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Original scientific paper

ESTIMATION OF COMMON NON-COMMUNICABLE DISEASES IN PRIMARY HEALTHCARE SETTINGS: A RETROSPECTIVE STUDY

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Abstract

Background: Every year, 39 million people die from non-communicable diseases, a number that has not meaningfully declined despite decades of global health efforts. More than three quarters of these deaths happen in low- and middle-income countries, where health systems are least equipped to absorb them. Primary health care sits at the frontline of this challenge, yet its capacity to manage NCDs remains underdeveloped in many settings. The present study was designed to map the burden of NCDs at a single primary care center, examining how cases are distributed across the population and whether sociodemographic variables help explain that distribution. **Methods:** Records were drawn from patients registered at Primary Health Center No. 4 in Tirana, covering a five-year window from 2020 through 2024. Data collection took place between October 2024 and February 2025. All statistical analysis was performed in IBM SPSS Statistics 26; findings were treated as significant where p fell below 0.05. **Results:** Patient numbers climbed each year without exception. Of those recorded, 58.56% were women, and 52.18% had completed secondary education as their highest level. Arterial hypertension dominated the diagnostic picture, with diabetes mellitus not far behind, and notably accelerating over the final years of the study period. Patients aged 65 and older made up 39.28% of the total, and multimorbidity was common rather than exceptional. Age, gender, and education each showed statistically significant ties to NCD prevalence ($p < 0.05$). **Conclusion:** The data paints a clear picture: NCD caseloads at the primary care level are growing, and older patients carry a disproportionate share of that weight. Early identification and targeted prevention, not just disease management, need to become core functions of primary care, especially for groups already known to be at risk.

Keywords: noncommunicable diseases, primary health care, prevalence, multimorbidity, sociodemographic factors

1.Introduction

Non-communicable diseases (NCDs) are the leading cause of death globally, accounting for about three-quarters of all deaths each year. According to the World Health Organization (WHO), they are responsible for 41 million deaths per year, including a significant number of premature deaths. (Piovani D,2022) The main diseases that contribute to this burden include cardiovascular disease, cancer, diabetes mellitus and chronic respiratory diseases. (Santos, et al 2023) NCDs are characterized by a long course, and they are the result of the interaction of behavioral, environmental and genetic factors. The main risk factors include smoking, physical inactivity, unhealthy diet and alcohol consumption. These factors are often associated with socio-economic changes and modern lifestyles, which makes NCDs a growing problem in both developed and developing countries. (Budreviciute A, et al 2020) In recent decades, a continuous rise in the burden of chronic diseases has been observed globally, indicating a further increase in cases and deaths in the coming years. (Eastway J, Lizarondo L, 2019) This situation puts considerable pressure on health systems and is associated with increasing health care costs and a negative impact on economic development. (Yenit MK,et al 2023), (Sasmita S., Pradhan J, 2021) An important aspect of chronic diseases is multimorbidity, which is more

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common in the elderly and implies the presence of more than one chronic disease in the same individual. (Monaco, A.et al 2020) This increases the complexity of treatment and the need for specialized care. (Santos, et al 2023), (Budreviciute A, et al 2020) Primary health care plays a key role in the prevention, early diagnosis and management of chronic diseases. WHO continues to emphasize the importance of cost-effective interventions and the promotion of self-management by patients, with the aim of improving health outcomes and reducing costs. (Hitaishi Singh & Jaya Bharti.,2021), (Bhuiyan, et al .2024),(Chang, AY et al,2021), (Allen, et al, 2021)

1.1 The situation in our country

In Albania, chronic diseases constitute a major public health burden. The data shows that about 93% of deaths are related to NCDs, while a significant proportion represent premature deaths. (Burazeri G,et al 2021) National strategies are focused on reducing risk factors such as smoking, alcohol and unhealthy diet, as well as improving the diagnosis and management of chronic diseases. (Allen, et al,2021) One of the main interventions has been the health screening program for the age group 35–70 years, which has contributed to early identification of NCDs and increased awareness in the population. (Ether, S.,2021) However, reports show a continuous increase in NCDs, including diabetes mellitus, cardiovascular diseases, cancer and pulmonary diseases. This highlights the need to further strengthen primary health care and preventive interventions. (Bello M,et al 2018), (Mone, I 2023) This study aims to assess the prevalence, distribution, and trends of NCDs in a primary health care setting and examine their association with sociodemographic factors.

2. Materials and Methods

2.1 Study Design, Setting, and Study Population

This study was a retrospective observational study aimed at assessing the prevalence and distribution of common NCDs among patients attending primary health care services. The study was conducted at Primary Health Care Center No. 4 Tirana, located in Tirana, Albania. The center provides routine medical services and follow-up care for patients with chronic diseases. The study population included adult patients registered and followed at the health center who had at least one diagnosed chronic NCD. Medical records covering the period January 2020 to December 2024 were retrospectively reviewed. The data extraction and analysis were conducted between October 2024 and February 2025. *Inclusion Criteria* Patients were included in the study if they: were ≥25 years of age; had a confirmed diagnosis of at least one NCDs; had complete medical records available in the primary health care database during the study period (2020–2024); The study focused on patients diagnosed with the following chronic conditions: arterial hypertension, coronary heart disease, diabetes mellitus, bronchial asthma, chronic obstructive pulmonary disease (COPD),cancer diseases, mental health disorders, rheumatoid arthritis. Patients with incomplete records or without a confirmed chronic disease diagnosis were excluded.

2.2 Data Collection

Data was collected retrospectively from patient medical records maintained at the primary health care center. Structured data extraction form was used to collect relevant information from the records. The following variables were included: *Demographic Characteristics*: Age, categorized into 25–34 years;35–44 years;45–54 years;55–64 years; ≥65 years. Gender; male,

female. *Socioeconomic Characteristics:* Education level: primary education, secondary education, higher education. Employment status: employed, unemployed, retired, disabled. Clinical Characteristics presence of diagnosed chronic diseases including arterial hypertension; coronary heart disease; diabetes mellitus; bronchial asthma; chronic obstructive pulmonary disease (COPD); cancer; mental health disorders; rheumatoid arthritis. All data were anonymized prior to analysis to ensure patient confidentiality. Based on the prerequisites presented above, all the steps of the research protocol have been followed by the Health Research Ethics Board Medicine University, Tirana, Albania. All procedures were conducted in accordance with applicable national guidelines and ethical regulations for research involving human data. Patient anonymity and confidentiality were strictly maintained throughout the study.

2.3 Statistical Analysis

Descriptive statistics were used to summarize the data. Categorical variables were presented as frequencies and percentages. Statistical analysis was performed using IBM SPSS Statistics 26. Associations between selected variables were evaluated using the Chi-square test. A p-value < 0.05 was considered statistically significant. Graphical presentations were used where appropriate to illustrate the results.

3.Results

This study was a retrospective observational analysis of patient health data from Primary Health Care Center No. 4 in Tirana, Albania, covering the period 2020–2024. The health center provides services for approximately 65,000 residents. Data was extracted from medical records of patients diagnosed with non-communicable diseases (NCDs).

Table 1 Socio-demographic characteristics of the patient with NCD

Patient Gender	No %	**Residence**	No %	**Age**	No %
Women	8768(58.56)	Rural	3621(24.18)	25-34	500(3.34)
Men	6200(41.44)	Urban	11347(75.82)	35-44	1585(10.60)
Education status		**Employment status**		45-54	3293(22.00)
primary education	2889(19.31)	employed	7014(46.89)	55-64	3711(24.80)
secondary education	7811(52.18)	unemployed	6008(40.14)	>65	5879(39.28)
high education	4268(28.51)	retired	1632(10.91)		
		disabled	314(2.10)		
Total	**14968(100)**	**Total**	**14968(100)**	**Total**	**14968(100)**

Table no 1 shows the variables collected including age, gender, residence, employment status, and education level. Most patients had a secondary education level (52.18%), followed by higher education (28.51%). A statistically significant association was found between education level and the presence of NCD ($p < 0.05$). Most patients were female in all years of the study. A significant association was observed between gender and NCD ($p < 0.05$), indicating a higher burden among women. Regarding residence, 75.81% of patients were from urban areas, while

24.19% were from rural areas. No statistically significant association was found between residence and NCD (p = 0.972). Regarding employment status, 2.10% of patients were classified as disabled, representing a vulnerable subgroup. However, no significant association was identified between employment status and NCD (p = 0.401).

Table 2 Distribution of Non-Communicable Diseases by Year (2020–2024)

Most common NCD diagnosis	2020	2021	2022	2023	2024
Arterial Hypertension	5615(55.92)	5201(54.63)	4911(49.07)	6924(46.26)	7010(46.08)
Diabetes Mellitus	2130 (21.21)	1889(19.84)	3019(30.17)	5168(34.52)	5271(34.65)
Bronchial Asthma	530 (5.28)	582(6.12)	531(5.30)	634(4.23)	647(4.25)
Arthritis Rheumatoid	214 (2.14)	206(2.16)	229(2.29)	232(1.55)	241(1.58)
Coronary Heart Disease	1078(10.73)	1158(12.16)	914(9.13)	1462(9.77)	1474(9.69)
Obstructive Pulmonary Chronic Disease	337 (3.36)	330(3.47)	240(2.40)	362(2.41)	375(2.46)
Cancer	138 (1.37)	152(1.60)	164(1.64)	186(1.24)	198(1.30)
Column Totals	10042	9518	10008	14968	15216

Table 2 presents the distribution of major non-communicable diseases over the five-year study period. The total number of patients with NCDs increased substantially, from 10,042 in 2020 to 15,216 in 2024, indicating a growing burden on primary healthcare services. Arterial hypertension remained the most prevalent condition throughout the study period. Although the absolute number of cases increased (from 5,615 in 2020 to 7,010 in 2024), its relative proportion decreased from 55.92% to 46.08%, likely reflecting a rise in other NCDs. Diabetes mellitus showed a marked and consistent increase, both in absolute numbers and proportions, rising from 21.21% in 2020 to 34.65% in 2024, making it the second most common condition. Coronary heart disease remained relatively stable, fluctuating between 9% and 12% across the years. Respiratory diseases, including bronchial asthma and chronic obstructive pulmonary disease (COPD), showed minor variations but overall remained stable or slightly decreased in proportion. Rheumatoid arthritis and cancer accounted for a smaller proportion of cases but demonstrated a gradual increase in absolute numbers over time. Overall, these findings indicate a significant upward trend in the total burden of NCDs, with notable increases in diabetes mellitus and multimorbidity, while arterial hypertension continues to dominate the disease profile. The observed trends were statistically significant ($p < 0.00001$). A steady increase in total NCD cases was observed from 2020 to 2024. Hypertension remained the leading condition, while diabetes mellitus showed the most pronounced growth. Other NCDs remained relatively stable, with slight increases in cancer and rheumatoid arthritis.

Table 3 Distribution of Non-Communicable Diseases by Age Group

	25-34 years old	35-44 years old	45-54 years old	55-64 years old	>65 years old
Arterial Hypertension & Coronary Heart Disease	408 (58.5)	757 (47.7)	1797 (56.6)	2486 (58.1)	3036 (55.4)
Diabetes Mellitus	174 (24.9)	656 (41.4)	1068 (33.7)	1380 (32.2)	1993 (36.4)
Bronchial Asthma & COPD	110 (15.8)	154 (9.7)	261 (8.2)	291 (6.8)	206 (3.8)
Rheumatoid Arthritis	2 (0.29)	8 (0.50)	19 (0.60)	55 (1.28)	157 (2.86)
Cancer Disease	4 (0.57)	10 (0.63)	28 (0.88)	69 (1.61)	87 (1.59)

Table 3 presents the distribution of major non-communicable diseases across different age groups. Arterial hypertension and coronary heart disease were the most prevalent conditions across all age groups, with proportions ranging from 47.7% to 58.5%, peaking in the 55-64 age group (58.1%). Diabetes mellitus showed a relatively high burden across all age categories, with the highest percentage observed in individuals aged 35-44 years (41.4%), followed by those aged over 65 years (36.4%). In contrast, bronchial asthma and COPD were more common in younger individuals, particularly in the 25-34 age group (15.8%), with a decreasing trend observed with increasing age. Rheumatoid arthritis and cancer were less common overall but showed a clear increase with age. Rheumatoid arthritis increased from 0.29% in the 25-34 age group to 2.86% in those over 65 years of age, while cancer prevalence increased from 0.57% to approximately 1.6%, peaking in the older age groups. Overall, a statistically significant association was observed between age group and type of NCD ($p < 0.05$), indicating that disease patterns differ significantly across age categories.

4.Discussion

NCDs remain a major global health challenge, as they account for more than two-thirds of all deaths worldwide and are often described as an “invisible epidemic”. (Piovani D, et al 2021), (Gottfredson LS 2021) Effective strategies for the NCD epidemic must focus on early identification and specialized care based on the best evidence to prevent, treat, and reduce the cost of health systems. (Santos, A et al 2023), (Eastway J, & Lizarondo L, 2019), (Hitaishi S, & Jaya B, 2021), (Bhuiyan, M.A.,et al 2024) The burden is particularly pronounced in low- and middle-income countries, where the prevalence of NCDs has increased over the past decades. (Gupta A, 2021) (Chang AY et al 2021) The findings of this study show a progressive increase in the number of patients with NCDs between 2020 and 2024, highlighting an increasing burden on primary health care services in Tirana. (Mone, I, et al 2023) The trend is consistent with previous studies conducted both globally and in similar settings. This suggests NCDs continue to expand in scale and complexity. (Riley L, et al 2020), (Pan, F., et al 2021) A key finding of this study is the dominance of arterial hypertension, which remained the most prevalent condition throughout all years. (Monaco, A.,et al 2020) Although its proportional contribution decreased over time, the absolute number of cases increased, which indicates that hypertension continues to be a major public health concern. (Mone, I, et al 2023) In parallel, diabetes mellitus showed an increase, especially in the later years of the study, suggesting a changing pattern in disease burden and a possible increase in metabolic risk factors. (Piovani D, et al 2021) The study also identified a significant connection between age and the prevalence of NCDs, with older adults (≥55 years) being most affected. This finding is consistent with existing literature,

as the accumulation of risk factors and physiological changes with aging contribute to increased vulnerability to chronic diseases. (Monaco, A.,et al 2020), (Mone, I, et al 2023) In addition to this, the different NCDs demonstrated distinct age-related patterns, with respiratory diseases more common in younger adults and cancer and rheumatoid arthritis increasing with age. (Pan, F., et al 2021), (Allen, L, et al 2021), (Bello M., et a 2018), (Collaku L, et al 2017) Gender differences were also observed, with women showing a higher overall prevalence of NCDs, especially hypertension, asthma and diabetes mellitus. (Wang C, et al 2009) While some studies report a higher prevalence of NCDs in men, others suggest minimal or context-specific gender differences. (Allen, L, et al 2021), (Bello M.,et al 2018), (Mone, I, et al 2023) These differences may be explained by differences in health care seeking behavior, lifestyle factors and population characteristics. Education level was significantly associated with NCDs, with individuals with lower educational level being the more affected. This finding supports existing evidence linking low education with increased exposure to behavioral risk factors such as smoking, unhealthy diet and lack of physical activity. (Oshio, T., et al 2019),(Kavita K, et al 2023) Although employment status was not significantly associated with NCDs in this study, vulnerable groups, such as the unemployed and individuals with disabilities, may still require interventions due to potential barriers to accessing healthcare and maintaining a healthy lifestyle. (Kraja, F et al) Another important finding is the high rate of multimorbidity, with nearly 70% of patients presenting with more than one chronic condition. (Allen, L, et al 2021), (Bello M., et a 2018), (Collaku L, et al 2017) This highlights the difficulty in managing NCDs in primary care and points out the need for integrated and patient-centered approaches. The observed increase in NCD cases over time may also have been partly influenced by the COVID-19 pandemic, which has been associated with disruptions in healthcare services, delays in diagnosis, and aggravation of chronic diseases. Shared risk factors between COVID-19 and NCDs may have further contributed to increased vulnerability and burden on the healthcare system. (Riley L, et al 2020), (Pan, F., et al 2021) Primary healthcare plays a critical role in addressing NCDs through early detection, continuous management and preventive strategies. In Albania, national programs, such as routine health check-ups for individuals aged 35-70, have contributed to improving the detection and monitoring of chronic diseases. Strengthening these services, together with promoting healthy lifestyles and reducing risk factors, remains essential for controlling the growing burden of NCDs. (Allen, L, et al 2021), (Bello M.,et al 2018), (Mone, I, et al 2023) *Limitations:* We have focused on one health care center nr 4 only in Tirana, collecting a small champion, and we could not generalize the results for the whole country.

5. Conclusion

This study provides an analysis of NCDs in a primary healthcare setting in Tirana from 2020 to 2024, demonstrating a significant increase in the total number of NCD patients over time. Arterial hypertension remained the most prevalent disease throughout the study period, while diabetes mellitus showed the most significant increase, indicating a changing pattern in disease burden. NCDs were more common in older age groups, especially individuals aged ≥55 years, and a significant connection with gender and education level was observed. In addition, a high percentage of patients presented with multimorbidity, highlighting the complexity of NCD management in primary care. These findings highlight the growing burden of NCDs and the need for strengthened primary health care services, particularly in early detection, ongoing management, and targeted prevention strategies for high-risk groups. Strengthening patient-centered care and addressing modifiable risk factors should be prioritized to effectively respond to the growing burden of NCDs.

References

[1]. Santos, A. T., Costa, C. M., Delgado-Márquez, L., & Banheiro, R. M. Analyzing the Influence of WHO Initiatives on the Scientific Discourse of Noncommunicable Diseases through a Bibliometric Approach. International journal of environmental research and public health, Vol.20,Issue 18,p. 6714, 2023. https://doi.org/10.3390/ijerph20186714

[2]. Budreviciute A, Damiati S, Sabir D,Onder K, Schuller-Goetzburg P,Plakys G, Katileviciute A,Khoja A, Kodzius R. Management and Prevention Strategies for (NCDs) and Their Risk Factors. Frontiers in Public Health, Vol 8, 574111; 2020 doi: 10.3389/fpubh. 2020.574111

[3]. Eastway J, Lizarondo L. Experiences of adult patients with chronic non-communicable disease using electronic personal health records for self-management: a qualitative systematic review protocol. JBI Database System Rev Implement Rep. Vol 17, Issue 11:pp,2334-2342, 2019; doi: 10.11124/JBISRIR-2017-003941. PMID: 31232888.

[4]. Yenit MK, Kolbe-Alexander TL, Gelaye KA, Gezie LD, Tesema GA, Abebe SM, Azale T, Shitu K, Gyawali P. An Evaluation of Community Health Workers' Knowledge, Attitude and Personal Lifestyle Behaviour in Non-Communicable Disease Health Promotion and Their Association with Self-Efficacy and NCD-Risk Perception. Int J Environ Res Public Health. Vol 20,Issue 9:5642, 2023. doi: 10.3390/ijerph20095642.

[5]. Piovani D, Nikolopoulos GK, Bonovas S. Non-Communicable Diseases: The Invisible Epidemic. Journal Clinical Medicine.;Vol. 11; Issue 19: 5939, 2022. doi: 10.3390/jcm11195939.

[6]. Monaco, A., Palmer, K., Marengoni, A., Maggi, S., Hassan, T. A., & Donde, S. Integrated care for the management of ageing-related NCD: Current gaps and future directions.Aging Clinical and Experimental Research Vol. 32; Issue 7:pp,1353–1358,2020. https://doi.org/10.1007/s40520-020-01533-z

[7]. Sasmita S., Pradhan J., "Uneven economic burden of non-communicable diseases among Indian households: A comparative analysis." Plos One one Vol. 16, Issue 12, pp,1-17; e0260628, 2021. doi:10.1371/journal.pone.0260628

[8]. Hitaishi Singh & Jaya Bharti., Non-Communicable Diseases and Their Risk Factors: Review. EAS Journal of Parasitology and Infectious Diseases. Vol-3, Issue-6:pp,83-86 2021. DOI: 10.36349/easjpid.2021.v03i06.001

[9]. Bhuiyan, M.A., Galdes, N., Cuschieri, S. Hu,P. A comparative systematic review of risk factors, prevalence, and challenges contributing to non-communicable diseases in South Asia, Africa, and Caribbeans. Journal of Health Population Nutrition Vol. 43, Issues 140,2024. https://doi.org/10.1186/s41043-024-00607-2

[10]. Chang AY, Cullen MR, Harrington RA, Barry M. The impact of novel coronavirus COVID-19 on non-communicable disease patients and health systems: a review. Journal Intern Med; Vol. 289 Issue 4: pp,450-462,2021. doi: 10.1111/joim.13184.

[11].Allen, Luke N,Wiggley S,Holmer H. Implementation of non-communicable disease policies from 2015 to 2020: a geopolitical analysis of 194 countries; The Lancet Global Health; Volume 9, Issue 11, 1528 - e1538,2021 www.thelancet.com/lancetgh

[12].A,Burazeri G,Ylli A,Subashi B,Hoxha R; Demographic and health challenges facing Albania in the 21 Century. (n.d.-a); 25 January 2021 https://albania.unfpa.org / sites default/ files/ pub-pdf/ albania_ demographic _ health_ challenges_ report_ 2020_english_ version. pdf

[13].Riley L., Cowan M., Clem M; Non-Communicable Diseases; Progress Monitor 2020 Geneva; World Health Organization; Vol.VI. pp, 244. 2020.Available at: http://apps.who.int/iris

[14]. Ether, S., & Saif-Ur-Rahman, K. M. A systematic rapid review on quality of care among non-communicable diseases (NCDs) service delivery in South Asia. Public Health in Practice, Vol 2, pp,2666-5352; 100180.2021 doi:10.1016/j.puhip.2021.100180

[15].Bello M.,Kern D.,Nuri B.,Aslam J.,Bejtja G;Albania Demographic and Health Survey 2017-18; Institute of Statistics Institute of Public Health Tirana, Albania the DHS Program ICF Rockville, Maryland, USA;pp.1-484 Accessed October 2018;Available at: www. DHSprogram.com.

[16].Mone, I., Kraja, B., Roshi, E., & Burazer, G. Overview on health status of the Albanian population. South Eastern European Journal of Public Health.pp.1-6.2023. https://doi.org/10.70135/seejph.vi.295

[17].Gottfredson LS. The Transition to Noncommunicable Disease: How to Reduce Its Unsustainable Global Burden by Increasing Cognitive Access to Health Self-Management. Journal Intell; Vol 9; Issues 4: pp,1-61. 2021. doi:10.3390/jintelligence9040061

[18]. Gupta A, Sathiyanarayanan S, Aravindakshan R, Kakkar R. A Pilot Retrospective Study Validating NCD Risk Assessment Score (AMNRAS). Internal Journal of Preventive Medicine. Vol.12: Issue 134.pp1-8. 2021. doi: 10.4103/ijpvm.IJPVM_206_19

[19]. Riley L., Lubna Bhatti L., Carlos MC., Quiambao A., Rarau P., Savin S., Cowan M. The impact of the COVID-19 pandemic on NCD resources and services: results of a rapid assessment: World Health

Organization, 2020. https:/ /www. who. int/ publications/ m/item/rapid-assessment-of-service-delivery-for-ncds-during-the-covid-19-pandemic. ISBN 978-92-4-001029-1
[20]. Pan, F., Yang, J., Wen, Y., Li, N., Chen, S., & Pan, A. NCD During the COVID-19 Pandemic and Beyond. Engineering (Beijing, China), Vol.7.Issue 7, pp,899-902.2021 https://doi.org/10.1016/j.eng.2021.02.013
[21]. Oshio, T., Kan, M. Educational level as a predictor of the incidences of NCD among middle-aged Japanese: a hazards-model analysis. BMC Public Health Vol 19, Issue.852. 2019 https://doi.org/10.1186/s12889-019-7182-6
[22]. Kavita, K.Thakur JS.,Ghai S.,Narang T. 'Nurse-led interventions for prevention and control of Non - communicable Diseases in low- and middle-income countries: A systematic review and meta-analysis', International Journal of Non-communicable Diseases,Vol 8, Issue 1, pp. 4-13.2023 doi:10.4103/jncd.jncd_74_22.
[23]. Kraja, F. Kraja B.,Mone I.,Babameto A., Burazeri G;Self-reported prevalence and risk factors of non-communicable diseases in the Albanian adult population, Medical archives (Sarajevo, Bosnia and Herzegovina). Vol.70,Issue 3,pp,208-212;2016. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5010054/
[24]. C, O'Neill SM, Rothrock N, Gramling R, Sen A, Acheson LS, Rubinstein WS.,NeaserJr., DE.,Ruffin IV MT., Comparison of risk perceptions and beliefs across common chronic diseases. Prev Med. 2009 Feb; Vol.48, Issue 2: pp.197–202.2009. http://www.ncbi.nlm.nih. gov/pubmed/ 19073208.
[25]. Collaku L,Resuli M, Gjermeni I,Tase M. Comorbidity and multimorbidity in the medical practice: A literature review. Albanian Medical Journal; Vol 4,pp. 55-59; 2017. Available at: https://www.ishp.gov.al/wp-content/ uploads / 2017/12/