VSI:GLOBAL Craniofacial Health

International transfer of knowledge: Training and education in craniomaxillofacial surgery. Contributing to humanitarian aid by teaching the teachers

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ABSTRACT

The development of multiple international aid programs aims to offer health care according to basic quality standards to the global population. In many fields of Oral and Maxillofacial Surgery such as the treatment of head and neck tumours, complex or acquired malformations and craniomaxillofacial trauma, aid programs contribute to solve urgent needs although in the long term only the establishment at local or subregional levels of stable specialized healthcare networks including training of specialized health personnel will be able to contribute to achieving an adequate standard of care. In this paper we review our experience regarding the different efforts made to enhance education and training in the specialty at the European level by the EACMFS and at the global level by the IAOMS.

1. Introduction

The recognition of the deficiencies in health care that affect many parts of the world in relation to different social and economic reasons has determined the development of multiple aid programs with the ultimate aim of trying to offer the global population health care according to some basic quality standards. Health care deficits are exacerbated in complex or sophisticated areas of medicine or surgery, requiring greater training of specialized health personnel as well as more expensive resources, as occurs in many fields of Oral and Maxillofacial Surgery, such as the diagnosis and treatment of head and neck tumours, complex or acquired malformations and craniomaxillofacial trauma. The multiple aid programs, with the widespread activity of humanitarian aid personnel on the ground, contribute to solving urgent needs but ultimately they solve only a part of the ocean of needs that arise at a global level.

It seems clear that in the long term only the establishment, at local or subregional levels, of stable specialized healthcare networks will be able to contribute to achieving an adequate standard of care. A sustainable system should not be based solely on assistance by foreign specialists in temporary programs but in training of specialized health personnel among health providers in each and all the less developed regions of the

world, together with the provision of material resources in a basic health network, with reference centers for more specialized care. It is only through education that a global health care standard might be achieved, aimed both at the general population and at the training of health personnel. Teaching the teachers would contribute to creating a sustainable local network of well trained and skilled surgeons, aiming to provide an adequate standard of care to patients in oral and maxillofacial surgery.

The various national and international professional scientific societies that bring together specialists in oral and maxillofacial Surgery have understood this problem in the past years and, apart from supporting humanitarian assistance missions, they have made great efforts towards the development of education and training programs at different levels, trying to contribute to the long term improvement of care in our specialty. In this paper, the different efforts made at the European level by the EACMFS and at the global level by the IAOMS through our experiences over the last 12 years, and my personal experience as Education and Training Officer and currently President of the EACMFS will be reviewed, as well as my 6 years as the IAOMS Education Chairman 2005–2011 and President of the Association in the period 2016–2017, being currently responsible for the IAOMS Visiting Scholars program.

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Essentially, an institution can contribute to the basic education and training of junior colleagues or to an advanced postgraduate training of specialized surgical personnel through:

- Programs of basic or advanced training on the ground aimed at training local specialists.
- Web-based distance training programs.
- Fellowship or scholarships programs

2. Programs of basic or advanced training on the ground

It is difficult, in our experience to carry out these programs in areas where there has not previously existed at least a basic structure and

service that provides care in oral and maxillofacial surgery. These programs require, in order to be established, the identification of centers that fulfill the basic requirements for surgical provision and that show an interest in hosting the educational program. Ideally, a general scope and training standards for the specialty should be defined in order to speak the same professional language. These basic criteria were defined by the EACMFS at the European level¹ and globally by the IAOMS,² although these guidelines can only be applied depending on the situation at the local level taking into account that there are areas of the world where the specialty simply does not currently exist.

Since 2003, the EACMFS developed education programs aimed at residents or young specialists in Eastern Europe with great success (The Eastern Europe Educational Programs), contributing to the

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Fig. 1. a,b EACMFS 1st Course of the Romania Program, Iasi.

homogenization of the specialty in many countries according to European standards. These programs began in 2003 in Romania, following an agreement with the University of Iasi (Fig. 1) but aimed at the whole of Romania as well as neighbouring countries, starting with the review of basic topics, such as surgical anatomy or basic sciences, progressing over time to the most complex issues, such as microvascular reconstruction. These were incorporated into different oral and maxillofacial departments around the country. Between 2003 and 2011, sixteen courses were held in 3 different programs in Romania (Table 1) where the local teachers and young trainees and specialists had the opportunity to meet “at home” prestigious European teachers coming from 13 different countries. A key for the success, not only of the courses in Romania but generally speaking for all the European Courses and also for the programs organized by the IAOMS at a global level, was the concept of collaboration between the supporting association and the local organizations, designing the programs and faculty of the different courses according to the proposals of the local organizing committees based on their needs and including also local teachers as Faculty whenever possible (Tab 1).

Programs with a similar structure, although shorter in duration, were carried out in collaboration with university hospital departments in Poland (Fig. 2), the Republic of North Macedonia, Bulgaria, etc. Also the EACMFS supported different scientific meetings in other countries including Belorussia and Russia or programs such as Albania, developed by Manlio Galie, Education Officer between 2014 and 2020. Information on the educational programs developed by the EACMFS can be found in the EACMFS 50th Anniversary book.³ These programs also contributed to connecting specialists throughout the whole continent, opening a new world to many young colleagues who found the opportunity, as said, to meet face to face outstanding teachers and leaders of the specialty, visiting their countries and were completed with the offer of European scholarships to complete the training of some participants in prestigious European centers of excellence.

If starting the educational programs at a continental level was challenging in Europe (difficulties in identification of hosting centers and educational partners, available speakers, lack of financial resources, traveling difficulties), this was an even greater challenge at a global level. As for the EACMFS, among the core values for the IAOMS, promoting an inclusive and welcoming global community, advocating for the highest standards of patient care and professionalism and supporting continuous learning, are concepts that naturally led to the development of education programs at a global level, recognizing the needs of our colleagues in so many areas of the world. The IAOMS Foundation International Education programs (“Gift of Knowledge Programs”) started in 2002 in Asia (Thailand 2002) followed by the first Latin-American program held in Peru under the leadership of José Luis Ferreria, IAOMS President at that time, and Nabil Samman, Chairman for Education and later President of the organization. During my period as the IAOMS Education Chairman, I had the immense honour and pleasure to contribute to developing educational programs in the different parts of the world (Table 2) (Figs. 3–5). As an example, the East African project, enthusiastically promoted by John Williams and Paul Stoelinga (Fig. 3a), was a four-year basic programme based in the Universities of Nairobi (Kenya) and Mohambih University in Dar Es Salam (Tanzania) including the nine countries of East Africa, who also constitute an East African Economic Community and a College of Surgeons to unite in a single postgraduate educational programme in OMFS. This program supported trainees from the different African Countries to come together twice a year for a week at a time for intensive education, particularly in the subjects for which there are no local teachers. As another example, the program in Paraguay (Fig. 4) led to the creation of the specialty of OMFS in the country and, as with all the programs carried out in Latin America, strongly contributed to the reinforcement of the Latin American Association (ALACIBU) and its links with the IAOMS. Finally, the Nigerian program, in collaboration with the Lagos University Teaching Hospital, identified the necessity to implement microvascular

Table 1

History of the Romania programme 2003–2011.

ROMANIA PROGRAMME	IASI – 1 ST PROGRAMME	SPEAKERS	COURSE NUMBER
1st YEAR 2003	JUNE <i>Surgical Anatomy of the Head and Neck, Embryology, Craniofacial Growth</i> NOVEMBER <i>Applied Physiology. General Pathology. General diseases affecting the Head and neck</i> <i>Oral and Cell Biology. Research Methodology. Radiology and diagnostic methods.</i>	B Ricbourg (France) G Mihalache, A Indre (Romania) F Carls (UK) D Cobourne (UK) Vicente (Spain) Carausu, Galesanu, Haulica and Ibric (Romania)	1 2
2 ND YEAR 2004	MARCH <i>Dentoalveolar surgery, Oral and maxillofacial infections, sinus pathology</i> MAY <i>Cranio-Maxillofacial Reconstructive surgery</i> NOVEMBER <i>Oral and Maxillofacial tumours (mucosa, skin, bone). Salivary gland diseases</i>	S Hillerup (DK) V Luca, A Rotaru (Romania) B Devauchelle (France) C Navarro-Vila, J Acero (Spain) G Baciut, A Bucur, D Gogalniceanu, J Lowry (UK) M Virag (Croatia) A Creanga, Mihalache, Bild, Miron (Romania) J Acero (Spain)	3 4 5
3 RD YEAR 2005	MARCH <i>Orthognathic Surgery Aesthetic Facial Surgery</i> JUNE <i>Traumatology</i> NOVEMBER <i>Congenital facial abnormalities: Cleft lip and palate. Craniofacial surgery. TMJ pathology and surgery</i>	L Clauser, Galie, Sarti (Italy) H Thuau (UK) Baciut, Fratu (Romania) Lowry, Thuau (UK), Gogalniceanu, Bucur, Rotaru, Creanga (Ro) K Gundlach (Germany) Adrian Sugar (UK) F. Spijkervet, B. Stegenga (NI)	6 7 8
4th Year 2006	MARCH <i>Pre-prosthetic Surgery and Implantology</i>	J Cawood (UK) P Stoelinga (Netherlands)	9
ROMANIA PROGRAMME 2006	IASI - 2 ND PROGRAMME OCTOBER <i>Salivary Glands Pathology</i>	SPEAKERS J Acero (Spain) M McGurk (UK) D Gogalniceanu, G Mihalache (Romania)	COURSE NUMBER 1
2007	MAY <i>Surgery of the Orbits and Middle third of the face</i> <i>The Paul Tessier Principles in the management of cranio-orbito-maxillary-facial</i>	L Clauser, Mandrioli, R Tieghi (Italy), Vedran Zubcic, Zagreb, Croatia, Teofil Lung (Romania)	2

(continued on next page)

Table 1 (continued)

ROMANIA PROGRAMME	IASI – 1 ST PROGRAMME	SPEAKERS	COURSE NUMBER
2008	trauma, tumours and deformities		
	OCTOBER	M Virag, A Milenovic (Croatia)	3
	Surgery of the lower third of the face and neck	J Lowry (UK)	
	Live Surgery		
2009	MAY	J Lowry (UK)	4
	Linked to Romania National Congress Sinaia (Prof Bucur)	C Navarro Vila, J Acero (Spain)	
	Dento alveolar surgery, pre-implant reconstructive surgery and oncologic reconstructive surgery		
	3 RD PHASE	SPEAKERS	
2010	OCTOBER – CRAIOVA	S Testelin (France)	
	Reconstructive Surgery	J Acero (Spain)	
	Pre-implant surgery	M Gorjanc (Slovenia)	
	NOVEMBER - IASI	Nikos Papadeorgakis (Greece)	
2011	Salivary Gland Surgery	Julio Acero (Spain)	
	Pre-implant Surgery	J Acero (Spain)	LAST COURSE
	MAY – CLUJ	L Clauser (Italy)	OF
	NAPOCA	R Sader, K Wangerin (Germany)	PROGRAMME
	Surgery of the mid face	M Virag (Croatia)	Total Romania Programs:
	Pre-Congress linked to Romania National Congress (Prof Baciut)	H P Zeilhofer (Switzerland)	16 courses

reconstruction techniques in a country with a pre-existing network of OMF departments. A group of young specialists were selected by the Nigerian organizers to follow a 4 year program starting with the basics of reconstructive surgery, including the establishment of a cadaver lab and finally surgical reconstructive procedures (Fig. 3b,c,d). Rui

Fernandes and myself conducted this program having the honour to assist our Nigerian colleagues performing fibula flap mandibular reconstructions in the final modules.

3. WEB-BASED distance training programs

Although in our opinion, face-to-face teaching is invaluable, new digital communication methods have opened an extraordinary dimension to share knowledge reaching remote areas at little or no cost, thereby expanding educational opportunities. Although some years ago both the EACMFS and the IAOMS began to develop e-learning programs, during the time of the COVID pandemic these methods have managed to maintain continuous contact with members and the dissemination of knowledge both in OMFS and in other specialties through update conferences and series of scientific webinars even holding a complete virtual congress by the European Society in July 2021 with a great scientific program. We believe that in the immediate future, Digital Learning will continue as a complement to in-person teaching with programs such as the EACMFS “European Series of Lectures” (ESL) or the IAOMS Next Gen Online and the Scientific Webinars series. Digital learning can be also an excellent tool in hybrid courses aimed at an audience in less developed areas with an on-site

Table 2
IAOMS gift of knowledge programs.

• Thailand	2002–2004
• Peru	2004–2006
• East Africa	2007–2011
• Indonesia	2008–2009
• Paraguay	2008–2010
• Malaysia	2009–2011
• Philippines	2012–2014
• El Salvador	2013–2015
• Nigeria	2012–2015
• Sri-Lanka	2014–2016
• Panama	2014–2017
• Dominican Republic	2018–2019
• Myanmar	2017–2019
• Mexico	2018–2020
• Philippines	2020

Fig. 2. EACMFS Poland program, warsaw.

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Fig. 3. IAOMS courses in africa. 3a Nairobi, 3b,c&d Nigeria program.

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Fig. 3. (continued).

component supplemented with series of e-lectures.

4. Fellowship or scholarship programs

Completion of a training program in an accredited teaching center constitutes the highest standard of postgraduate education leading to a

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Fig. 4. a,b IAOMS Course Paraguay, Latin America Program.

specialization in any surgical specialty including oral and cranio-maxillofacial Surgery. This would be the ideal way to educate the new specialists by establishing a network of teaching centers in areas of the world where there is a need of them. If this were not possible, a second

option would be to send candidates from less developed areas to complete their training in an international reference center. Normally this option depends on government programs aimed at training personnel to implement the specialty in their countries of origin or are based on the

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Fig. 5. a,b IAOMS Regional Course Sri Lanka.

efforts of individual people. It is very difficult for a charity to support this type of complete training with high cost and benefit for few candidates, so the efforts in this sense of various organizations are directed to the establishment of training scholarships covering limited periods of

time from short stays to longer Fellowships in order to complete training in specific areas of the OMFS specialty.

International scientific organizations can play a role in the identification of high quality centers offering these types of educational

opportunities, aiming to create an international network of reference centers. In this sense, the EACMFS developed during Bernard Devauchelle's period as the EACMFS Education Officer, a compilation of the Departments offering educational exchange in our specialty throughout Europe, named the "Blue Book" of European Centers. This is being continuously updated. The IAOMS also selected a list of international teaching Centers at a global level called the "Red Book".

Concerning scholarships, both the EACMFS at the European level and the IAOMS globally, have been very active in this field, offering different opportunities mainly addressed to trainees or young specialists, enabling them to travel to other countries to enhance their education and training. These include the Hugo Obwegeser traveling scholarships, the Helene Matras Prize (especially designed to support East European Trainees) or the Leibinger Prize offered by the EACMFS. The IAOMS Foundation Visiting Scholars program offers the possibility of visiting for short periods prestigious departments, while the Fellowships program provides an immersion year to complete a subspecialty training in Oncology and Microvascular Reconstructive Surgery (2 centers: Shanghai and Beijing, China) or in Cleft Lip and Palate and Craniofacial Surgery (Hyderabad & Bangalore, India). It is important to mention that in many cases, the scholarship programs are also supported financially with the collaboration of the Industry. While international exchange opportunities offer an unique opportunity not only to enhance knowledge but also for personal exchange and networking, there are several problems which need to be mentioned, such as the legal issues than might exist to regulate practice in the host country, making only

observerships possible in many cases, or in contrast, for the visitor, between the experience during their stay in the host center and the situation of scarce resources in the country of origin, leading to frustration on both sides. Finally, on certain occasions, it has been noted the candidate has not returned to their country of origin after the completion of the training, meaning a loss to that country in terms investment in training and the expected gain of improved and sustained specialist services. A strict follow-up of the return of every training scholarship should be necessary in our opinion.

5. Conclusion

International collaboration is an essential requirement in order to develop and build better and sustainable oral and maxillofacial services in those countries where they are poorly developed or non-existent and the programmes outlined herein lead to these improvements.

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