

Academic-assistance activities registered by the graduates of the specialty of Emergency of the Regional Hospital No. 25 of the Instituto Mexicano del Seguro Social (1991-2018)

Actividades académico-asistenciales registradas por los egresados de la especialidad de Urgencias del Hospital Regional No. 25 del Instituto Mexicano del Seguro Social (1991-2018)

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Abstract

Objective: To describe the academic-assistance activities of the graduates of the specialty of emergencies in the Regional General Hospital 25 of the Mexican Institute of Social Security. **Method:** Observational descriptive type study in which the 25 generations graduated from the specialty will be analyzed. The scientific, teaching and care productivity of its graduates was analyzed, as well as the subsequent training and the managerial positions held. **Results:** From 1991 to 2018 238 residents entered, of which 88.65% concluded the specialty. 57.34% are male. 78.67% of the graduates work exclusively in the IMSS and 68.72% do it in more than one institution. 72% of them have certification. They published 112 scientific articles and 4 books. 12.32% of the graduates attended a second specialty, being the predecessor of patient care in the critical state (84.61%). Among the main achievements of the headquarters are in the first emergency room of the country in the Quality Postgraduate Program of Consejo Nacional de Ciencia y Tecnología. 53% of these specialists work or perform in management positions. **Conclusions:** This office is considered a reference in the specialty of emergencies in Latin America.

Key Words: History. Emergency medicine. Productivity. Training programs.

Resumen

Objetivo: Describir las actividades académico-asistenciales de los egresados de la especialidad de urgencias en el Hospital General Regional 25 del Instituto Mexicano del Seguro Social (IMSS). **Método:** Estudio observacional de tipo descriptivo en el que se analizaron las 25 generaciones egresadas de la especialidad. Se analizó la productividad científica, docente y asistencial de sus egresados, así como la formación posterior y los puestos directivos desempeñados. **Resultados:** De 1991 a 2018 ingresaron 238 residentes, de los cuales el 88.65% concluyó la especialidad. El 57.34% son de sexo masculino. El 78.67% de los egresados laboran exclusivamente en el IMSS y el 68.72% lo hacen en más de una institución. El 72% cuentan

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con certificación. Publicaron 112 artículos científicos y 4 libros. El 12.32% de los egresados cursaron una segunda especialidad, siendo la predominante la de Atención del Paciente en Estado Crítico (84.61%). Entre los logros principales de la sede están el de ser la primera sede de urgencias del país en ser incluida en el Programa de Posgrados de Calidad del Consejo Nacional de Ciencia y Tecnología. El 53% de estos especialistas se desempeñan o han desempeñado en puestos directivos. **Conclusiones:** Esta sede se constituye como un referente dentro de la especialidad de urgencias en Latinoamérica.

Palabras Clave: Historia. Medicina de urgencia. Productividad. Programas de formación.

Introduction

The International Federation of Emergency Medicine establishes that this is a medical specialty that is based on the knowledge and skills required with the main mission of preventing, diagnosing and treating the acute and urgent aspects of disease or injuries that affect patients of all age groups, with different undifferentiated and behavioral diseases. In addition, it encompasses the responsibility and development of hospital and pre-hospital medical systems, creating the necessary tools for their growth^{1,2}.

The emergency medicine specialist is the cornerstone of his/her department, directing it and establishing the quality standards that are required based on the hierarchical classification of the most serious health problems³⁻⁵.

In Mexico, the emergency medicine specialty arises as a need for trained personnel for initial care of acutely ill patients in critical conditions. This became evident both in the San Juanico explosion in 1984 and in the 1985 earthquake in Mexico City, where there was a lack of organization and training in health systems for the care of patients in cases of disaster^{6,7}.

As of 1986, the Balbuena General Hospital, which belonged to the then Medical Services of the Federal District Department, established the Medical-Surgical Emergencies specialty with the purpose to prepare trained physicians for the care of critically ill patients in the emergency department⁸.

Within the Mexican Institute of Social Security (IMSS – *Instituto Mexicano del Seguro Social*), the specialty was initiated 5 years later, at 15 clinical training sites throughout the country. One of these sites was General Regional Hospital 25 (“*clínica 25*”), located at Calzada Ignacio Zaragoza in Federal District’s Iztapalapa Borough, with academic endorsement of National Polytechnic Institute’s Higher School of Medicine since its origin⁹.

IMSS Regional General Hospital No. 25 had at the time the largest emergency department of Latin

America. Usually, its 37 beds were well beyond saturation and the number of patients therein hospitalized exceeded 150. It had a resuscitation unit where an average of 15 patients were stabilized per shift, in addition to performing endless procedures. It also had a pediatric emergency area, with 30 beds. Its staff was composed of 76 physicians, mostly emergency physicians, but complemented by other specialties (surgery, pediatrics, internal medicine, etc.) to take care of an average of 450 daily consultations⁹.

As a result of the 2017 September 7 and 19 earthquakes, Regional General Hospital 25 suffered significant structural damage. After three expert inspections it was subjected to, it was concluded that relocating its medical departments was necessary in compliance with civil protection provisions to guarantee the safety of users, doctors and all the personnel who serves there.

Although an action plan was implemented to guarantee continuity of care at emergency services and programmed specialty consultations in neighboring units, it is a reality that medical residency functionality will be affected for lacking not only the infrastructure but also the teaching and health care staff that over time has strengthened this training site¹⁰.

In this sense, we consider this to be a good time to review the achievements of the specialty that is emblematic of this hospital: medical-surgical emergencies.

Method

Descriptive, cross-sectional, observational study in which all graduates of the emergency medicine specialty from IMSS Regional General Hospital 25 were followed-up from 1991 to 2018.

Terminal efficiency, scientific productivity (presentations in conferences, published articles and books), recognitions received, achievements obtained, academic training after the emergency medicine specialty, and managerial positions held were analyzed by generation. Descriptive statistics were used.

Results

From 1991 to 2018, 238 emergency medicine specialty residents were admitted to IMSS Regional General Hospital 25, out of which 211 (88.65%) completed the residency; 57.34% were males. The generations with most graduates had 14, and the one with the fewest had 3. Since 2011, female graduates have predominated (Table 1).

Seventy-two percent of graduates are certified by the Mexican Council of Emergency Medicine.

Although all states of the country have at least one emergency medicine specialty graduate, 54.97% currently work in the metropolitan area (Mexico City and State of Mexico).

Currently, 78.67% of graduates serve exclusively at IMSS itself, while 68.72% do it in more than one institution (Table 2).

Specialty graduates have published a total of 112 scientific articles. The 1999 generation has been the most productive (79.46%), with main topics being educational research (21.4%) and disasters (14.28%) (Tables 1 and 3).

They have published a total of 4 books: 2 (50%) on diagnosis and emergency management, 1 (25%) on the history of emergency medicine in Mexico and 1 (25%) on clinical toxicology^{8,11-13}.

The main recognitions obtained by these graduates include:

- Nineteen awards for quality care, IMSS.
- Nine recognitions to meritorious scientific productivity, IMSS.
- One Medical Merit Award, in the category of Health Education, IMSS-Afore XXI Foundation.
- Second place in the “Academician Doctor Francisco Fonseca García” Award, Mexican Academy of Surgery.

They have presented 67 works in national conferences and 14 in international conferences.

Their main achievements include⁸:

- First emergency medicine clinical teaching site in the country to be included in the Quality Postgraduate Program of the National Council of Science and Technology (CONACYT – *Consejo Nacional de Ciencia y Tecnología*), with Consolidated level (2012).
- First emergency medicine specialist to be admitted to the Mexican Academy of Surgery: Academician Dr. Jorge Loria Castellanos (2012).
- First president of the Mexican Council of Emergency Medicine not graduated from Hospitals of

Table 1. Distribution by graduation year, gender and published articles

Graduation year	Males	Females	Total	Published articles
1994	4	3	7	0
1995	4	0	4	0
1996	4	0	4	0
1997	3	0	3	1
1998	6	0	6	0
1999	2	3	5	89
2000	7	1	8	2
2001	6	2	8	11
2002	4	3	7	2
2003	7	4	11	4
2004	7	5	12	1
2005	3	3	6	1
2006	8	0	8	0
2007	9	3	12	0
2008	8	1	9	0
2009	8	3	11	0
2010	6	8	14	0
2011	3	11	14	0
2012	4	5	9	0
2013	3	7	10	0
2014	3	6	9	0
2015	4	8	12	0
2016	4	7	11	0
2017	4	7	11	0
2018	121	90	211	112

the Federal District Government: Dr. Virginia Velasco Díaz.

- First president of the Mexican Society of Emergency Medicine not graduated from Hospitals of the Federal District Government: Dr. Rubén Gutiérrez Luna.
- Participation in the boards of examiners in all versions of the Council's exam.
- National coordination of the CRASH, CRASH 2 and CRASH 3 protocols, under the auspices of the London School of Hygiene and Tropical

Table 2. Emergency medicine specialty graduates working status, Regional General Hospital 25 (1991-2018)

Institution	n	%
Passed away	2	0.94
Not practicing	4	1.89
Mexican Institute of Social Security	166	78.67
Institute of Social Security and Services for State Workers	13	6.16
Ministry of Health	6	2.84
Private practice	11	5.21
Universities	9	4.26
Total	211	100
More than one institution	145	68.72

Table 3. Topics of articles published by emergency medicine specialty graduates, Regional General Hospital 25 (1991-2018)

Topic	n
Educational research	24
Disasters	16
Management	14
Trauma emergencies	13
Miscellaneous	12
Toxicology	9
Pediatric emergencies	7
Intensive therapy	7
Emergency procedures	5
Neurologic emergencies	5
Total	112

Medicine/PAHO, the results of which were published in *The Lancet* and *British Medical Journal*.

- One candidate to National Researcher within CONACYT National System of Researchers.

Two of its graduates have institutional qualification as researchers and seven have teaching qualification.

They have completed 71 different diploma courses, among which toxicology predominates (30.98%) (Table 4).

Twenty-six graduates (12.32%) completed a second specialty, with Care of the Critically Ill Patient predominating (84.61%) (Table 5).

Table 4. Diploma courses completed by emergency medicine graduates, Regional General Hospital 25 (1991-2018)

Diploma course	n
Toxicology	22
Teaching	12
Disasters	12
Ultrasound	11
Research	9
Ethics	3
Organ donation	2
Total	71

Table 5. Second specialty or subspecialty completed by emergency medicine graduates, Regional General Hospital 25 (1991-2018)

Specialty or subspecialty	n
Care of the critically ill patient	22
Bariatrics	1
Pathology	1
Radiology	1
Resuscitation medicine	1
Total	26

On the other hand, 17.53% of graduates have studied a postgraduate degree, with 86.48% being master's degree in hospital administration, 10.81% master's degree in education, and 2.7% doctorate in education.

Out of these specialists, 53% are or have been in managerial positions, predominantly as heads of the emergency department (26.54%) (Table 6).

They formed the IMSS emergency medical teams that participated in various disaster situations, including the missions to help in the Tabasco floods (2008), the Haiti earthquake i (2009) and the earthquakes in Oaxaca and Mexico City (2017).

Discussion

The first that stands out is the location of the facilities, which conferred the hospital special characteristics since its origins, since it is located on the limits of Iztapalapa and *ciudad Nezahualcóyotl*, two of the

Table 6. Managerial positions held by medical emergency graduates, Regional General Hospital 25 (1991-2018)

Position	n
Central level manager	1
Hospital director	6
Hospital sub-director	22
Head of department	42
Pathology department	1
Radiology department	1
Intensive therapy department	5
Emergency department	30
Education department	5
Total	113

most populated and violent areas of the country, which makes for patients who attend the emergency department not only to pack out the department on a daily basis, but also for trauma-related conditions to overlap with chronic degenerative diseases exacerbation¹⁴.

It is not surprising that most specialists serve in the same institute that trained them, given the contractual opportunities they are offered upon graduation. But something that is quite interesting, is the high percentage that serve in more than one institution, a situation that could result in repercussions on the professionals' health, as well as in a negative impact on the health system itself¹⁵.

The percentage of certification of its graduates stands out, which is higher than that of other training sites and that surely is influenced by the fact that their teachers and graduates from previous generations are part of this process.

The distribution of these doctors throughout the country is important, since it not only impacts on the quality of medical care, but also on the dissemination of the specialty's concept.

Productivity in terms of scientific articles and books is interesting, which does not have a benchmark for comparison with other emergency medicine training site, and not only addresses topics that are "classical of the specialty", but also considers aspects that influence its development, implementation and improvement, such as educational research or history of the specialty itself. Something that should be emphasized is that there are three generations (1999, 2001 and 2003) that have published more, a situation that might be explained by the fact that these graduates are

those who were subsequently trained in teaching and research, as well as that they were or are currently teachers or heads of education in this and other training sites.

The recognitions received are not solely limited to emergency departments day-to-day performance, but also comprise complementary activities, such as teaching and research, which speaks of integral professionals.

Representation of its graduates in the main medical associations and organizations related to the specialty in Mexico is important, which is not a mere presence, since their work will actually have an impact on the entire health system.

A point that should be highlighted is that this was the first emergency medicine training site to be included in the CONACYT Quality Postgraduate Education Program, which recognizes the quality of the programs' training through a rigorous process of evaluation by academic peers. With this program, continuous improvement is encouraged and national postgraduate education quality is ensured "in order to increase the scientific, humanistic, technological and innovation capacities of the country, incorporating the generation and application of knowledge as a resource for the development of society and taking care of its needs, thus contributing to consolidate dynamic growth and a more equitable and sustainable development of the country"¹⁶.

Unlike other countries, where academic development of the emergency medicine specialty takes place within internal medicine or surgery departments, the program at this training site is taught with academic autonomy, primarily at IMSS different secondary and tertiary care emergency departments, with a fairly robust teaching-healthcare body that includes training not only in clinical areas, but also in research methodology and even ethics¹⁷.

It is a reality that the specialty in Mexico was born from a disaster, and it is therefore highly important for its graduates not only not to distance themselves from this need, but it is also for them to be a key part of the response to major emergencies and disasters, both national and international, as it became evident with their recent participation after the September 2018 earthquakes in Mexico¹⁸.

On October 12, 2018, at midnight, with the purpose to demolish and rebuild it, Regional General Hospital 25 officially ceased operating, and thereby one of the most important emergency medicine specialty

training sites in Latin America also did. We can say with satisfaction that emergency medicine specialty graduates have more than fulfilled its vision: “To be Latin America’s leading emergency department in the training of specialists for the prevention, detection, care, teaching and investigation of emergency processes and pathologies, through an approach of personal and professional continuous growth of the health team”.

We are sure that it is only a matter of time for, once the hospital is rebuilt, this leadership to be strongly resumed.

Conflict of interests

The authors declare that there is no conflict of interests.

Ethical disclosure

Protection of people and animals. The authors declare that no experiments were performed on humans or animals for this research.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

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