

Plastic and Reconstructive Surgical Missions: A Philanthropic Work

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Perspective

Volume 2 Issue 1

Received Date: March 11, 2018

Published Date: April 16, 2018

DOI: 10.23880/ijtps-16000112

Abstract

The majority of public spending in health matter is destined to treat pathologies with the highest mortality, such as cardiovascular, metabolic and neoplastic diseases. Therefore, pathologies such as congenital malformations, burn sequelae and cancer sequelae cannot be afforded by people who live in poverty. In consequence, many foundations and missions emerged in Mexico 50 years ago aiming to help these people. Methods: In 2012 the Assistance and Investigation in Plastic and Reconstructive Surgery Foundation was created. The aim of FUNCIPLAS is to perform extramural surgery missions in different Mexican countries, relying on professional medical volunteers that perform surgical procedures in these patients. Results: Between 2013 and 2015, 10 missions were accomplished. A total of 784 patients were evaluated and 439 underwent surgical reconstruction. Since 2013, 774 procedures had been performed: 52.5% involved congenital abnormalities, 16.4% burn sequelae, 15.76% cancer sequelae and 15.5% trauma sequelae. Conclusion: In a country of 120 million people, there are not enough health care resources to make Plastic and Reconstructive Surgery happens. Furthermore, there are aggravating factors such as educational deficit and poverty; hence more patients develop functional disabilities. FUNCIPLAS emerges as a nonprofit association and as an alternative to support the most vulnerable people in Mexico. For several decades, it has encouraged philanthropy in the surgical area. Nowadays the humanitarian contribution of Plastic Surgery in Mexico is a fact.

Keywords: Plastic Surgery; Reconstructive Surgical Procedures; Congenital abnormalities; Burns; Breast Reconstruction; Philanthropy; Plastic Surgeons Volunteers

Introduction

The Public Health Situation in Mexico

Mexico is the eleventh country in the world with more habitants, with a total estimated of 118,395,054 people up to 2014 (48.8% men and 51.2% women) [1]. More than 45% of this population lives in cities or semi-urban locations (with > 2,500 hab) where they can count with basic health care services. However, 36.7% live in moderate poverty and 9.8 % in extreme poverty [2]. On this basis is certainly straight forward that healthcare is only available for a few of Mexican population, excluding more than 30 million people without adequate healthcare services.

The Mexican states with the largest number of people lacking public health care affiliation are: Toluca, Veracruz, Mexico City, Puebla and Jalisco [3].

The Federal Health Care budget accounts for 5.7% of the national GDP. However, Public Health System should prevent and fight major causes of morbidity and mortality such as cardiovascular, metabolic and neoplastic diseases, leaving reconstructive interventions in a secondary priority [4].

The Current Situation in Reconstructive Surgery

A large number of patients with reconstructive related diseases, such as congenital malformations and burn, breast cancer and trauma sequelae, have trouble for receiving medical attention because most of them are not affiliated to any health care institution. In addition, their medical attention becomes troublesome because treatment is offered only by high trained plastic surgeons in a third level health care hospital, none of them found in a community or regional clinics.

In our country, the incidence of cleft lip and cleft palate (CLP) as a rate of 1.39 cases per 1,000 live births, revealing that there are approximately 10 new cases per day. Unfortunately, according to statistics, 4 of them will not be able to receive free access to health attention [5].

During 2013, the National Epidemiological Surveillance System reported an incidence of 126,786 burn accidents [6]. 32% of these affected people between 0-19 years of age and 90% of the events were home accidents [6].

The emergency coverage could be achieved in 93% of cases in public hospitals, however, the elevated costs of medical attention in burn patient care, ranging from \$30,000 to the \$499,999 Mexican Pesos (USD \$ 2,173 to

USD \$ 36,231) limit the after care services for long-term sequelae [6]. Likewise, the remaining 7% of patients that were not able to receive public medical attention, must afford the cost on their own, leaving reconstructive surgeries out of the question, resigning themselves to a life of disabilities.

In Mexico, breast cancer is a major public health issue, being considered the most common cancer in women. It represents 11.34% of all cancers and has an annual increase of 1.5% [7]. It is estimated that in 2020, there will be approximately 16,500 cases per year, comparable to USA statistics in 2015 [8,9]. As a consequence, Mexico's Ministry of Health goal is to achieve free full service in prevention and treatment of breast cancer in public institutions, leading to overcrowded hospitals for the first approach, but unfortunately leaving behind any type of breast reconstruction.

We struggle with patients without access to specialized medical care, patients with congenital pathologies, sequelae of burns or cancer that have no access to public healthcare. Individuals without life threatening pathologies, that do not seek medical attention because of the unaffordable costs associated. They carry on for decades with poor quality of life.

The Philanthropic Surgeries in Mexico

The reconstructive surgical missions began in the mid-60's in Mexico, led by exceptional specialists such as Dr. Fernando Ortiz Monasterio, who performed surgeries in small communities taking hand of volunteer surgeons [10]. During the 70's, based on this idea, the Mexican Academy of Plastic and Reconstructive Surgery established Medical-Surgical Missions and Surgical Gatherings with the objective of providing surgical assistance in rural communities [10].

Later on, around 1997, the Extramural Surgery Program was formally established and integrated into the General Direction of Extension Coverage of Mexico's Ministry of Health [11,12]. Subsequently, numerous public and private institutions joined forces, supporting this great humanitarian mission.

In 1999, Dr. Alejandro Duarte along with Dr. Jose Antonio Leon and Dr. Mario Cesar Paredes established the first reconstructive surgical mission during the Mexican Congress of Plastic and Reconstructive Surgery in the corresponding host cities. And in 2001 the annual meetings of the Cleft Lip Palate (CLP) Association began. Also Dr. Ignacio Trigos was named Director of Extramural Surgery, which increased potentially the national campaigns with national foundations support such as

Telmex Foundation and foreign corps like Smile Train and Operation Smile.

One of the most important Mexican private institutions, “Fundación Clínica y Sociedad de Medicos del Hospital Médica Sur”, became part of the program of Extramural Surgeries on 2000, supported by the Mexican Navy under the supervision and coordination of Dr. Raul Alfonso Vallarta Rodriguez. Together, more than 1,300 high complexity surgical procedures were performed, benefiting more than 890 patients. The program has been working non-stop until 2017, not only in Mexico City, but also Hidalgo, Nayarit, Oaxaca, Chiapas, Quintana Roo and Jalisco received the assistance [13].

Overtime, more plastic surgeons joined the group, creating an independent, non-profit foundation named FUNCIPLAS.

FUNCIPLAS

The Foundation for Assistance and Research in Plastic and Reconstructive Surgery, (FUNCIPLAS for the Spanish initials of Fundacion para Asistencia e Investigación en Cirugía Plástica y Reconstructiva, A.C.) was created in Mexico, in August 23th 2012 with Dr. Raul Alfonso Vallarta Rodriguez as the President, Dr. Jose Luis Haddad Tame as the Vice President and Dr. Roman Garzon Loyo as Secretary, set in motion with 62 members.

FUNCIPLAS was born as a non-profit institution and supported by AMCPER (Asociación Mexicana de Cirugía Plástica Estética y Reconstructiva) in order to assess the need of less fortunate people who did not have access to reconstructive surgeries, supporting their re-integration into society. Its vision is to be a leading Institution in Health and Research in Plastic and Reconstructive surgery, with a clear mission, in order to improve quality of life of our patients. Following the medical basis that every surgeon member of the organization must be certified by the Mexican Board of Plastic, Esthetic and Reconstructive Surgery [14].

There are other associated organisms that joined the team, supporting the missions that are carried out with human resource and materials. Some of them are the Mexican Navy, “Fundación Clínica del Hospital Medica Sur”, DIF (Integral Family Development) and “Fundación Latiendo por México”.

The essential goal of FUNCIPLAS is to help the country's most vulnerable population who need specialized care by plastic and reconstructive surgery, encouraging the teamwork involved in this philanthropic

work and contributing to the society through the effort of professionals in health care.

Material and Methods

Since the development of FUNCIPLAS, extramural surgical missions have been planned in different Mexican countries in coordination with the Mexican Navy, some state departments of health, DIF and other national foundations that were included in the project. People in charge of preoperative surgical evaluations, planning and developing operations were made by groups of 20 people that included AMCPER associated plastic surgeons, plastic surgery residents, anesthesiologists, anesthesiology residents and nurses. Likewise, non-medical volunteers also joined to the team, and local plastic surgeons were in charge of our patients' follow up.

Results

From 2013 to 2015, 10 surgical missions have been performed at 14 hospitals. We describe ahead the most relevant aspects of each event.

1. Puerto Vallarta, Jalisco: April, 14th-16th 2013. Held at the Hospital Naval de Puerto Vallarta, Jalisco, as a previous activity to the 43th National Congress of Plastic and Reconstructive Surgery. 36 patients showed up to receive an evaluation, 18 underwent surgical treatment. A total of 38 surgical procedures were performed, including congenital pathologies, burn sequelae, TRAM flaps and thoracoepigastric flaps for breast reconstruction. It was the first surgical philanthropic work conducted by FUNCIPLAS.
2. Tacubaya, Mexico City: June, 13th-14th 2013. Two months later at Mexico City, it was possible to plan a surgical philanthropic teamwork with the city's ministry of health support at the “Hospital Pediatrico de Tacubaya”. 40 patients who were in waiting list for more than one year were evaluated, finally 20 of them underwent surgery. A total of 24 surgical procedures were made, 23 were done to improve congenital pathologies.
3. Veracruz, Veracruz: July, 27th-29th 2013. Mission held at “Hospital Naval de Veracruz” where 41 surgical procedures were done. The vast majority involved cleft lip and cleft palate surgeries and breast cancer reconstructions. Likewise, the first Symposium of Reconstructive Surgery took place with success.
4. Tlaxcala, Tlaxcala: August, 14th-16th 2013. With the support of the State Health Department, 71 patients were evaluated and 57 surgical procedures were done in 49 patients at the “Hospital General de Tlaxcala”.
5. Playa del Carmen, Quintana Roo: November, 27th December, 1st 2013. Thanks to the funding of local

government and “Latiendo por Mexico” foundation, 80 patients were summoned at the “Hospital General de Playa del Carmen”, where 52 surgical procedures were done in 36 patients, with a very similar proportion between congenital pathology, breast reconstruction and burn sequelae.

6. Mexicali, Baja California: March, 27th-30th 2014. Starting the second year of efforts of the foundation, the latitude chosen was the north of the country, a great work that turned out in 27 aided patients of a total of 50 patients that attended the call at Hospital General Mexicali.
7. Macro-mission in Mexico City: April, 28th-29th 2014. As a prelude to the 44th Mexican Congress of Plastic Surgery, held in Santa Fe, Mexico City. A large dimension surgical program was held, for first time more than one hospital was included to the FUNCIPLAS’ mission, with the support of the Ministry of Health of Mexico City.
8. Veracruz, Veracruz: October, 6th-8th 2014. Consolidating the foundation’s objective, a second altruist surgical schedule at Veracruz was convened.

This time, 155 patients were evaluated, 28 patients were benefited in 47 surgical events, excelling the number of surgeries done previously.

9. Puerto Vallarta, Jalisco: April, 26th-28th 2015. Echoing the achievements in 2013 and 2014, another mission prior to the 45th National Plastic Surgery Congress was planned. 75 possible candidates were evaluated, 42 surgical procedures were done in 28 patients.
10. Mazatlan, Sinaloa: November, 6th-9th 2015. Once again with the support of the Navy, 30 surgical procedures in 30 patients were performed at Hospital Naval de Mazatlan.

With this last philanthropic work, a cycle of the first 10 surgical missions were successfully developed along different cities of Mexico. In no more than 2 years, FUNCIPLAS as a decentralized organism, managed to accomplish a total of 774 surgical procedures to treat different groups of pathologies related to Plastic and Reconstructive Surgery, aiding a total of 439 patients (Tables 1 & 2).

Mission	Hospital	Patients Evaluated	Operated Patients	# of Surgeries
1	Hospital Naval de Puerto Vallarta, Jalisco	36	18	38
2	Hospital Pediátrico de Tacubaya, México, D.F.	40	20	24
3	Hospital Naval de Veracruz, Veracruz	34	15	41
4	Hospital General de Tlaxcala, Tlaxcala	71	49	57
5	Hospital General de Playa del Carmen. Quintana Roo	80	36	52
6	Hospital General de Mexicali, Baja California	50	27	27
7	Macro-campaign México, D.F.	188	188	416
8	Hospital Naval de Veracruz, Veracruz	155	28	47
9	Hospital Naval de Puerto Vallarta, Jalisco	75	28	42
10	Hospital Naval de Mazatlán Sinaloa	55	30	30
Total		784	439	774

Table 1: Operated patients during FUNCIPLAS’ missions.

Macro-mission included surgeries held at: Hospital General Naval de Alta Especialidad; Hospital General de México; Hospital Central PEMEX Sur; Centro Médico Nacional 20 de Noviembre; Instituto Nacional de

Pediatría; Hospital Pediátrico de Tacubaya; Hospital Pediátrico de Coyoacán and Hospital General Dr. Rubén Leñero.

Mission	Hospital	Congenital Pathologies	Burn Sequelae	Cancer Sequelae	Trauma Sequelae
1	Hospital Naval de Puerto Vallarta, Jalisco	14	8	3	13
2	Hospital Pediátrico de Tacubaya, México, D.F.	23	0	0	1
3	Hospital Naval de Veracruz, Veracruz	32	9	0	0
4	Hospital General de Tlaxcala, Tlaxcala	52	5	0	0
5	Hospital General de Playa del Carmen. Quintana Roo	20	12	14	6
6	Hospital General de Mexicali, Baja California	20	0	4	3

7	Macro-campaign México, D.F.	188	73	77	78
8	Hospital Naval de Veracruz, Veracruz	27	4	5	11
9	Hospital Naval de Puerto Vallarta, Jalisco	17	8	13	4
10	Hospital Naval de Mazatlán Sinaloa	14	6	6	4
TOTAL (774)		407	125	122	120

Table 2: Pathologies operated during FUNCIPLAS' missions.

Congenital pathology: Cleft Lip / Cleft Palate, Congenital Hand, Facial fissures, Microtia and Preauricular sinus, Central Nervous System and Connective Tissue pathology. Trauma Sequelae: face, extremity, ulcers, and scar revision surgeries.

Discussion

Nationwide in Mexico until 2014, statistics revealed that there were 22,547 hospitals and 202,160 doctors, of which 91,935 are specialists but only 1,719 are certified as plastic surgeons. It is a fact that the specialized medical attention is not accessible for every one of the 120 million people living in Mexico.

Based on the idea that the first event's dissemination was deficient, we started planning more organized missions with the assistance of national managers. Possible candidates would be evaluated, giving priority to the most challenging cases. Two main lessons derived:

The first one, number of patients seeking for surgical attention increased each year, as an example, during the 8th mission at Veracruz, 45 patients were expected, and we surprisingly received more than 150 patients. The human and medical resources were insufficient. The last preoperative evaluation ended up at 1 a.m. and because of operating rooms logistics, we were not able to accomplish all the surgeries scheduled.

The second one was that we identified patients with more complex pathologies than expected that implied more than one surgical intervention, so these patients demanded complete reconstruction in more than one event.

In Mexico there are health and educational alarming data that must be mentioned. Of the 15.5 million children who start elementary school, slightly more than 20% will achieve a higher education institution, without ensuring their studies' achievement. More discouraging is the fact that approximately 4% of the population live with less than \$1.25 dollars per day [2].

Since 1997, extramural surgeries in Mexico have been a giant leap after being officially incorporated to the Ministry of Health and the General Directorate of

Extension of Coverage.¹⁰ Currently there are more than 170 non-profit foundations nationwide supporting education, quality of life, health, among other aims [16]. FUNCIPLAS is part of that group of organisms which seeks among other objectives, universal and fair health service.

Conclusion

Mexico is a country of great human and cultural wealth. Unfortunately, the current reality makes us understand that a sector of the population lacks of health service due to economic and educational lag. FUNCIPLAS is the first group due to the AMCPER, that shelters our specialty and cooperates with other associations related pursuing a common goal: to assist the under privileged.

These first 10 missions are just the beginning of a project which pretends to join the great cause initiated in Mexico more than 50 years ago by the federal government and the Ministry of Health. Through out this activity we must recognize and appreciate the important participation of the Mexican Navy, DIF, national systems and other humanitarian foundations that have worked together with the Board, founders and active members of FUNCIPLAS. Finally, we thank all the team members including plastic surgeons, anesthesiologists, plastic surgery residents, anesthesiology residents, nurses, and administrative personnel who benevolently participated in every surgical philanthropic program, without them, our project could not be able continue achieving its mission.

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