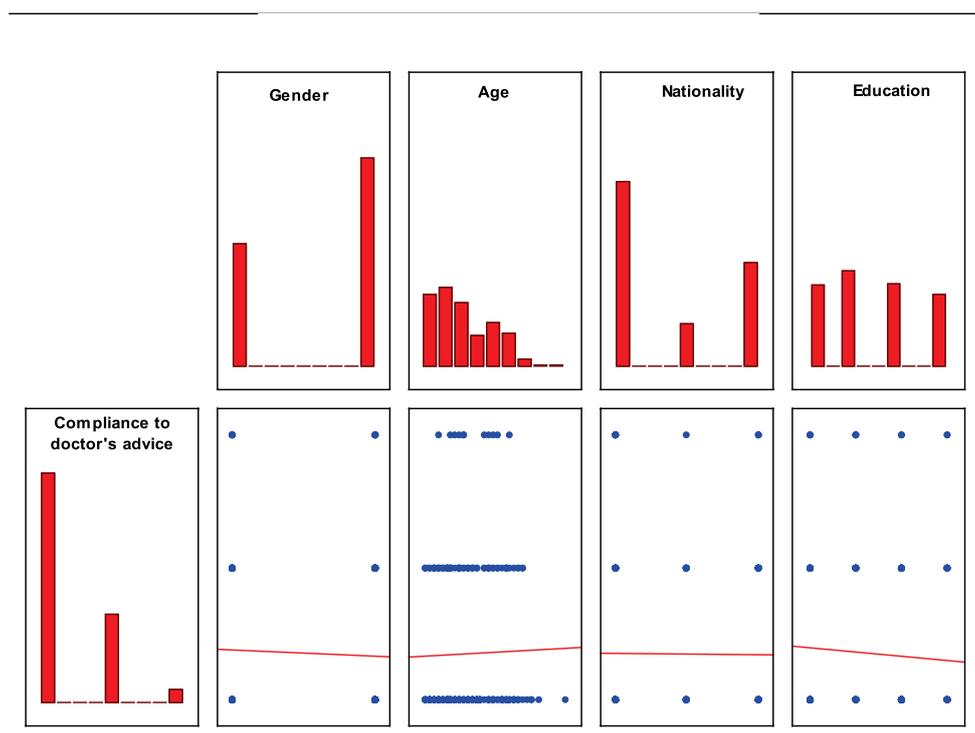
Figure 1. Non-parametric correlation between trust in a doctor and selected parameters
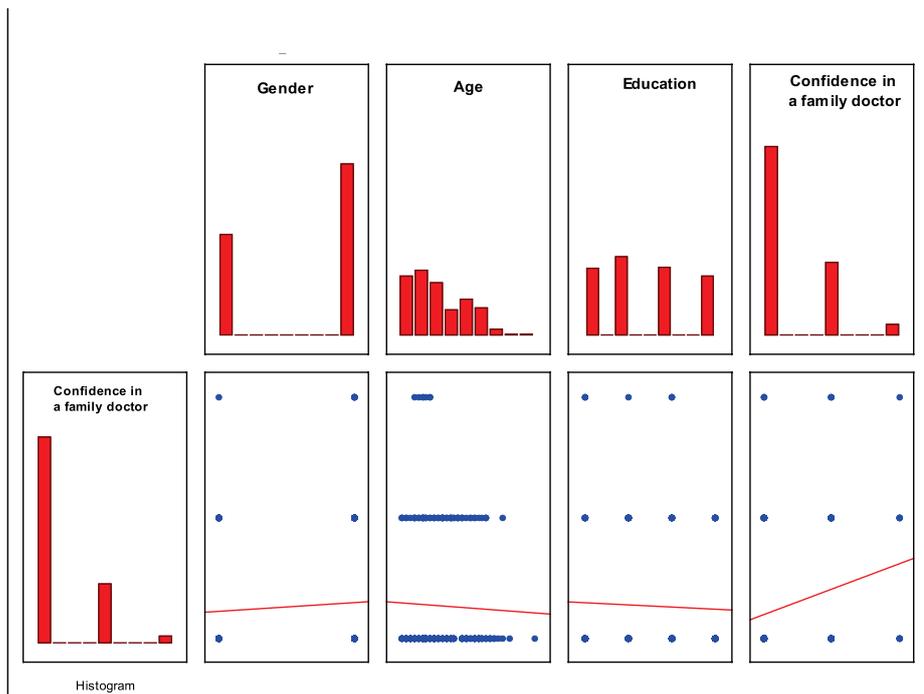
Figure 2. Non-parametric correlation between life satisfaction and selected parameters
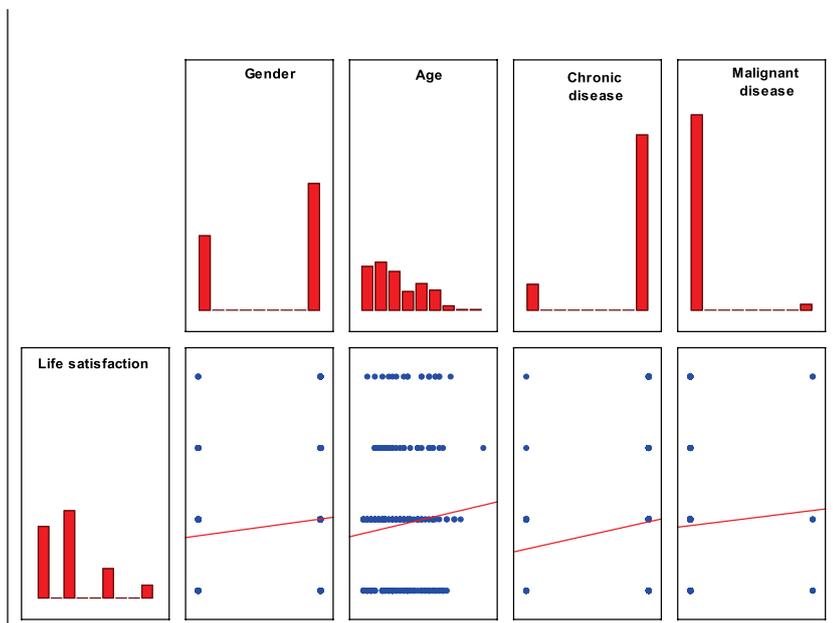
Figure 3. Non-parametric correlation between compliance to doctor's advice and selected parameters

Discussion

The population of North Macedonia is increasingly getting older. Elderly people burden the health system, and cause serious social and economic effects on the individual, family and community. Policy makers are in need of national scientifically-based data[11]. In our study, 24.55%of respondents were without education, 28.22% had primary education, 24.91% secondary education and 21.71% higher level education, with a significantly higher educational level registered among men (Pearson Chi-square test=16.132; df=3; p=0.0011), and these numbers are comparable with the educational level of women (34.5%) and men (43.4%) in a Spanish study[12].Being married increases life satisfaction among older adults[13]. Death of a spouse or partner is one of the most devastating events in the life of a person and seriously affects life satisfaction[14]. Widowhood has a negative impact on well-being and mental health. Although it is characteristic for both men and women, the prevalence of mental disorders such as anxiety and depressive disorders is prevailing in men[15]. Perhaps fortunately, widowhood is common among older women, over 50% of women over the age of 70 have ever been widowed[16], similarly as in our respondents – 47.04% of single and widowers were females (Fisher Freeman Halton exact test: p=0.00001).Living with a spouse, partner or extended family was significantly more associated with male gender (Fisher Freeman Halton test: p=0.00002). A cross-sectional survey conducted among Korean individuals aged 65 and over (n =14,687) revealed a significant difference in the happiness index among older adults living alone (6.22 ± 2.11), older adults living with their spouse (6.76 ± 1.99), and older adults living with their family (6.46 ± 1.94). Rais-

ing happiness index of elderly adults depends on circumstances and living arrangements[17].

Similar to this, most of the elderly participants in Li's study were married and lived with their spouse (42%) or friends (33%) and such supportive environments for elderly patients led to increase in life satisfaction[18].

Five percent of Kosovars, 20% of Serbians[19], 25% of Turks[20], 27.4% of Albanians[19], and 27.43% of elderly Macedonian citizens were living alone. However, in our survey this percent was 20.64. According to the World Economic and Social Survey for 2007, 35% of people over the age of 60 years lived alone, while in underdeveloped countries 7% of the elderly lived alone. Tradition, low economic standard are important factors for living alone in elderly people. Living alone has risen and is expected to increase[21]. However, living alone tend to be socially isolated[22], have poor health status[23], lower life satisfaction, and self-esteem[24].

Alcohol consumption starts in adolescence and decreases in the older age, though it is not recognized[25]. Alcohol use disorders affect 1-3% of older adults[26]. According to the American Dietary Guidelines[27], limitation for adults is two drinks or less per day for men and one drink or less per day for women. Breslow *et al.* pointed out that alcohol drinking had an upward trend among adults aged over 60, particularly women[28]. Although alcohol abuse is underreported[29], the effects of alcohol can be more quickly expressed in older adults. It increases the risks of falls, car crashes, and bad inter-

actions with medications[30]. Alcohol consumption among women in our study was significantly lower than in the study of Breslow The Substance Abuse and Mental Health Services Administration (SAMHSA), which conducts annual National Survey on Drug Use and Health (NS-DUH), defines binge drinking as 5 or more alcoholic drinks for males or 4 or more alcoholic drinks for females on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past month31. 53.66% of the consumers said that they consume alcohol every day. Mirand and Welte reported that 62% of respondents drank alcohol contrary to 14.59% of our respondents[32].

Older people also contribute in many ways to their families and communities. Yet, the extent of these opportunities and contributions depend heavily on one factor: health[33].

Smoking rates between 1965 and 1994 were reduced by 5.9%[34]. Smoking prevalence among older adults in 17 European countries was 11.5% (15.3% in men and 8.6% in women)[35]. It was 8.3%in the United States. In the United Kingdom, the lowest percentage (8%) of current smokers among people over 65 years was found compared to other age groups[36]. Smoking prevalence was highest in eastern/central Europe for men (20.3%) and northern Europe for women (13.1%). In both genderscombined, smokers were more frequent in countries with low implementation of tobacco control activities (14.9%)35. In Australia, people in their 60s smoked 16.5 cigarettes per day and in their 70s over

15.5 cigarettes per day. In our study, the average number of smoked cigarettes was 20.90±15.50 and was higher than in Australians of the same age[37].

There are no specific data about smoking percentages and patterns of smoking among older adults in MKD. 48.4% of Macedonians are smokers and they smoke on average twenty cigarettes daily[38];18.05% of our respondents were smokers. Regardless of age, quitting smoking can increase life expectancy and improve health and quality of life.

Patients' trust to their GP/family medicine doctor is associated with improved health outcomes, including patients' adherence totreatment advice, and satisfaction with health care[39],[40]. It can be expected that older adults need more frequent visits to consult both general practitioners (GPs) GPs/family medicine doctors, and specialists. In 2018 in MKD, although older people represented 13.9% of the total population, they accounted for around 22% of the total GP/family medicine doctor visits, 13% of visits to dentists, and 6.7% of gynecological visits. On average, there were 10.13 GP/family medicine doctor consultations per older person per year6.In Canada, seniors visited their family physicians 10 times a year or more compared toadults (9.7% vs. 5.5%)[41]. These numbers are in correlation with our percentages, 9.37±6.82 vs. 11.22±8.90 min/max respectively for women and men. According to the World Health Organization (WHO) Report "Older people and access to health care in North Macedonia", older people aged 75–84 years visit GP/family medicine, and gynecolo-

gist but in our study, we did not find a significant difference between elderly age categories. Older people in North Macedonia were less likely to consult a specialist compared to a GP/family medicine doctor. Male patients more often had consultations with a specialist than female patients. In addition, patients aged 85 years and over more often were referred to specialist consultations than those aged 65 to 84[6].

Studies have reported that older men have significantly better health status than older women[6,42,43,] which is in agreement with our results (p=0.000001). According to a Brazilian survey comprising 1,000 participants44, prevalence of negative self-rated health wasobserved in older adults. But gender did not show a significant difference. In the study by Menget *al*[45], participants' average self-rated health status on a scale from 0 to 100 (0 meaning the worst and 100 meaning the best) was 72.49±15.64. However, there was a borderline non-significant association with the age category of respondents with early old age (p=0.0619) among the three age categories in terms of how they feltabout their health, which wascontrary to Totikj study[42] and results presented in the WHO report[6]. Higher life satisfaction is associated with fewer doctor visits, which may have important implications inreducing health care costs[46].

Beside other variables on life satisfaction, health status, physical health, therate of chronic diseases is very high in older adults[47]. Eighty percent of older adults have at least one chronic disease[42]. 67.5% of the aged population suffered two or

more chronic diseases[48]. In 2014, 60% of Americans had at least one chronic condition, and 42% had multiple chronic conditions[49]. 73.72% of our older adults had at least one chronic illness, and 26.28% had none. Those who experienced chronic diseases, also reported significantly lower perceived life satisfaction and this was particularly true forwomen[50]. In Turkey[51], 27% of patients diagnosed with cancer are over 65 years of age. In the United States of America this percent is more than 60. In our sample this percent is only 6.5. Older adults with chronic illnesses have poor quality of life. Individuals with chronic diseases usually experience a decline in their quality of life. Respondents without any known health problems rated that their life satisfaction 3.16 out of 4. Others with any of the common health problems had lower life satisfaction than 3.16[52]. The overall prevalence of depression among the elderly population in India was 8.7%. Chronically ill women had a greater prevalence rate of depression than older men. The prevalence of depression among older adults with three or more chronic conditions was higher in males (14.5%) than in females (11.2%)53. Also, depression[54], anxiety[55], life satisfaction[56], and subjective well-being[57] were worse among older adults.

Conclusion

The population of North Macedonia is getting increasingly older. Elderly people burden the health system, and cause serious social and economic effects on the individual, family and community. On the other side, older people also contribute in many ways to their families and communities. Yet, the extent of these opportunities and contributions depends heavily on one factor: health. Regardless of age, quitting smoking and drinking alcohol, regular visits to doctors for preventive care services can increase life expectancy and improve health and quality of life. The relevant authorities in our country should develop more comprehensive and social models of care for older adults, especially in rural areas as prevention, long-term care, and palliative care.

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