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Teaching Psychiatry in Mexico

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Original Article

SUMMARY

Mexico was the pioneer country in the care of people with mental illness in the Americas; the San Hipólito Hospital and the general asylum "La Castañeda" attest to this. Although initially the knowledge and therapeutic resources were limited, advances in psychiatric nosology gradually emerged. A number of prominent Mexican physicians found its way into the field of mental health in the early 1940s.

Psychoanalysis left a deep mark on Western culture, however, the discovery of psychotropic drugs and the establishment of modern psychiatry changed the vision of teaching, emphasizing their importance in the school of medicine and in the specialty. On the other hand, in recent decades the development of neuroscience and social science has brought progress in the classification of mental illness and its treatment.

Today, resources for mental health care in our country are low and are particularly concentrated in the third level of medical care. In this regard we have about four thousand psychiatrists and pedopsychiatrists, resulting insufficient as they are concentrated in large cities and considering the increasing demand. Therefore, there is a great interest in integrating mental health into the networks of primary health care. In our country we have twenty two venues with structured psychiatric specialization programs offered in sixteen universities.

The future of psychiatry is promising; the ability to relate more closely mental disorders with biology by imaging techniques, genomics and proteomics open new horizons for therapeutics, keeping current psychological and social dimensions for clinical care.

Key words: Psychiatry, specialty, teaching.

RESUMEN

Nuestro país fue pionero en la atención de las personas con enfermedades mentales en América; el Hospital de San Hipólito y el manicomio general de "La Castañeda" dan cuenta de ello. Aunque en un inicio los conocimientos y la terapéutica fueron limitados, gradualmente surgieron avances en la nosología psiquiátrica. Una serie de prominentes médicos mexicanos se abrió paso en el campo de la salud mental a principios de la década de 1940.

El psicoanálisis dejó una huella profunda en la cultura occidental, sin embargo, el descubrimiento de los medicamentos psicotrópicos y el establecimiento de la psiquiatría moderna cambiaron la visión en la enseñanza, remarcando su importancia en la carrera de medicina y en la especialidad. Por otro lado, el desarrollo de las neurociencias y de las ciencias sociales en las últimas décadas ha traído consigo un avance en la clasificación de las enfermedades mentales y su tratamiento.

Hoy en día los recursos destinados a la atención de la salud mental en nuestro país son bajos y se concentran especialmente en el tercer nivel de atención. Asociado a ello contamos con cerca de cuatro mil psiquiatras y paidopsiquiatras, los cuales son insuficientes ya que se concentran en las grandes ciudades y la demanda es cada vez mayor por lo que hay gran interés en integrar a la salud mental a las redes de atención primaria de la salud. En nuestro país tenemos veintidós sedes de especialización psiquiátrica con programas estructurados que se imparten en dieciséis universidades.

El futuro de la psiquiatría es prometedor, la posibilidad de relacionar con mayor precisión a los trastornos mentales con la biología gracias a las técnicas de imagen, la genómica y la proteómica abren nuevos horizontes para la terapéutica, manteniendo vigentes las dimensiones psicológicas y sociales para la atención clínica.

Palabras clave: Psiquiatría, especialidad, enseñanza.

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HISTORICAL BACKGROUND

Mexico got ahead of all other countries of the American continent in the hospital care for the mentally ill. In 1566 Fray Bernardino Álvarez founded the San Hipólito Hospital, first of its kind dedicated to the care of such patients in the Americas. However, the work of this distinguished precursor does not affect the overview. The mentally ill were often abandoned by their families, roamed the streets malnourished and, at best, they were kept in makeshift spaces protected by a compassionate person or group.

In 1910, A few months before the outbreak of the Mexican Revolution, Porfirio Díaz opened in the lands of the La Castañeda hacienda —located in southern Mexico City— the general asylum. It should be noted that this building matched the architectural preferences of the time, and the same is true for the medical and administrative criteria that governed it. La Castañeda was the cradle of Mexican pub-

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lic psychiatry and, even though there was a certain lack of knowledge and effective therapeutic resources, the care provided was not necessarily inferior to that offered in other countries. Simply, there was no other options.[1]

The limited knowledge and effective therapeutic resources, well into the twentieth century, contributed to the development of fears and prejudices of society, generally towards mental illness. It is regrettable that in some sectors such prejudices still exist.

While in 1783, in a ceremony full of symbolism, Phillippe Pinel unchained inpatients from the La Salpêtrière hospital in Paris, although he had been warned by the French revolutionary movement that it was dangerous to free "those enemies of the revolution." The gesture had no greater significance because during the nineteenth century the attention of psychiatric patients consisted of cold baths and straitjackets for those who remained excited, watching the progressive deterioration of the affected ones.

Certainly there was some progress in psychiatric nosology —especially in differentiating between schizophrenia and manic-depressive illness—, in the study of hysteria, depressive disorders and anxiety, but therapeutics still were very limited.

At the beginning of the 1930s there were developments that significantly expanded the treatment of some severe mental disorders. On the one hand, Sakel en Viena introduced the use of insulin to produce comatose states in the treatment of schizophrenic psychoses; and on the other, Von Meduna, in Budapest, developed the induction of convulsive seizures through metrazol with similar purposes. Shortly after, Cerletti and Bini developed the electroshock therapy and Moniz, in Lisbon, performed the first prefrontal lobotomy, which paved the way for psychosurgery.

Meanwhile, in Mexico, as a result of the Spanish Civil War, and as part of the formidable graft of talent that arrived to the Mexican territory, personified in thousands of refugees, some distinguished neurologists and psychiatrists found fertile ground in Mexico to continue their professional development.

Gonzalo Lafora, Wenceslao López Alvo and Federico del Roncal —who already enjoyed prestige— perfected their clinical skills in our field. Dionisio Nieto was an eminent Spanish neuropathologist who arrived in Mexico in 1940. He developed much of his work in today's Institute of Biomedical Research of the National Autonomous University of Mexico. He excelled in the field of biological psychiatry and also worked in the clinical area at La Castañeda asylum. Some of his main students and colleagues were Agustín Caso and Augusto Fernández Guardiola.

Between 1933 and 1952, the academic scene of psychiatry in Mexico was represented by a distinguish group of physicians who excelled for their contributions and commitment to patients with mental and neurological disorders. Among those who stood out were: Manuel Guevara Oropeza, Samuel Ramírez Moreno, Leopoldo Salazar Viniegra, Guillermo Dávila, Martin Ramos Contreras, Raúl González Enríquez, Edmundo Buentello, Alfonso Millán and Mario Fuentes Delgado. They actually developed the medical care of the mentally ill both in private and public institutions. In 1946, for instance, González Enríquez founded the first Unit of Psychiatry of the Mexican Social Security Institute. They also established vocations and encouraged teaching.

Samuel Ramírez Moreno stood out in teaching; he was also the first Director of Mental Health in the Ministry of Health and Welfare and was always aware of the progress of psychiatry both in Europe and in the US. He founded a private psychiatric hospital with clinical training for physicians interested in the specialty, and encouraged his disciples to complete their studies abroad. He was Secretary-General at UNAM.[2]

In 1952, being Raúl Fournier Villada the Director of the School of Medicine of the National Autonomous University of Mexico and a promoter of psychological medicine, the teaching programs of neurology and psychiatry were separated, thus each became a separate discipline. It was at this time that the first formal psychiatry training course was established, with recognition of the Graduate School of UNAM.

In 1955, at the initiative of Alfonso Millán the Department of Medical Psychology, Psychiatry and Mental Health was established at the Medical School itself, as part of a reform to guide the teaching of medicine with a psychological and humanistic sense. The subjects of Medical Psychology and Humanistic Medicine were included in the curriculum; such subjects were later changed to Medical Psychology I and II. Currently, they are called Introduction to Mental Health and Psychological Medicine, respectively.[3]

In that decade, the first pharmacological treatments with phenothiazines and monoamine oxidase inhibitors were developed, which resulted much more effective for major mental disorders: schizophrenia, depression, anxiety disorders, among others. Psychopharmacology radically changed the prognosis of many psychiatric patients and improved the chances of reintegrating them back into society and into their families.

Between 1960 and 1970, the Ministry of Health and Welfare established a network of 11 hospitals, including 9 hospitals-farms, replacing the obsolete and overcrowded general asylum. The new facilities represented progress, however, they failed to consolidate themselves due to lack of technical and economic resources. Nevertheless, the Fray Bernardino Álvarez hospital and Juan N. Navarro Child Psychiatric hospital stand out; they had, and still have, an important role in both teaching and welfare purposes.

In subsequent years, the trend that emphasized the study of mental patients in their social context acquired greater relevance. That is, care for the sick incorporated the family, the social group, and the community. Among those

who made significant contributions in this perspective are Guillermo Calderón Narváez, Héctor Tovar and Carlos Pucheu, and others.

In 1970, Ramón de la Fuente Muñiz —considered the founder of modern psychiatry in Mexico— created the first open psychiatric service in a general hospital (Spanish Hospital of Mexico). This service continues and remains one of the main centers for training in psychiatry within the context of hospital medicine. As Tenured Professor of the postgraduate course in psychiatry of the Medicine School at UNAM, Professor de la Fuente trained a large number of psychiatrists who today perform their specialty throughout Mexico and other countries of Central and South America. He was the President of the World Congress of Psychiatry held in Mexico in 1971, and he created, in 1972, the University Mental Health Center, home of the Department of Psychiatry and Mental Health of the Medicine School at UNAM. Previously he had founded, in 1966, the Mexican Psychiatric Association and, a few years later, the Mexican Council of Psychiatry. He was Emeritus Professor and Doctor Honoris Causa by the University; author of classic books such as Psicología Médica (Medical Psychology), republished and reprinted dozens of times by the Fondo de Cultura Económica. This work has been an irreplaceable text for decades in medical schools in Mexico and other countries, and contributed to the full recognition of psychiatry as a branch of medicine in Mexico.[4]

In 1979, he founded the Mexican Institute of Psychiatry, now the National Institute of Psychiatry that bears his name. He created the Salud Mental (Mental Health) magazine, the official publication of the Institute, accredited and internationally recognized, after 33 years of uninterrupted publication.

PSYCHIATRY AND MEDICINE

The teaching of psychiatry as part of medical education in Mexico began in the late nineteenth century. Dr. Miguel Alvarado, Director of La Canoa Mental Hospital gave some lessons to his students beside the patient, and taught within the course of "improvement," in the School of Medicine, some lessons about mental illness.

At the beginning of the last century Juan Peón del Valle and, shortly after, Enrique O. Aragón also taught on the subject, but in fact, until 1922, Dr. José Meza Gutiérrez conducted a course of psychiatry at the 6th year of the school of medicine as an optional subject.[5]

The first hospital residencies in psychiatry started at La Castañeda asylum in 1948. There were also formal courses in private hospitals of physicians Rafael Lavista and Samuel Ramírez Moreno. Later, in the 1950s, courses were developed at the Central Military Hospital; courses of the School of Medicine of UNAM were strengthened; and courses began at the Autonomous University of Nuevo León.

In 1951, the UNAM established a two-year formal course of psychiatry at the initiative of Raúl González Henríquez and Guillermo Dávila. This course has been improved over time; it is taught in a coordinated manner in several health care centers both from the Ministry of Health and from social security and private institutions.[6]

In subsequent years, important developments in the teaching of psychiatry began in various states. Efforts undertaken by Manuel Camelo Camacho and Rubén Tamez Garza in Monterrey; by Wenceslao Orozco, Fernando de la Cueva and Mario Saucedo en Guadalajara; by Ángel Ortiz Escudero in León; by Ignacio Rivero Blumenkron in Puebla; and by Antonio de la Maza and Everardo Neumann in San Luis Potosí should be acknowledged, to name a few of the pioneers of university psychiatric education in Mexico.[5]

The challenges in the teaching of psychiatry —as for other medical specialties— are based on being able to timely incorporate scientific advances that nourish and modify the field of each discipline. As for psychiatry, progress has been important both in biological and psychological-social aspects.

More recently, neurosciences have had a tremendous development and have substantially changed the way we understand and treat many mental disorders. To the initial psychotropic drugs —which already showed an undeniable therapeutic efficacy— other molecules capable of controlling mood and perception of reality disorders in a more selective manner have been added. This has allowed, among other benefits, the social reintegration of many patients who previously had to be confined to hospitals.[6]

However, together with advances in biology, social sciences have also contributed fundamental knowledge that have a direct or indirect influence in the prevention, diagnosis and treatment of many mental patients. The concept of etiopathogenesis in psychiatry, as occurs in other medical specialties, has changed and acquired a multifactorial connotation that fosters the development of comprehensive models more in tune with reality. Similarly, therapeutic communities and other psychosocial rehabilitation models play an important role in the complex process by which many patients must go through to reach their full and productive reintegration into the family and social environment.

While psychoanalysis has ceased to have the influence that once had in the context of psychiatry, it should be pointed out that in Mexico —early in the second half of last century— some young psychoanalysts trained in the Freudian tradition returned to Mexico, among whom Santiago Ramírez and Ramón Parres stood out. At the same time, invited by the UNAM, Erich Fromm arrived in Mexico, preceded by international fame for his contributions to the humanistic and social current in the field of psychoanalysis. Today psychoanalysis is an autonomous discipline, somewhat isolated from medicine but it certainly has left a deep mark on Western culture.

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The efforts of several generations of distinguished psychiatrists and interested in teaching of psychiatry reached a well deserved recognition in 1972 with the foundation of the Mexican Council of Psychiatry recognized by the National Academy of Medicine. Like other Councils, its role is to certify those who have had adequate training and are suitable for the practice of the specialty.[5]

MENTAL HEALTH IN MEXICO

In the study of Psychiatric Epidemiology in Mexico conducted in 2003 —which was part of an initiative of the WHO, the prevalence of psychiatric disorders— comorbidity, changes in the geographical distribution of disorders, socio-demographic correlates and service utilization by the adult population are described. There are some relevant data that should be mentioned to get an idea of the prevailing imbalance between supply and demand. Regardless that the numbers may have changed a bit in recent years, trends persist: 28% of the population had any of the disorders of the International Classification of Mental Illness once in a lifetime; 13% reported had one in the last 12 months; and 5.8% in the last 30 days. By type of disorders, the most common were anxiety (14.3%), sometime in the course of their life; followed by substance use disorders (9.2%) and affective disorders (9.1%).[7]

Men have higher prevalence of any disorder compared with women (30.4% vs. 27.1%), at some time in life. However, women have higher overall prevalence for any disorder in the past 12 months (14.8% vs. 12.9%).

In Mexico, one out of five individuals has at least one mental disorder at some point in his/her life. Anxiety disorders are the most prevalent and chronic; while the most common individual disorders are major depression, specific phobia, alcohol dependence and social phobia.

Among men alcohol dependence is the most common problem, while among women it is major depression. Separation anxiety, attention deficit disorder and specific phobia are the earliest and most common diseases in children.

As for disorders of adulthood, anxiety disorders are reported with earlier onset age, followed by affective disorders and by substance use.

It is estimated that the Ministry of Health spends about 2% of its budget for mental health. 80% of this entry goes to the operation of psychiatric hospitals. Compared to other Latin American countries such as Colombia, Brazil and Chile, the amount of the budget allocated to mental health is higher — varying between 5% and 8% of the total health expenditure. It is encouraging to confirm a budget increase of the SSa for this item in the last year, as well as the structuring of a new program of psychiatric care nationwide.[8]

Recently, the Assessment Instrument for Mental Health Systems of the World Health Organization (WHO-AIMS) was applied with the purpose to collect information on the mental health system in Mexico. This will allow Mexico to develop mental health plans with clear objectives, aimed at providing better community services and involve more users, families and other stakeholders in promotion, prevention, care and rehabilitation tasks.[8]

The approaches for integrating mental health into the general network of health services, and the proposal to revise and update the legislation on mental health stand out, as well as the protection of human rights of patients and the compulsory social protection for those who suffer the most common mental disorders.[9]

Currently the focus of mental health care is the third level of care; that is, the more specialized, which is also the most expensive. There are 46 psychiatric hospitals, 13 psychiatric inpatient units in general hospitals and eight residential facilities. Most of these services are located in large cities or near them. Currently, there are 544 mental health facilities for outpatients that provide care to 310 users per 100,000 inhabitants. 27% of outpatient care is provided to children and adolescents.6

Given the high prevalence of mental disorders among the population that requires medical attention for various physical conditions affecting the mental sphere, it is absolutely necessary to strengthen the first level of health care. It is estimated that about 25% of patients attending these services may have any psychiatric disorder, which often is not recognized and therefore not treated. The reason for this lack of detection reflects many factors, but perhaps the most important is the lack of proper education in the area of mental health for health professionals who generally have little awareness to detect and care for patients with any psychiatric comorbidity.

In short, based on accurate information available, there is little doubt that demand exceeds supply daily, and that the latter —despite the effort made— is still very limited in terms of infrastructure, professional resources and financing.[10]

PRACTICING SPECIALISTS

According to the World Health Organization (WHO) balance of human resources in the health system is important to achieve the goals of good care. A survey published in 2005 showed, in Mexico, a higher concentration of general practitioners and specialists in major urban areas, similar to what happens in other countries. That is, the greater the distance to an urban center, the fewer the number of specialists.

The WHO Mental Health Atlas, published in the same year, shows a significant variation among different countries by socio-economic level; the number of psychiatrists, in figures expressed per 100,000 inhabitants, can be observed in Table 1.[11]

In Mexico, a national study recorded in 1988 a total of 1,108 psychiatrists, which —considering the population in

that year— suggests that there were 1.5 psychiatrists per 100,000 inhabitants. This study also showed that 56% of psychiatrists were in the Federal District, with a rate of 6.3 psychiatrists / 100,000 inhabitants in said area.

In a more recent study, conducted in 2012, a total of 3,823 psychiatrists were recorded in Mexico, which population was 112 million inhabitants; of these, 225 corresponded to the subspecialty of pedopsychiatry. The foregoing results in a rate of 3.47 psychiatrists per 100,000 inhabitants and 0.69 pedopsychiatrists per 100,000 of inhabitants under the age of 15.[12]

65% of psychiatrists are men and 35% women. 43% performs their specialty in the Federal District with a rate of 18.8 psychiatrists per 100,000 inhabitants; the State of Jalisco follows with 11.2% of psychiatrists with a rate of 5.8 / 100,000 inhabitants; and then Nuevo León with 6.46% and a rate of 5.3 psychiatrists / 100,000 inhabitants. The remaining 38.7% is distributed in other states, mainly in urban areas (Figure 1).

Clearly, according to WHO, the number of psychiatrists to meet the needs of the population in Mexico is insufficient. Entities such as the Federal District, Jalisco and Nuevo León have covered or exceeded the world average, while the states of Zacatecas, Chiapas and Tlaxcala have less than one psychiatrist per 100,000 inhabitants. Therefore, the problem is not just that there are few psychiatrists, but that they are very unevenly distributed. With the specialists available it is impossible to meet the mental health needs in Mexico.[12]

Table 1. Distribution of the psychiatrists in various countries

Country	Inhabitants	Psychiatrists/1000 000
United States	297 043 000	13.7
Argentina	38 871 000	13.2
Canada	31 743 000	12.0
Germany	82 526 000	11.8
Brazil	180 655 000	4.8
Spain	41 128 000	3.6
Mexico	104 931 000	2.7

World average: 4.15 psychiatrists/100 000
Source: OMS, 2005.

RESIDENCES IN PSYCHIATRY

61 years ago the Graduate School of UNAM for the first time offered an official specialization course in psychiatry.

Today, the specialization course in psychiatry lasts four years, is taught in 22 institutions and has the support of 16 universities (Table 2). They all follow the guidelines of the

Table 2. Places of formal courses of Residency in Psychiatry in Mexico with university recognition

PLace	Hospital unit	University
Baja California Norte	Instituto de Salud Mental de Baja California Norte	Universidad Autónoma de Baja California.
Campeche	Hospital Psiquiátrico de Campeche	Universidad Autónoma de Campeche.
Distrito Federal	1. Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz	Universidad Nacional Autónoma de México.
	2. Instituto Nacional de Neurología y Neurocirugía Manuel Velasco Suárez	
	3. Hospital Español de México	
	4. Centro Médico 20 de Noviembre ISSSTE	
	5. Centro Médico Nacional Siglo XXI. Hospital de Especialidades. IMSS	
	6. Hospital Psiquiátrico Morelos	
Durango	Hospital Psiquiátrico Miguel Vallebueno	Universidad Juárez del Estado de Durango.
Guanajuato	Hospital Psiquiátrico San Pedro del Monte	Universidad de Guanajuato.
Jalisco	1. Hospital Civil de Guadalajara	Universidad de Guadalajara.
	2. Instituto Jalisciense de Salud Mental	Universidad Autónoma de Guadalajara.
	3. Hospital San Juan de Dios	
Nuevo León	1. Hospital Universitario de Nuevo León	Universidad Autónoma de Nuevo León.
	2. Hospital Psiquiátrico Nuevo León	Instituto Tecnológico y de Estudios Superiores de Monterrey
	3. Hospital Psiquiátrico del IMSS	Universidad de Monterrey.
Puebla	Hospital Universitario de Puebla	Benemérita Universidad Autónoma de Puebla.
San Luis Potosí	Clínica Everardo Neumann	Universidad Autónoma de San Luis Potosí.
Sonora	Hospital Psiquiátrico Cruz del Norte	Universidad de Sonora.
Tabasco	Hospital de Alta Especialidad de Salud Mental	Universidad Juárez Autónoma de Tabasco.
Tamaulipas	Hospital Psiquiátrico de Tampico	Universidad Autónoma de Tamaulipas.
Yucatán	Hospital Psiquiátrico de Yucatán	Universidad Autónoma de Yucatán.

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Table 3. XXXV 2011 National Examination for Medical Residence Applicants.

Maximum and Minimum Scores Places of Mexican Civil Medical Residents (R-1)		
	Score	
Speciality	Maximum	Minimum
Anatomical pathology	76.000	60.800
Anesthesiology	79.000	61.550
Audiology, otoneurology and phoniatrics	75.550	61.775
Quality of clinical care	75.550	56.875
General surgery	86.500	68.575
Epidemiology	66.600	58.875
Medical genetics	78.300	64.950
Geriatrics	78.800	65.575
Gynecology and obstetrics	81.375	65.500
Diagnostic and therapeutic imaging	79.525	61.775
Rehabilitation medicine	78.050	64.950
Emergency medicine	78.575	63.725
Occupational and environmental health	76.425	59.425
Family medicine	76.675	53.450
Integrated medicine	68.675	52.525
Internal medicine	83.825	67.775
Legal medicine	70.650	64.525
Nuclear medicine	69.700	62.050
Pneumology	80.525	67.125
Ophthalmology	82.200	68.625
Otolaryngology and head and neck surgery	79.800	68.925
Clinical pathology	73.250	61.350
Pediatrics	81.750	63.775
Psiquiatry	78.200	65.225
Radiation oncology	74.350	63.750
Public health	76.025	60.725
Traumatology and orthopaedics	81.450	66.100

Source: Comisión Interinstitucional para la formación de recursos humanos para la salud, 2011.

Single Plan of Medical Specialties (Plan Único de Especialidades Médicas – PUEM in Spanish) of UNAM.[13]

In 1971 he started the subspecialty course in child and adolescent psychiatry, which lasts two years; it takes place in three clinical venues with the UNAM's recognition and is centered at the Juan N. Navarro Chidren's Psychiatric Hospital.[3,14]

All applicants to pursue the specialty of psychiatry should take the National Examination for Medical Residence Applicants and get a certain score to be accepted and have one of the available places in the year of study. Table 3 shows the maximum and minimum points earned to enter the residence, according to different specialties and places available for the 2011 school year.[13,15,16]

The places offered for doctors applying to the specialty of psychiatry were 141 in 2009; and subsequently decreased to 137 in 2010; and 130 in 2011. The UNAM also offers master's and doctoral programs in different fields of clinical medicine, biomedicine and sociomedical science which include psychiatry, neuroscience and mental health.[16]

Tables 4 and 5 show the teaching units for the specialized courses for psychiatry and child and adolescent psychiatry at UNAM. Both are in constant review, as well as the appropriateness of the clinical sites, by the corresponding academic committees.[16]

PERSPECTIVES OF PSYCHIATRY AS A MEDICAL SPECIALTY

Recent advances in psychiatry are the result of the development of neuroscience and of the strengthening of its links with the rest of medicine. Likewise, progress has been possible due to the development of innovative techniques, methods and instruments that have enriched the field of clinical psychiatry and allowed to appreciate the impact of mental disorders at their true epidemiological and social dimension.

The chance to relate, with increasing precision, mental disorders with their biological basis has increased dramatically. Imaging, for example, has allowed a more accurate study of the structures of the central nervous system and its operation; while genomics and proteomics are opening new horizons

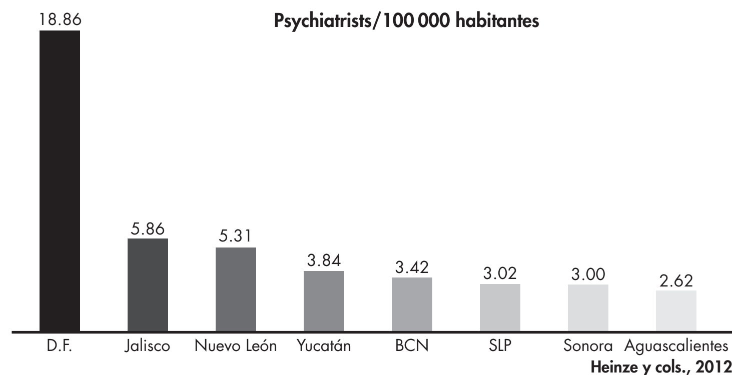

Figure 1. Psychiatrists' distribution in diverse federative entities.

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Table 4. Program of Study of the specialization in Psychiatry

First year		Second year		Third year		Fourth year	
First semester	Second semester	Third semester	Fourth semester	Fifth semester	Sixth semester	Seventh semester	Eighth semester
Medical Attention I	Medical Attention I	Medical Attention II	Medical Attention II	Medical Attention III	Medical Attention III	Medical Attention III	Medical Attention III
Psycho-pathology I	Psycho-pathology II	Psycho-pathology III	Psycho-pathology IV	Psycho-pathology V	Psycho-pathology VI	Reabilitación of the psychiatric patient	Forensic psychiatry and criminology
Psycho-pathology I: Introduction to the psyco-pathology	Biology of the mental functions	Substance abuse and alcoholism	Infantile and adolescent psychiatry	Psyco-geriatrics	Sexual disorders and psychiatric disorders related to gender	Mental health system	Epidemiología y psiquiatría social y comunitaria
Anatomía y fisiología del Sistema Nervioso	Neuropsico-farmacología clínica	Neurología en psiquiatría	Psicoendo-crinología e inmunología	Electroencefalo-grafía	Psicoterapia IV: Casos clínicos	Psicoterapia V:- Casos clínicos	Psicoterapia VI: Casos clínicos
Urgencias en psiquiatría	Revisión biblio-gráfica II	Genética en psiquiatría	Psiquiatría de hospital general	Imagenología en psiquiatría	Pruebas psico-lógicas, neu-ropsicológicas y clinimetría	Revisión biblio-gráfica VII	Revisión biblio-gráfica VIII
Historia de la psiquiatría	Cesión de ca-sos clínicos II	Psicoterapia I:Teoría	Psicoterapia II: Teoría	Psicoterapia III: Teoría clínica	Psicoterapia IV: Teoría clínica	Sesión de ca-sos clínicos VII	Sesión de casos clínicos VIII
Taller de medi-cina basada en evidencias	Taller de profesionalismo médico	Revisión biblio-gráfica III	Revisión biblio-gráfica IV	Revisión biblio-gráfica V	Revisión biblio-gráfica VI	Trabajo de atención médi-ca VII	Trabajo de atención médi-ca VIII
Revisión biblio-gráfica I	Trabajo de atención médi-ca II	Cesión de ca-sos clínicos III	Cesión de ca-sos clínicos IV	Cesión de ca-sos clínicos V	Sesión de ca-sos clínicos VI		
Cesión de ca-sos clínicos I		Trabajo de atención médi-ca III	Trabajo de atención médi-ca IV	Trabajo de atención médi-ca V	Trabajo de atención médi-ca VI		
Trabajo de atención mé-dica I			Taller de técnicas de docencias				

Source: Departamento de Desarrollo Curricular. Subdivisión de Especialidades Médicas. División de Estudio de Posgrado. Facultad de Medicina. UNAM. 2012.

in relation to the etiology and treatment of some of the major mental illnesses.

The changes experienced by psychiatry in recent decades are deep and are expressed in conceptual, clinical and care lev-

Table 5. Program of the specialization in infantile and adolescent psychiatry

First year Medical Attention I		Second year Medical Attention	
First semester	Second semester	Third semester	Fourth semester
Conceptos generales, clasificación y nosología psiquiátrica infantil	Trastornos psiquiátricos en la infancia y la adolescencia	Psicofarmacoterapia	El niño y el adolescente en la comunidad
El desarrollo de la personalidad y de las funciones psíquicas	Clinimetría y pruebas psicológicas	Psicoterapia del niño y del adolescente	
El diagnóstico neurológico del niño		La psiquiatría legal del niño y del adolescente	
Profesionalismo médico			

Source: Departamento de Desarrollo Curricular. Subdivisión de Especialidades Médicas. División de estudios de Posgrado. Facultad de Medicina. UNAM. 2008.

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els; ranging from genetics to psychodynamics, going through childhood, family and social environment, and affecting therapeutics.[17]

The periods of hospitalization of the mentally ill have been reduced dramatically, and the possibilities of reintegration to social and productive life are better than ever before in history. However, there is still much to be done and, surely, scientific progress and the development of new technical instruments will —in the coming years— increase the effectiveness of interventions for primary and secondary prevention.

The great expectation still is the possibility of acting on the mind through the brain, by substances with specific actions on thought, memory, affection, sexuality, appetite, etc., and of influencing in a selective and radical new way on behavior, states of consciousness, mood and memory. This possibility increases as knowledge about molecular basis of mental functions progresses.

There is no doubt that psychiatry has become an increasingly less speculative and more observant and experimental discipline. This does not mean that the field of psychiatry should be kept to the knowledge of the brain. It is necessary to maintain in force the psychological and social dimensions for the full understanding and the effective management of patients. However, the actual pathogenic weight of the various factors affecting the clinical pictures specific to psychiatry must be rigorously assessed, which often determine the success of psychiatric interventions.

To conclude this chapter, the words of Professor Ramón de la Fuente should be recalled: "in my opinion, the value of current psychiatry not only is based on the fact that it is more scientific and experimental but also on its perspective, on its broader and more coherent guiding framework that does not lose sight of the subjective and social side of human predicaments". This assertion remains fully valid.[5]

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Artículo sin conflicto de intereses

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