

**SL-04**

**ENRICHING VETERINARY ANATOMY EDUCATION AND RESEARCH OF  
INDONESIA THROUGH DIVERSITY**

**Teguh BUDIPITOJO<sup>1,\*</sup> and Adi WINARTO<sup>2)</sup>**

<sup>1)</sup>Department of Anatomy, Faculty of Veterinary Medicine, GadjahMada University, Yogyakarta, Indonesia;

<sup>2)</sup>Department of Anatomy Physiology and Pharmacology, Bogor Agriculture University, Bogor, Indonesia

\*Corresponding author: *tegbu@yahoo.com*

**PRESENT STATUS AND PROBLEMS OF VETERINARY ANATOMY EDUCATION**

At the first conference of Asian Association of Veterinary Anatomist (AAVA) in Ibaraki-Tsukuba Japan on 2006, Agungpriyono states that there were 5 faculties of veterinary medicine in Indonesia, i.e. veterinary medicine faculty of Bogor Agriculture University, Airlangga University, Udayana University, Syiah Kuala University, and GadjahMada University. During last ten years, the interest of veterinary medicine profession in Indonesia spread out to many aspect of the society caused by several zoonotic diseases outbreaks. Therefore, in the period of 2006 – 2011, there were new 5 veterinary medicine faculties namely veterinary medicine faculty of Wijayakusuma University, Brawijaya University, West Nusa Tenggara University, Hasanudin University, and Nusa Cendana University.

The present of ten veterinary medicine faculties in Indonesia are not ideal when viewed from the angle of population and distributions of location. Indonesia has 253 million populations compare with 12 thousand veterinarians. Moreover, based on geographic distribution, the location of the veterinary medicine faculty were not appropriate yet. There are five veterinary medicine faculties located in Java Island (veterinary medicine faculty of Bogor Agriculture University, GadjahMada University, Brawijaya University, Airlangga University, Wijaya Kusuma University) and only one veterinary medicine faculty of each in Sumatra Island (Syiah Kuala University), Sulawesi Island (Hasanudin University), Bali Island (Udayana University), Lombok Island (West Nusa Tenggara University), and Timor Island (Nusa Cendana University). Unfortunately, no faculty of veterinary medicine located in Kalimantan Island as the largest island in Indonesia and Irian Jaya Island as the widest area in eastern georgraphic of Indonesia.

Higher education system of Indonesia applies an educational theory that bases each part of an educational system around goals (outcomes). By the end of the educational experience each student should have achieved the goal. There is no specified style of teaching or assessment in this educational theory instead classes, opportunities, and assessments should all be based around helping students achieve the specified outcomes.

In the particular case of veterinary veterinary anatomy, the signs are that curriculum reform should modify not only the amount of material included in the courses but also the way in which that material is presented and how the assessment be done. The new education system has for many years been calling for students to be given more help in developing their own learning strategies and problem-solving skills to achieved learning outcomes.

We must realize that anatomy, that occupied a large part of the veterinary medicine curriculum, have more responsibility to build a strong foundation to contribute to advances in veterinary science as a whole, and how best can actually continue to impress on and make clear to students. In short, we must adapt to the new situation by determining what anatomy should be taught nowadays, how it should be taught, how much is necessary as a sound basic for understanding other areas of veterinary science, and what aspects of anatomy should be given precedence over what others.

In seeking answers to these questions, the departments of veterinary anatomy in Indonesian

veterinary schools must collaborate and regularly discuss to find best resolutions by considering both the clinical impact and the potential of the new technologies.

National learning outcomes of each veterinary medicine study program create base on Indonesian qualification framework decided by government, but learning outcomes of curricula and courses decided by each educational institution. Since there are diversities on some aspects of the veterinary anatomy courses (subject, credit point of subject, learning material, teaching method, assessment, etc.) among the university curricula, there are possibilities on learning outcomes differentiation of each veterinary anatomy subjects among university. Such kind of differentiation will implicate on the quality of achievement the main study program outcomes. We do not know yet, how deep and wide the differences, but since the national learning outcomes of veterinary medicine study program are similar, so the differences should be do not exist.

Subjects of the veterinary anatomy in faculty of veterinary medicine in Indonesia can be classified mainly as macroscopic anatomy, microscopic anatomy or histology, and embryology. The title of subject diverse among faculty, as well as its credit point. Unfortunately, data on the contents of each subject, delivery methods of material both in lecture and practice classes, and the assessment methods are not available yet. The lack of those data implicate on the difficulties to evaluate deeper aspect in veterinary anatomy education in Indonesia.

### **RECOMMENDATION**

Indonesian veterinary anatomy departments of veterinary medicine faculty have to pay more attention to synchronize the education program and achieve similar outcomes on attitude, knowledge, and skill of their students. A regular discussion forum among anatomy department of ten veterinary medicine faculty in Indonesia are essential for better improvement of veterinary anatomy education, so we propose to build an organization namely Indonesia Veterinary Anatomy Association. The main goal of the association is to facilitate the development of all aspects of veterinary anatomy education (subject, topic, learning materials, learning outcomes, delivery system, assessment, etc.). In other side, there are many animal morphology experts in Indonesia which do not a member of veterinary medicine faculty and the association will accommodate them as special members. Therefore, the second goal of the association is to facilitate the improvement of all anatomical research by using animals. Indonesian Veterinary anatomy Association will also acts as a representative of Indonesia veterinary anatomist in all international anatomist forums.

### **CONCLUSION**

The veterinary medicine education developing very fast in Indonesia and they have already serving society to produce qualified veterinarian during years. Veterinary anatomy subjects which plays important role to placed fundamental attitudes, knowledge, and skills outcomes of the veterinarian must evaluate their contribution regularly and comprehensively. The best results of comprehensive evaluation can be used to improve veterinary anatomy education and research. Unfortunately, there is no instrument which can facilitate such kind of evaluation in national level, so we propose to build an organization namely Indonesian Association of Veterinary Anatomy and will be abbreviated as IAVA.