

# Macedonian Medical Association – Seventy Years from Its Establishment, 1945-2015

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## Abstract

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**AIM:** To present the phases of development and activities over the 70-year period of existence and work of the Macedonian Medical Association, from its establishment in 1945 to 2015.

**METHODS:** A retrospective study based on available archive materials, encyclopaedias and other sources of information and reviews of the relevant literature, and personal experiences and observations of the author.

**RESULTS:** Macedonian Medical Association was established on August 12, 1945, with science and health educational mission and program. Dr Boris Spirov was elected as the first president of the Association, one of the main initiators and facilitators of activities in health care sector, including the establishment of the Faculty of Medicine in Skopje in March 1947. Over the past 70 years, the Association is the main carrier and has a key role and contribution in continuing medical education, vocational and scientific advancement of medical staff and improvement the dignity and reputation of the medical profession. The journal of the Association Macedonian Medical Review has contributed to spreading and advancement of knowledge and skills of modern medicine, as well as presenting professional and scientific achievements of physicians in the past 70 years. Macedonian Medical Association is a member of the World Medical Association and many other international associations and organisations contributing to international collaboration in education and science and promoting the Republic of Macedonia in Europe and worldwide.

**CONCLUSION:** Macedonian Medical Association over the 70-year period of its existence has been one of the pillars and lighthouse in the healthcare system in the Republic of Macedonia with great contribution to the advancement of medical and related sciences and continuing medical education, strengthening of health services and health care for the population and overall socio-economic development of the Republic of Macedonia during the past 70 years.

## Introduction

Macedonian Medical Association (MMA) was established on August 12, 1945. In 2015 MMA celebrated its jubilee - 70 years of existence with a successful and fruitful work and versatile huge contribution to the development of the health system and health care of the population and overall social development in the Republic of Macedonia [1, 2]. Immediately after the World War II, the then People's Republic (PR) of Macedonia faced a very difficult economic, cultural and health status of the population. Besides devastated and ruined country, poverty and

hunger in the exhausted predominantly agricultural population with cultural regression and poor economic conditions, the health system was underdeveloped with very weak human resources. At that time there were only 120 doctors, a few stomatologists and less than 100 high-school dentists and dental technicians, 96 pharmacists, for about 1,200,000 inhabitants in PR Macedonia. On average, there were 1 doctor and 1 nurse per 10,000 residents. The health condition of the population was very poor with neglected pathology, the unfavourable hygienic-epidemiological situation with many endemic spots and high morbidity and mortality from respiratory, diarrheal and other communicable diseases, especially in infants and young children [3-5]. Basic demographic and health

indicators of the population and network of health institutions and health workers in PR Macedonia, immediately after the World War II, are presented in Table 1.

**Table 1: Basic demographic and health indicators of the population and network of health institutions and health workers in Macedonia in the period 1945-48 [6-10]**

<b>Demographic and vital statistics indicators:</b>
<ul style="list-style-type: none"> <li>• Total population in Macedonia (census 1948): 1,152,986; agricultural population 70.6%;</li> <li>• Life expectancy (1948): males 45.9; females 48.2 years;</li> <li>• Birth rate : 35 per 1,000 population;</li> <li>• Mortality rate: 13.7 per 1,000 population (95% of the dead were not examined and treated by a doctor before the death);</li> <li>• Population growth rate: 21.3 per 1,000 population; the average number of members per family 5.3.</li> </ul>
<b>Indicators of the health status of the population:</b>
<ul style="list-style-type: none"> <li>• Infant mortality rate (1948): 136.1 per 1,000 live births;</li> <li>• 300,000 infected with malaria each year;</li> <li>• 30,000 disease with active tuberculosis;</li> <li>• High morbidity from typhus and para typhus, cholera and other diarrheal diseases;</li> <li>• High morbidity from diphtheria, pertussis and other acute infectious diseases in children;</li> <li>• High morbidity / mortality from anthrax, tetanus, rabies;</li> <li>• High morbidity from skin and sexually transmissible diseases;</li> <li>• High morbidity from goitre, nephropathy and other endemic diseases.</li> </ul>
<b>Structure of the network of health care facilities:</b>
<ul style="list-style-type: none"> <li>• Dispensaries: 3 (2 for children, one for TBC);</li> <li>• Doctor's offices: 56 (50 general and specialist medicine, 6 for school-children);</li> <li>• Dental offices: 7;</li> <li>• Antimalarial stations: 18;</li> <li>• Hospitals: 9; hospital beds: 868 / hospital beds per 1,000 population: 0.72;</li> <li>• Public health institutes: 1.</li> </ul>
<b>Number of doctors and other health professionals:</b>
<ul style="list-style-type: none"> <li>• Doctors: 120/ 1 doctor per 10,000 inhabitants;</li> <li>• Pharmacists: 96/ 1 pharmacist per 12,000 inhabitants;</li> <li>• Nurses: 120/ 1 nurse per 10,000 inhabitants.</li> </ul>

In such extremely unfavourable conditions, in 1945, the newly-formed government, with official authorities but an insufficient number of health personnel, entered the gigantic battle against diseases, poverty and centuries-long regression, as well as an affirmation of national identity and autonomy of PR Macedonia. Adverse conditions and problems had to be overcome, centuries to be bridged and PR Macedonia to become not only *de jure* but also *de facto* an equal member of the fraternal community of the Federal People's Republic of Yugoslavia. It was necessary to take urgent measures to establish organised health services for to improve the health status of the population and in-depth examinations of national pathology, particularly widespread infectious diseases as a health problem of the highest priority. One example of creating a foundation for organised work is the activity of uniting highly educated health personnel (doctors, dentists and pharmacists) in a professional association through the formation of Macedonian Medical Association [1, 3, 5].

## Establishment of the Macedonian Medical Association

In the postwar period with adverse health and social circumstances, but in the setting of emphasised enthusiasm and sincere desire of each person to help

his people and country, the Macedonian Medical Association (MMA) was established as an association of doctors, dentists and pharmacists in PR Macedonia. The mission of MMA was to promote the medical and related sciences, to protect interests of doctors and to contribute to the growth and dignity of the medical profession, as well as development of the educational system for health professionals toward improvement the quality and accessibility of healthcare services and health status of the population. Pharmacists separated from MMA in July 1947 and dentists in June 2004 and thus formed their own special associations. Dr Boris Spirov was playing the key pioneering role as one of the leading initiators and founders of MMA [2, 3, 11, 12]. The general medical conference was held on August 12, 1945, and MMA was founded with science and health educational mission and program. Dr Boris Spirov was elected as the President of MMA, and Vice-president was Dr Done Miovski. In the first composition of the Board, there were elected 9 members, including doctors who later on became professors at the Faculty of Medicine in Skopje, i.e. Haralampie Mančev, Sterio Bozdov and Anton Čakmakov. In the years after the liberation, Dr Boris Spirov as a member and secretary of the ASNOM Presidium had great authority and served on many high state offices in the Government of PR Macedonia. As president of MMA, Dr Spirov was one of the main initiators and facilitators of activities in health care sector, including the establishment of the Faculty of Medicine in Skopje in March 1947. At that time he was elected professor of internal medicine and the history of medicine and was one of 19 teachers in the first group of the newly established faculty, most of them members of MMA.

Prof. Spirov was a man of vision, doctor humanist and tireless fighter, educator, enthusiast and organiser, who, along with members of the Board, coordinated the overall activities of MMA in the first years after its establishment. He led several important epidemiological studies of infectious and endemic diseases, especially malaria, typhus and goitre in Macedonia. Dr Boris Spirov completed his three-year term as the first president of MMA by organising the First Scientific Congress of Doctors of Macedonia in Skopje on 31.05.1948, with main topics on infectious diseases and child mortality in PR Macedonia.

The new president was elected, Dr Georgi Gavrilski, and Prof. Boris Spirov was elected as Editor-in-Chief of the MMA journal *Macedonian Medical Review*, which editorial function he performed in the period 1948-1950 [11-13]. All 25 presidents of the Macedonian Medical Association in the period 1945-2015, served entirely on a voluntary basis, are presented in Fig. 1.

The current president of MMA is Assist. Prof. Dr Goran Dimitrov from the Clinic of Gynecology and Obstetrics at the Faculty of Medicine in Skopje (Fig. 2).



1945-1948  
**Prof. Dr Boris Spirov**  
Internist



1948-1950  
**Prof. Dr Gjorgji Gavrilski**  
Epidemiologist



1951-1952  
**Prof. Dr Sterjo Bozdvov**  
Hygiene Specialist



1952-1955  
**Prof. Dr Haralampie Manchev**  
Pediatrician



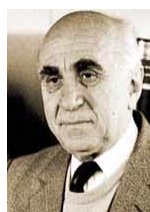
1955-1956  
**Prof. Dr Bozhidar Niketic**  
Neuropsychiatrist



1956-1957  
**Prim. Dr Ljubomir Savev**  
Physiologist



1958-1959  
**Prof. Dr Gligor Muratovski**  
Physiologist



1960-1961  
**Acad. Prof. Dr Pencho Davchev**  
Gastroenterologist



1962-1963  
**Prof. Dr Jonche Nedelkovski**  
Haemathologist



1963-1966  
**Colonel Dr Blagoja Petkovski**  
Internist



1967-1970  
**Prof. Dr Dushan Teodosievski**  
Paediatrician



1971-1972  
**Prof. Dr Borislav Karanfiski**  
Patophysiologicalist



1973-1977  
**Prof. Dr Stefan Stefanovski**  
Neuropsychiatrist



1978-1980  
**Colonel Dr Dushan Karanovski**  
Internist



1981-1982  
**Prof. Dr Predrag Ugrinski**  
Pathologist



1982-1983  
**Prof. Dr Kiril Velkov**  
Radiologist-onkologist



1983-1984  
**Colonel Prim. Dr Stevan Grdanoski**  
Epidemiologist



1984-1986  
**Acad. Prof. Dr Momir Polenakovic**  
Nephrologist



1986-1987  
**Prof. Dr Milan Jovanovski**  
Pathologist



1988  
**Dr Zhivko Velkovski**  
Neuropsychiatrist



1988-1991  
**Colonel Prim. Dr Kosta Sekulovski**  
Surgeon



1993-1998  
**Prim. Dr Petko Chadikovski**  
Dermatovenerologist



1998-2002  
**Prof. Dr Vitomir Micev**  
Neuropsychiatrist



2002-2003  
**Prof. Dr Ante Popovski**  
Neuropsychiatrist



2004-2015  
**Prof. Dr Jovan Tofoski**  
Gynecologist

Figure 1: Presidents of the Macedonian Medical Association in the period 1945-2015 [3, 5, 14]



Figure 2: President of the Macedonian Medical Association, Assist. Prof. Dr Goran Dimitrov (from the left side), with the president of the Doctors' Chamber of Macedonia, Prof. Dr Kocho Chakalaroski, at working meeting

## Activities and contribution of MMA shortly after the World War II

Activities of MMA in the period of postwar years were directed to investigation of health behaviour and to the eradication of harmful vices of the people, the study of the causes of acute and chronic infectious and endemic diseases and medical-social problems. Special attention was devoted to building the Macedonian medical terminology and popularisation of medical science, an organisation of medical courses and lectures, scientific excursions and medical congresses, the formation of medical libraries and exchange of printed papers, books, magazines, pamphlets and other propaganda materials.

Thus MMA became the core factor and carrier of modern ideas about the organisation of health services in Macedonia, with an orientation towards professional and scientific work and continuing education of health personnel, who at that time were of enormous shortage and badly need for society [5, 15, 16]. In the period from March 1947 to April 1948, the medical units of MMA in Macedonia delivered 170 lectures for doctors and other health personnel and 10,039 popular lectures on health education of the population. Popular medical lectures about the priority health problems were delivered by practitioners in the framework of organised weekly shares, mostly to members of the Antifascist Front of Women (AFZH) and of the Red Cross of Macedonia, such as malaria and tuberculosis prevention and control, kids' week etc. Some of these lectures were broadcast via Radio Skopje [1, 5, 8, 9, 15, 16].

## Educational activities and continuing medical education of doctors

The main mission of MMA is to improve the medical and related sciences, preserving and promoting the dignity and reputation of the medical profession and protect the interests of doctors. There is a wide spectrum with a continuous upward trend of the medical, educational and health promotional activities of MMA from the beginning of the newly created medical units of MMA (in Skopje, Bitola, Stip, Veles, Kumanovo, Ohrid, Strumica and Tetovo). Later on, with the increase in the total number of physicians and specialists throughout the 1950s and beyond, specialist sections and associations in MMA were established. Then a new period of intensifying the professional activities of MMA began. Over the past 70 years, MMA is the main carrier and has a key role and contribution in continuing medical education (CME), vocational and scientific advancement of medical staff and improvement of the medical profession. There were 18 congresses of all physicians and more than 70 congresses of specialist associations held, often with international participation, especially after the independence of Republic of Macedonia in 1991. The number of presented papers, printed in special collections of papers (proceedings) or supplements of *Macedonian Medical Review* exceeds the number of 13,000 articles. Specialist sections and associations have organised regular meetings with presentations and discussion about at least 3 professional themes, on average 4 times a year. In addition, most of the specialist associations practiced to organize additional professional and educational activities, such as specific schools (ultrasound, anesthesiology and resuscitation, allergology, health management, etc.) to improve the level of knowledge and skills of their members and other interested, first of all doctors who work at the level of primary health care [1, 4, 5].

Within the organisational activities related to CME, MMA has realised numerous activities. The most notable were the establishment of the Educational Centre for CME, production, translation and publication of several important manuals, tutorials, posters and other educational materials. MMA stressed the need to reactivate the CME centres in other cities besides already renovated centres in Gostivar, Prilep and Veles. Besides the wide range of activities of MMA in the health sector and health care facilities, important activities are taking part in numerous debates and discussions in the Ministry of Health and the Parliament about Health Strategy 2006-2015, an active participation in the adoption of the Law on Patients' Rights, the Law on Doctors, Law on additional work of the doctors, participating in the public debate on amendments to the Law on health care in 2013 and other legislative and policy documents. Special attention MMA devoted to the

preparation of professional guidelines for medical doctors for ensuring higher quality of medical services and more rational and efficient treatment of patients in accordance with the worldwide recognised approaches and evidence-based medicine [17]. MMA and the Section of Doctors of General Medicine had started an initiative and gained support for returning the name of specialisation of general medicine/family medicine [1, 5].

## Publishing activities of MMA

Journal of MMA *Macedonian Medical Review* is the first professional scientific journal in the Macedonian language in the field of medicine, which starts to be published in July 1946. The journal is the foundation of the Macedonian medical professional and scientific publishing and debate on current issues in the field of prevention and epidemiology, diagnostics and therapy and a mirror of scientific research in the field of medicine in the Republic of Macedonia. The first issue of *Macedonian Medical Review* was designated as a “journal of medicine, veterinary medicine and pharmacy”. Later on, it was transformed into a journal for medicine only, following the establishment of the Faculty of Dentistry and the strengthening of the Section of Dentistry in MMA in 1977 when they started with publishing the journal *Macedonian Dental Review*. About 5,000 peer-reviewed papers were published in *Macedonian Medical Review* by the year 2015. Papers were published in Macedonian with abstracts in English until 2010 when bilingual publishing was introduced. Thus, *Macedonian Medical Review* has contributed to spreading and advancement of knowledge and skills of modern medicine, as well as presenting professional and scientific achievements of physicians in the past 70 years. Today the journal is aimed at the general practitioners, specialists in different medical disciplines and researchers in the field of basic medical and related sciences. It is an open access journal publishing original papers, short communications on clinical and laboratory experiences, case reports, and experience from practice to practice, educational papers/reviews etc. [4, 18].

Since 2009 MMA started to publish a professional informative and educational newsletter entitled *The Doctors newsletter*. It is a monthly magazine for free distribution to 6,000 doctors in Macedonia. Within the period of six years, more than 70 issues were published with circulation over 400,000 copies presenting activities of the units and bodies of MMA, specialist sections and associations, as well as activities related to international cooperation [1, 2].

## Social and professional activities and initiatives

After the World War II, a huge shortage of qualified and trained medical personnel in PR Macedonia was recognised. The need to start with an intensive education of medical professionals was perceived the earliest by the MMA. For the rapid development of health care and health care facilities, it was necessary to initiate the establishment of medical faculty as educational, medical and research institution in PR Macedonia. In 1946, the Government of PR Macedonia, besides numerous operational decisions, passed an important strategic decision with long-term significance for improving the health status of the population and development of the health service and health system in Macedonia - to make immediate preparations for the establishment of the Faculty of Medicine in Skopje. The first meeting of the Teachers Council was held on 17.03.1947 and that date marked the formation and the beginning of the real existence and academic activities of the Faculty of Medicine in Skopje. More than 17,000 students were enrolled and about 12,000 doctors graduated at the Faculty of Medicine till 2015 [3, 19-23].

MMA actively monitor the situation and changes in the health sector and participates as initiator and advisor in the creation and improvement of legislation in the field of healthcare and social protection, but also broader in the sphere of education and science, and other organised forms of professional and civic action in the overall social life. Members of MMA have been engaged in the state bodies for creating health policy and social development, in the political, cultural and sports life, in political parties, other professional and scientific institutions, civil society and free associations, as well as in the highest scientific institution - Macedonian Academy of Sciences and Arts [5, 24].

After the independence of the Republic of Macedonia in 1991, MMA has launched an initiative for the establishment of the Doctors' Chamber of Macedonia (DCM) as a professional institution with powers to perform control and assessment of knowledge and skills, to deal with accreditation and licensing of doctors for medical practice in the prevention and treatment under modern advances in medical science and evidence-based medicine. DCM was founded in June 1992, when the constituent assembly was held at the Military Hospital in Skopje. At the beginning, the members of DCM were medical doctors and doctors of dentistry. In 1995 dentists separated and formed a new special Dental Chamber of Macedonia. DCM is the successor of the Doctors' Chamber had existed in this region in the third decade of the last century in the then Kingdom of Yugoslavia. The seat of the Chamber, which covered the former “Vardar's Banovina”, was in Skopje. All doctors and dentists were obliged for membership in the Chamber

in order to gain liability for public and private practice [25].

Among other things, under the operation of MMA as a contemporary medical association, several key documents were prepared i.e. the Statute of MMA, Rules for the operation of specialised and regional associations, Criteria for evaluation of the activities of associations, Rules for conducting elections etc. Recently, a decision for the establishment of the Academy of Medical Sciences (AMS) in MMA was adopted, which is to be realised in the near future.

## Cooperation with other institutions and associations

The today the Republic of Macedonia has a highly developed medicine with a broad network of health institutions at all levels of the health system and healthcare delivery. According to the official data from the Institute of Public Health, the total number of doctors in 2015 was 5,975, employed in the public (3,803) and private health sector (2,182). All of them are members of the MMA. About 70% of doctors in the public sector and 47.7% of doctors in the private sector are specialists in various fields of medicine. They cover a wide range of activities involving over 100 specialities and subspecialties, with advanced equipment and superior expertise in their professions. Most of them have international experience and recognition. MMA successfully cooperates with the Ministry of Health, Faculty of Medicine and the Doctors' Chamber of Macedonia [1, 4, 5].

MMA membership is organised into 22 regional or local associations in larger cities in the Republic of Macedonia and more than 90 specialist and subspecialist sections and associations (58 specialist associations are members of the relevant international organisations, and some of them are founders of Balkan regional and South East Europe associations). MMA is a member of the World Medical Association (WMA), the European Forum of Medical Associations (EFMA), the World Health Organization (WHO), and Forum of the Medical Association of Southeast Europe (SEEFMA) etc. Through their specialist associations, MMA is a member of more than 70 international specialist associations. Through international collaboration and active participation of members to professional and scientific meetings abroad MMA contributes to the promotion of the Republic of Macedonia in Europe and worldwide and to advance its process of Euro-Atlantic integration [5, 18].

In conclusion, the establishment of MMA in 1945 as the core factor and transmitter of advanced

pursuits in the organisation of health care services and improving the health status of the population was an exceptional event of crucial importance for the further development of educational, scientific and highly specialised health care activity in the Republic of Macedonia.

In the past 70 years, MMA asserts itself as a lighthouse and one of the pillars of the Macedonian health care system. MMA is a factor that gave and continues to give great contribution to the advancement of medical and related sciences and continuing medical education, safeguarding the dignity and reputation of the medical profession and protect the interests of doctors, as well as the development of health services and health care for the population in the Republic of Macedonia. Especially significant is contribution to the advancement of quality standards of health services and the application of good medical practice and evidence-based medicine. In a broader sense, MMA has had a continuous contribution to the overall socio-economic development of the Republic of Macedonia during the past 70 years.

Contribution and merits of MMA members are recognised and valued by granting numerous certificates, awards and honours, including the highest award of the medical profession - Charter "Dr Trifun Panovski," which is traditionally given to the most deserving practitioners every year during the celebration of World Health Day – 7<sup>th</sup> of April. In 1976 MMA received high federal recognition - the Order of Merit of the people with silver rays. On the occasion of 60th anniversary of existence, MMA received a prestigious national award in 2005 - the award "St. Kliment Ohridski". Also, MMA has won the state award "October 11" and the Prize of the City of Skopje "November 13" for outstanding contribution to the advancement of the organisation of health services and health education of the population, as well as successes in the training of professional staff in the Republic of Macedonia.

## References

1. Donev D. Macedonian Medical Society has united health professionals – 70 years from the establishment, 1945-2015. [In Macedonian]. Macedonian Medical Society Doctors Newsletter, July-August 2015; 5(62-63):1-3.
2. Dimitrov G. Macedonian Medical Association - Always in step with the times and achievements in medicine. Macedonian Medical Society Doctors Newsletter, Sept. 2015; 5(64):1-3.
3. Donev D, Polenakovic M. Contributions of the doctors from Macedonia to the establishment and initial development of the Faculty of Medicine in Skopje, R. Macedonia. Prilozi 2012; 33(2): 239-77. PMID:23425885
5. Tofoski J, editor. 60 Years Macedonian Medical Association 1945-2005. [In Macedonian]. MMA, Skopje, 2008: 378.
6. Federal Institute for Statistics of the Socialist Federative Republic of Yugoslavia. Statistical Yearbook of Yugoslavia 1979. Federal Institute of Statistics of the SFR Yugoslavia, Belgrade,

1979.

7. National Institute of Statistics of SR Macedonia. Statistical Yearbook of the Socialist Republic of Macedonia in 1978. The State Statistical Office of the Socialist Republic of Macedonia, Skopje, 1979.
8. Gavrilski G. Success in fighting malaria and its eradication in the Socialist Republic of Macedonia after deliberation. [In Macedonian]. In: Dimitrov G, ed. 30 Years of Macedonian Medical Society. Medical Specter of the Pharmaceutical company "Alkaloid", Skopje, 1977: 37-50.
9. Minchev K, Nanovic R. Tuberculosis in the Socialist Republic of Macedonia from deliberation to 1977. [In Macedonian]. In: Dimitrov G, ed. 30 Years of Macedonian Medical Society. Medical Specter of the Pharmaceutical company "Alkaloid", Skopje, 1977: 98-109.
10. Polenakovic M, Donev D. Contributions of the doctors from Croatia in establishing and initial development of the Faculty of Medicine in Skopje, Republic of Macedonia. *Prilozi* 2011; 32(2): 331-58. PMID:22286635
11. Donev D. The first doyens at the Faculty of Medicine in Skopje: Boris Spirov, professor of internal medicine, introduction and history of medicine. [In Macedonian]. *Vox Medici*, June 2014; 23(83):46-8.
12. Kovachevski S, Dimitrijevi M, Jancheva L, Mirchevska K. Dr. Boris Spirov (1897-1974). Center of Culture "Kocho Racin" Kichevo. Kichevo Drugovo, 2006: 225.
13. Dimitrijevi M, Kovačevski S. Prim. Dr. Gjorgi Gavrilski (1911-1987). [In Macedonian]. Macedonian Medical Society, Association of the Doctors of General Medicine in R. Macedonia and Sv. Nikole Health Centre. Sv. Nikole, Skopje, 2007: 127.
14. Donev D, Polenakovic M. Doctors and lecturers from Macedonia elected for the first time at the Faculty of Medicine in Skopje in the period 1955-1960. *Prilozi* 2013; 34 (3): 121-44. PMID:24566022
15. Macedonian Medical Association. Rules of Macedonian Medical Association. [In Macedonian]. *Macedonian Medical Review*. 1954; 9(1-2): 32-8.
16. Macedonian Medical Association. Program and Plan for activities of the Macedonian Medical Association for the year 1951. [In Macedonian]. *Macedonian Medical Review*. 1951; 6(1-2): 1-4.
17. Petlichkovski A, Trajkov D, Strezova A, Spiroski M. 60 Years (1945-2005) Macedonian Medical Association. *Mac J Med Sci*. 2008; 1(2):5-9. <https://doi.org/10.3889/MJMS.1857-5773.2008.0023>
18. Macedonian Medical Association. *Macedonian Medical Review*. Available at: <https://www.degruyter.com/view/j/mmr>
19. Lazarevski M, Nikodijević B, Velkov K, Čaparoski R, Glavaš E. Establishment and 40 years development of the Faculty of Medicine in Skopje (1947-1987). [In Macedonian]. In: Lazarevski M., Editor-in-Chief. Faculty of Medicine in Skopje 1947-1987. Faculty of Medicine, Ss Cyril and Methodius University, Skopje. Skopje, 1987: 15-50.
20. Nikodijević B. Establishment of the Faculty of Medicine in Skopje in 1947. [In Macedonian]. In: Nikodijević B., Antova N., Šumkovski M., eds. Almanac of the First Generation of Students at the Faculty of Medicine in Skopje 1947-1953. Faculty of Medicine, Ss Cyril and Methodius University, Skopje. Skopje, 1997: 11-19.
21. Stojčevski T, Nikodijević B. The first lecturers at the Faculty of Medicine in Skopje. [In Macedonian]. In: Nikodijević B., Antova N., Šumkovski M., eds. Almanac of the First Generation of Students at the Faculty of Medicine in Skopje 1947-1953. Faculty of Medicine, Ss Cyril and Methodius University, Skopje. Skopje, 1997: 53-67.
22. Žanteva-Naumoska M., Dimitrijevi M., Georgievaska-Ismail LJ. et al. Faculty of Medicine in Skopje 1947-2007 (Documents). [In Macedonian]. Faculty of Medicine, Ss Cyril and Methodius University, Skopje. Skopje, 1997: 201.
23. Stojčevski T, Šumkovski M, Nikodijević B. Contribution of the first generation of doctors to the development of the health services in Macedonia and of the Faculty of Medicine in Skopje. [In Macedonian]. In: Nikodijević B., Antova N., Šumkovski M., editors. Almanac of the First Generation of Students at the Faculty of Medicine in Skopje 1947-1953. Faculty of Medicine, Ss Cyril and Methodius University, Skopje. Skopje, 1997: 44-52.
24. Ristovski B. Editor-in-Chief. *Macedonian Encyclopedia, Part II*. [In Macedonian]. Macedonian Academy of Sciences and Arts, Skopje. Skopje, 2009: 1613.
25. Doctor's Chamber of Macedonia. About the Doctor's Chamber of Macedonia. Available at: <http://lkm.org.mk/mk/zapis.asp?ID=272>