



Opinion

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Status of Veterinary Education, Clinical Practice, and Veterinary Services in Lebanon



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Abstract

After 6 years of veterinary education at Lebanese University (LU), the first group of 17 veterinary students graduated in September 2012. By May 2023, 190 veterinarians have graduated from LU. Veterinary education at LU is essentially free, with students paying fees of only US\$250 per year. The veterinary courses are taught by 20 non-veterinarian PhD instructors and by 11 part-time private veterinary practitioners. The veterinary education on LU's campus consists of lectures and limited hands-on experience. The clinical experience, though required, is sought out by students at private veterinary practices. The Lebanese Veterinary Association (LVA), started in 1995, has 432 registered veterinarians graduated from 27 countries. Out of these registered veterinarians, 384 are active, with the remaining retired or not working as veterinarians. One hundred and fifty (150) and 200 identify themselves as small and large animal veterinarians, respectively. Fifty (50) veterinarians work for the Ministry of Agriculture and 22 in slaughterhouses. Veterinary graduates from any country may register with the LVA, and currently, there is no examination or a test to qualify to practice veterinary medicine in Lebanon. However, LVA is working on implementing a new rule that requires veterinarians to pass an examination to practice in Lebanon. The current financial crisis has forced many veterinarians to migrate searching for better opportunities outside Lebanon.

Keywords: Lebanon; veterinary education; veterinary practice

Abbreviations: LU: Lebanese University; LVA: Lebanese Veterinary Association; OIE: World Organization for Animal Health; WTO: World Trade Organization; EAEVE: European Association of Establishments for Veterinary Education; AVMA-COE: American Veterinary Medical Association-Council on Education

Introduction

Globalization of veterinary education and the veterinary profession is needed for veterinarians to work in interdependent global society [1,2]. Veterinary curriculum should be dynamic and flexible to meet societal needs. Currently, there is a significant disparity in the quality and recognition of veterinary education around the world [3]. Graduates from many developing countries are not widely recognized. Therefore, these veterinarians and their countries are at a significant disadvantage. A country whose veterinary profession is not recognized internationally faces potential trade barriers that could limit economic benefits and decrease living standards.

The question is asked-what are the global standards for becoming a veterinarian, and who should prescribe them? Veterinary education standards are recommended by a few global organizations, including the World Veterinary Association [4] and the World Organization for Animal Health (OIE) [3]. It has been

suggested that OIE may take the global lead as it has the support of the World Trade Organization (WTO) and its 164 members and 25 observer governments [1,5]. Some regional blocs and professional organizations are also engaged in evaluating veterinary education standards and accrediting veterinary institutions. Started in 1988, the European Association of Establishments for Veterinary Education (EAEVE) aims to create harmonization within 35 European countries, and now includes Israel and Turkey. Membership in EAEVE is voluntary, and the results of veterinary education evaluations have no official or legal consequences [6]. The idea is to extend the EAEVE evaluation system toward an accreditation system [7]. The American Veterinary Medical Association- Council on Education (AVMA-COE) has developed standards and conducts reviews of DVM (Doctor of Veterinary Medicine) or equivalent educational programs [8]. A veterinary college or program is considered fully accredited when it is found to meet the prescribed 11 criteria. Currently, 49 veterinary colleges

located in the United States (US), Canada, Australia, New Zealand, the United Kingdom, the Netherlands, S. Korea, Caribbean, and Mexico are accredited by AVMA-COE [8]. It is important to note that most of the AVMA-COE accredited colleges are in developed countries. Veterinary education standards need to be raised in other countries, especially in Asia, Africa, and South America. Globalization of veterinary education attaining high standards would require developed and developing countries working together. We should strive to build on the existing regional education and accreditation standards already in place [1].

Veterinary Education in Lebanon

The veterinary education program was started as a part of the Agriculture Engineering and Veterinary Science Faculty in 2006, but currently is a part of Agronomy Faculty at Lebanese University (LU) [9]. LU is the only public university in Lebanon, established in 1951, and currently has about 75,000 students located on main and on regional campuses. With 19 faculties and institutes at LU, almost all disciplines are offered, including medical and veterinary degree programs. Education at LU is essentially free. Veterinary students pay only about \$250 per year as fees. The veterinary curriculum is similar as in France and in some other European countries [6]. The EU veterinary curriculum provides professional education in 2 main phases; the first phase leads to a bachelor's degree, with a minimum of three years of study, and with completion of the second phase the student receives a master's degree [6].

The first class of 17 veterinary students graduated from LU in September 2012 with a master's in veterinary medicine and a Diploma in Veterinary Medicine: Veterinary Doctor. Currently, the veterinary courses are taught by 20 PhD non-veterinarians and by 10 part-time employed veterinarians. Most of the veterinary instructors work as private veterinary practitioners. The others are with industry (poultry, pharmaceuticals, etc.) or employed by the Ministry of Agriculture involved primarily with food safety and with disease prevention programs, including livestock vaccinations. In addition to prior teaching/research experience, LU regulations require a PhD for permanent faculty employment. Therefore, the 25 part-time veterinarians do not qualify for permanent faculty positions. At LU, the veterinary students receive limited hands-on animal experience. However, veterinary experience is required, but the students must seek out and be accepted by one of 25 private veterinary practices.

Impact of trade, socioeconomic systems, culture, and regional and global affairs on veterinary medicine

Lebanon is an active trade partner of the US. According to the United Nations COMTRADE database, the US imports from Lebanon was \$221.35M [10]. In 2021, the US exports were worth US\$819M. The main products that US exported to Lebanon were cars (\$283M), vaccines, blood, antisera, toxins, and cultures (\$49.8M) and gas turbines (\$48.8M) [11]. The urban Lebanese population is known for entrepreneurial enterprise. Emigration

has helped Lebanon develop a commercial network that spans worldwide. It is estimated that about 10 million Lebanese immigrants or people of Lebanese origin live outside of Lebanon. The largest diaspora lives in Brazil (5-7 million) followed by Columbia and Argentina 1-3 million each [12].

The conflict in Syria has created negative and some positive impact on Lebanon's economy, including imports and exports of animals and veterinary products. Lebanon's location is strategically important. It borders the Mediterranean Sea in the west and Syria in the north and east. Lebanon has about 4.1 million inhabitants. After the war in Syria, Lebanon took in about 4 million Syrian refugees causing more impact on Lebanon's collapsing economy. Almost all imports and exports of Lebanon take place by road through Syria. Lebanon Exports to Syria was \$122.34 million during 2020 [13]. In addition to Syria, other regional markets for Lebanese products include Jordan, Iraq, and other Gulf countries of the Middle East. Tourism, Lebanon's major industry employing about 35% of the workforce is significantly down due to the war next door in Syria and recent economic crises. Decrease in tourists from the Middle East and Europe have negatively impacted hotels, restaurants and other related businesses, in-turn affecting the Lebanese population. With decrease in overall income, Lebanese are spending less on veterinary services.

Lebanese Veterinary Association

Started in 1995, the Lebanese Veterinary Association (LVA) registers all veterinarians in Lebanon. Out of 432 (2023) veterinarians in the country, 384 are active and the rest are retired or not working in the veterinary profession. The active veterinarians have graduated from 27 countries (Table 1). Among active veterinarians, only 97 are female. Out of 400 active veterinarians, 150 and 200 identify themselves as small and large animal veterinarians, respectively. A large number (50) work for the Ministry of Agriculture and 35 work in slaughterhouses and are employed by local municipalities. One hundred (100) recently graduated have not identified their area of interest. Veterinary graduates from any country may register with the LVA, and there is no examination or a test to qualify to practice veterinary medicine in Lebanon till now. But the LVA is working on implementing a law that requires all veterinarians to undergo examination, however, this needs collaboration of different official bodies in Lebanon.

All veterinarians intending to practice in Lebanon must register with the LVA. As a relatively new organization, LVA is going through growing pains. The annual membership fee is US \$233, but due to current high inflation and devaluation of local currency, the current annual membership dues are only US \$35. Recently, 98% of the LVA members attended the free 2023 First Beirut International Veterinary Congress organized by the LVA. Some of the recent accomplishments of LVA are, first it has stopped veterinary services provided by non-veterinarians. The 2nd, LVA receives 1% charge on all veterinary medications imported in Lebanon. This law has provided a big financial support for LVA.

Table1: Countries of veterinary education of 384 active veterinarians in Lebanon

Lebanon 190	Belarus 36	Russia 28	Ukraine 26	Syria 25	Iraq 11	France 11	Egypt 9	Czech Republic 6
Hungary 8	Romania 7	Belgium 4	Italy 4	Spain 3	Greece 2	Turkey 2	Yugoslavia 2	
Algeria 1	Armenia 1	Cuba 1	Iran 1	Libya 1	Poland 1	S. Arabia 1	Tunisia 1	Total 384

Looking to the future

According to the LVA president Dr Ihab Chaaban, LVA officers and the Lebanese Agriculture Ministry, 30-50 veterinarians per year are needed for the next few years to fulfill the need in various regulatory and government services. With increased economic prosperity in the country, the popularity of pets is increasing, and the apparent need for dog and cat veterinary practitioners is recognized. The farm animals, especially dairy cattle, sheep, and goats are located primarily in Becca valley, considered the breadbasket of Lebanon. Based upon the previous economic growth, the prospects are encouraging. The GDP per capita was \$9000 but due to the recent economic crisis in the country it declined \$4000 in 2021 [14]. In 2019 Lebanon was faced by one of the biggest financial crises in its history. People and companies lost all their savings in the banks and stock markets. Over three-quarters of the Lebanon's population has been plunged into poverty and struggles to get by amid some of the world's highest inflation rates [15] resulting in about 85% of Lebanese live under the line of poverty. On top of all that, on the 4th of August 2020 Lebanon experienced the 3rd biggest nonnuclear explosion in history at Beirut Port [16] destroyed key infrastructures disrupting the supply chains essential to the country, leaving the country and people in a devastating state of mind and health. All this forced many veterinarians to migrate outside Lebanon searching for a better life.

Lebanese Heritage, Culture and Religious Influences on Veterinary Medicine

Based upon 1935 census, Lebanon's population is 4.1 million. Due to local and regional political reasons, the recent population census has not been completed. The religious distribution is estimated as 60% Muslims, 39% Christians, and 1.3% others. Seventeen religious sects are recognized in Lebanon [17]. Most of the Muslims are now accepting dogs as pets, inside the home, cats are OK. Lebanon has an Arab culture influenced by Western societies. Most of the urban Lebanese speak Arabic, French and English. According to some historians, Lebanon traditionally considered itself the only Christian country in the Arab world, but by the 1970s the Muslim population became greater than that of the Christians, a situation that led to sectarian unrest and struggles for political and economic power [17]. Despite the commonalities in Lebanese society, sectarianism is the dominant

social, economic, and political reality. Sectarianism is not a new issue in Lebanon. Disintegrative factors in society preceded the creation of modern Lebanon in 1920.

Lebanon has a heritage almost as old as the earliest evidence of mankind. Its geographic position as a crossroads linking the Mediterranean Basin with the great Asian hinterland has conferred on it a cosmopolitan character and a multicultural legacy. At different periods of its history, Lebanon came under the domination of foreign rulers, including Assyrians, Babylonians, Persians, Greeks, Romans, Arabs, Ottomans, and French. Although often conquered, the Lebanese take pride in their rebellions against despotic and repressive rulers. Moreover, despite foreign domination, Lebanon's mountainous terrain has provided it with a certain protective isolation, enabling it to survive with an identity all its own. Its proximity to the sea has ensured that throughout its history Lebanon has held an important position as a trading center. This tradition of commerce began with the Phoenicians and continued through many centuries, remaining almost unaffected by foreign rule and the worst periods of internal strife [17]. World-renowned Lebanese cuisine with its extensive variety is probably an outcome of cultural influences throughout its history.

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