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目　次

［**Original Article**］

Vietnam-Japan Cooperation Project to improve Medical care at Nguyen Dinh Chieu Hospital in Ben Tre province: from 2014 to 2024 follow up report

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Abstract

The Nguyen Dinh Chieu Hospital project, led by the Japanese Cleft Palate Foundation (JCPF), aims to enhance healthcare in Ben Tre province, Vietnam. This initiative has significantly improved medical infrastructure and training, increasing surgical capacity and better patient outcomes. The project includes expanding the operating room, transferring advanced medical techniques, and establishing a comprehensive medical training system. Through international collaboration and local expertise, the project strives to elevate the standard of medical care and ensure sustainable development in the region.

Keywords: Nguyen Dinh Chieu Hospital, Ben Tre, Japanese Government, Japanese Cleft Palate Foundation, International cooperation.

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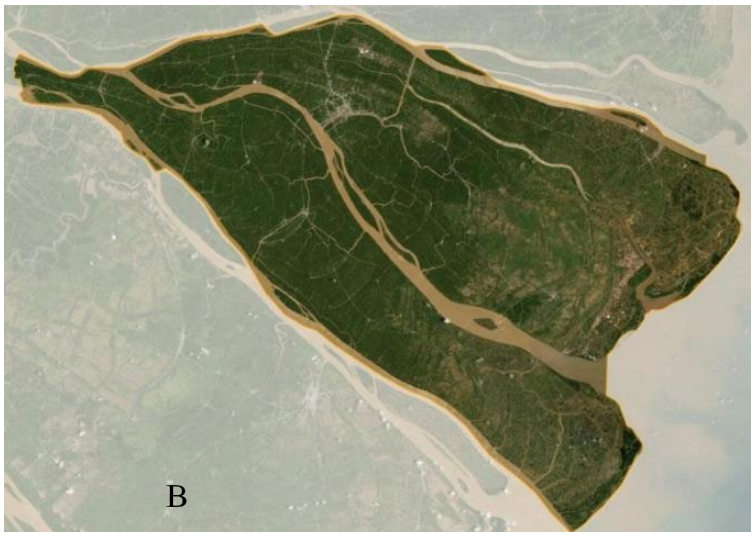
Introduction

Vietnam has seen substantial growth over the past two decades. However, like other nations in Southeast Asia, this rapid growth has led to wealth disparities and a significant gap between rural and urban areas, affecting healthcare access. In remote areas, such as Ben Tre province in the Mekong Delta region, the lack of hospitals and medical facilities poses a challenge for locals. With a population of around 1.26 million people, Ben Tre province faces difficulties due to its geographic location, prone to flooding and salt damage (Figure 1). Ben Tre province has 12 hospitals, with only one core hospital- Nguyen Dinh Chieu Hospital, playing a vital role in emergency medical services but is underdeveloped.

As a result, the Vietnamese government and International organizations aim to improve infrastructure and enhance healthcare quality in Ben Tre province. The Official Development Assistance (ODA) policy for the Socialist Republic of Vietnam focuses on "responding to vulnerability" as a priority area to develop healthcare systems, social security, and support for socially vulnerable individuals, as well as rural and regional development. In line with this policy, the Japanese Cleft Palate Foundation (JCPF) has partnered with and supported Ben Tre province and Nguyen Dinh Chieu Hospital since 1993 to address these healthcare challenges.

At the beginning of JCPF's support, there was only an old operating room, making surgeries under general anesthesia difficult. By providing donated medical equipment such as anesthesia machines, ECG monitors, and surgical lights, JCPF has improved the surgical environment. In



C	Ben Tre Province	
Coordinates		10°14′54"N 106°22′34"E
Area		2.359,8 km^2
Distance from Ho Chi Minh city		about 70 km
Average population(Thous. persons)		1262,2
Population density (Person/km^2)		535
Monthly average income per capita in 2014		2 161 000 VND
Difference between the highest income quintile and the lowest income quintile on monthly average income per capita in 2014 at current prices by province	The lowest income quintile	702 000 VND
	The highest income quintile	4 971 000 VND
	The highest compare to the lowest	7.1 time

Figure 1. Ben Tre Province. A/Location on the map B/ Overview of Ben Tre Province C/ Information about population and society[1)]

1995, Nguyen Dinh Chieu Hospital received a subsidy from the Ministry of Foreign Affairs and began constructing an operating theater, completed in April 1996 with four operating rooms and 18 recovery beds. That significantly increased the number of surgeries and established Nguyen Dinh Chieu Hospital as a core facility in the Mekong Delta. Recently, the hospital added another operating room, performing approximately 11,000 surgeries per year, but the rising patient numbers have strained resources. More operating rooms are urgently needed to save more patients. Plans include developing the hospital into an educational facility to improve local medical knowledge and treatment capabilities. Expanding the operating theater is essential to support these goals.

Therefore, starting in 2014, a new investment of JCPF funding for Nguyen Dinh Chieu Hospital was implemented. JCPF's main objective is to raise the number of surgeries and enhance the survival rate of critical and emergency patients at the core hospital in the Mekong region. The expected outcome is to improve the quality of medical care in the Mekong region and establish a sustainable medical training system that can serve as a model for the entire country of Vietnam. Furthermore, by dispatching Japanese experts, we will prioritize the education of young local doctors and nurses, and ensure that practical work can proceed smoothly after the completion of the operating theatre.

Project

This initiative was a joint effort between the Japanese Cleft Palate Foundation and local Vietnamese authorities. Since 2015, JCPF has received a grant from the Minister of Foreign Affairs (NGO) cooperation grant to do this project. The project was also financially supported through self-financing, including membership fees, donations, and contributions from members of JCPF. The Japanese Cleft Palate Foundation oversaw the project, with members based both locally and at headquarters (Figure 2). In the Japanese headquarters, the Association's Executive Director, Professor Nagato Natsume, is in charge of the project, and three practical staff members are in charge of the coordination and preparation. The local members were responsible for coordinating with the Ministry of Health, MPI (Ministry of Planning and Investment), and local authorities, as well as making preparations for implementation. Additionally, two hospital personnel were designated to handle on-site communication, coordination, and supervision. The project received approval from the Ben Tre County People's Committee.

In this project, JCPF accomplished the following:

1. Expanded and added an operating room at Nguyen Dinh Chieu Hospital.
2. Transfer of medical techniques by sending doctors from Japan, focusing on maxillofacial surgery as well as pediatrics, anesthesiology, obstetrics and gynecology, and rehabilitation. We established a medical staff training system following the technical handover.
3. Utilize the Birth Defects Monitoring Center at Nguyen Dinh Chieu Hospital (opened in 2007) to gather accurate disease data, confirm disease surveillance results in Ben Tre province, and assess the current status of examinations and surgeries at the hospital.

Firstly, expanding and adding an operating room at Nguyen Dinh Chieu Hospital will save the lives of seriously ill and difficult-to-treat patients, while also reducing the number of patients waiting for surgery. To achieve this, we first contracted and placed an order with the current construction company for the new operating room. We then sought expert advice on the specific requirements for the operating room. Upon completion of the construction process, we will evaluate the quality of the operating room by checking the water supply and drainage, power distribution, and other essential systems. The ultimate goal is that once the operating room is operational, it will

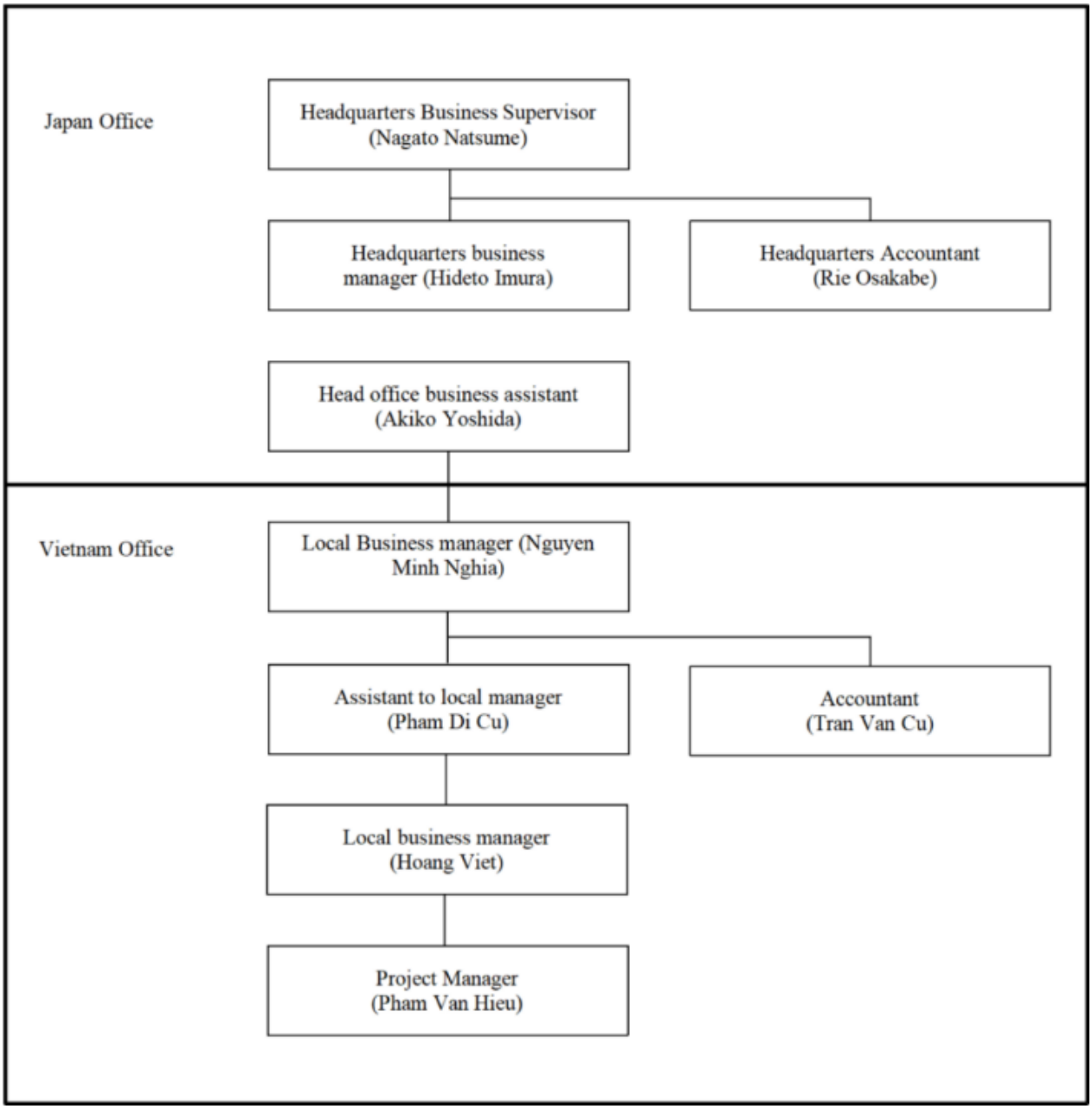


Figure 2. Project implementation structure in Japan and Vietnam

significantly increase the number of surgeries performed at the hospital. The parameters (indicators) used to measure this will be the number of surgeries per year.

Secondly, to address the issue of untreated patients and elevate the standard of medical facilities to educational levels, we have designed a comprehensive program. This program involves the dispatch of Japanese medical experts who will focus on providing training to young local doctors and nurses. The primary objective is to ensure that these medical professionals are equipped with the necessary skills to carry out medical procedures post-training effectively. Furthermore, JCPF's plan includes facilitating opportunities for Vietnamese doctors to observe surgeries conducted by experienced professionals. We are also committed to transferring advanced surgical technologies to doctors working in core hospitals. Moreover, we aim to provide local doctors with training in Japan, enabling them to bring back the latest medical advancements to Vietnam and contribute to the further development of regional medical care. Vietnamese doctors did not practice

medicine in Japan.

Furthermore, by extending the scope of the Disease Monitoring Center to cover all diseases at Nguyen Dinh Chieu Hospital, we can effectively manage disease data over time and monitor changes in disease incidence rates. This data will be invaluable for developing prevention measures. We aim to use the Congenital Anomaly Monitoring Center to verify the results of disease monitoring activities on-site and assess the current status of medical examinations and surgeries, including (1) checking the utilization status of the Disease Monitoring Center and (2) guiding on and utilizing the construction of a database on diseases other than congenital anomalies.

The project implementation at Nguyen Dinh Chieu Hospital followed a structured process divided into multiple phases. Phase 1, from October 2014 to September 2015, focused on the preparation of the new operating room. This phase involved detailed planning and groundwork to ensure a solid foundation for the upcoming construction activities. Phase 2, spanning from May 2015 to March 2016, involved completing the installation of the operating room and finalizing the technical transfer program. Key activities during this phase included a site inspection and final confirmation of design drawings in May 2015, along with confirming the education and training program. Construction of the hospital's operating room began in June 2015, accompanied by the selection of training texts and the creation of an ambulance system construction plan. From May 2015 to March 2016, Japanese experts conducted on-site educational training and technology transfer for the ambulance system. By February 2016, the hospital surgery building was scheduled for completion, marking the successful completion of the technology transfer. The project concluded with the preparation of the final report in March 2016, documenting the comprehensive progress and achievements of the implementation process. The project implementation progress of phase 2 is presented in the following table (Table 1).

Results

1. Expansion of the operating room at Nguyen Dinh Chieu Hospital

Nguyen Dinh Chieu Hospital has undertaken a significant expansion of its surgery building, from one floor to one ground floor, one mezzanine floor, and one upper floor (Figure 3). The addition of two floors enhances its capabilities in both clinical care and medical education. Originally, the structure housed six operating rooms and a solitary recovery room on the first floor.

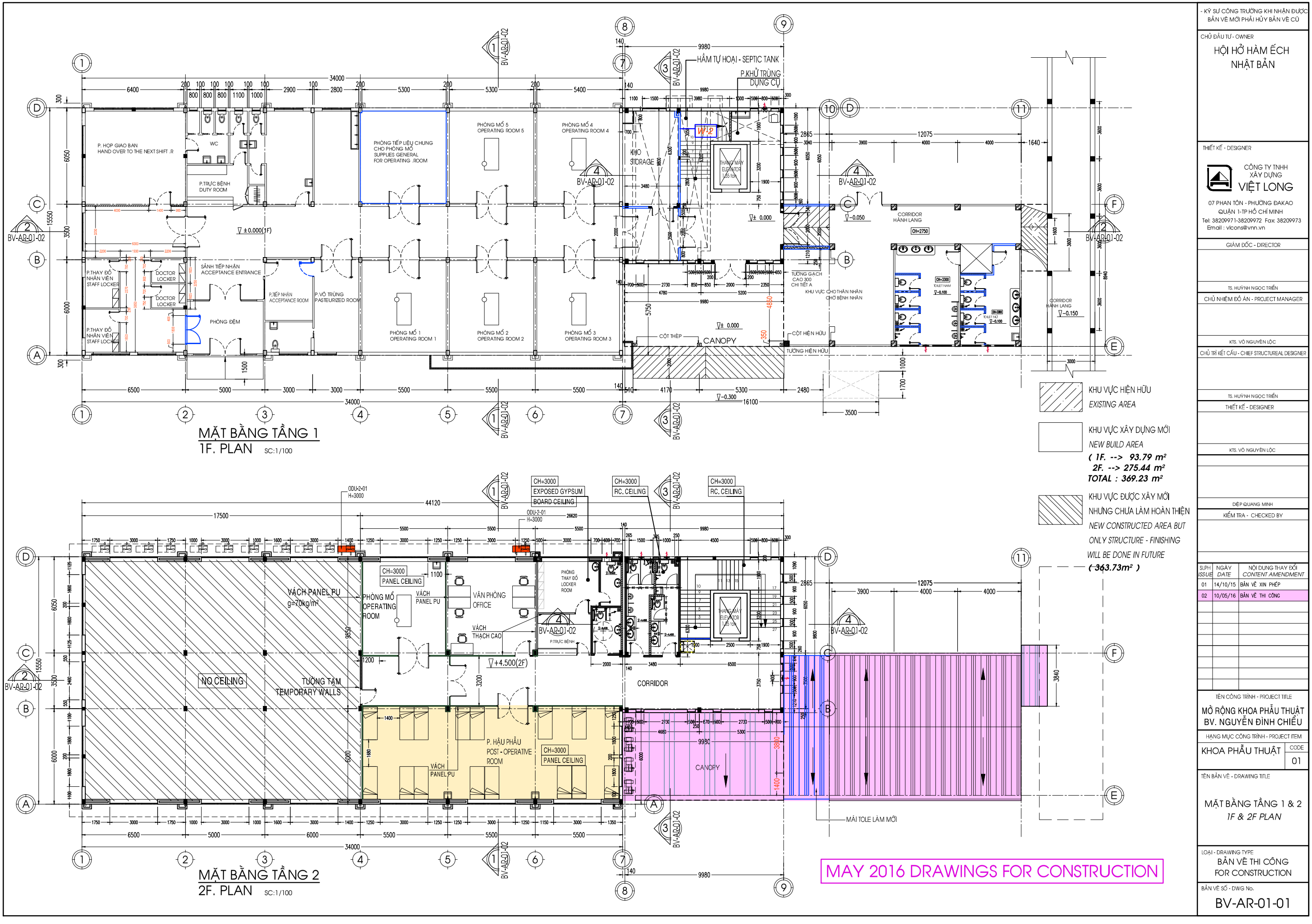
The hospital has incorporated a new emergency operating room (Figure 4.1, Figure 4.2), spanning 33.3 square meters, exclusively designated for urgent surgical cases. This addition aims to augment the hospital's capacity to promptly address critical medical situations. Furthermore, a new intensive care unit with 8 beds covering a total floor area of 66.55 m2, has been established with an emphasis on providing meticulous care for critically ill patients (Figure 4.3, Figure 4.4). Positioned within the operating theatre, this newly air-conditioned unit enables rapid responses to emergencies, marking a significant improvement from the previous arrangement where patient rooms were distantly situated from the operating theatre, lacked air conditioning, and were dimly lit. To support the expanded facilities, the hospital has introduced a 39.3m^2 elevator (Figure 4.5) designed to accommodate stretchers and hospital beds, along with the installation of stairways for the convenience of medical staff and patients. This infrastructure upgrade streamlines the internal transport of severely ill patients within the hospital premises. As part of the expansion, the hospital has also constructed new changing rooms and toilets, catering to the needs of the families of critically ill patients and the medical staff. These facilities are strategically designed to offer superior comfort and convenience to those who spend extended durations at the hospital.

Table 1. Progress timetable

Item	1st month	2nd month	3rd month	4th month	5th month	6th month	7th month	8th month	9th month	10th month	11th month	12th month
	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week
1-1 Contract and order placed with the current construction company for surgery building												
Temporary office selection												
Office rental												
Office rental agreement												
Hiring local staff												
Construction company selection												
Construction Contract												
Delivery foundation materials												
Construction												
Building inspection (checks)												
Japanese staff dispatch												

Table 1. Progress timetable

Item	1st month	2nd month	3rd month	4th month	5th month	6th month	7th month	8th month	9th month	10th month	11th month	12th month
	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week	1st 2nd 3rd 4th week
1-2 Expert advice on specifications specific to operating rooms												
Japanese staff dispatch												
1-3 Check drainage, power distribution, and other facilities												
Japanese staff dispatch												
2-1 Observe local (county/town) doctors the surgery												
Japanese staff dispatch												
2-2 Transfer advanced surgical techniques to doctors at core hospitals												
Japanese staff dispatch												
3-1 Check the utilization status of the disease monitoring center												
Japanese staff dispatch												
3-2 Guide the construction and utilization of databases on diseases other than congenital anomalies												
Japanese staff dispatch												
Accepting local doctors to Japan												



- KỸ SƯ CÔNG TRƯỜNG KHI NHẬN ĐƯỢC BẢN VẼ MỚI PHẢI HỦY BẢN VẼ CŨ

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DIỆP QUANG MINH

KIỂM TRA - CHECKED BY

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01	14/10/15	BẢN VẼ XIN PHÉP
02	10/05/16	BẢN VẼ THI CÔNG

TÊN CÔNG TRÌNH - PROJECT TITLE

MỞ RỘNG KHOA PHẪU THUẬT
BV. NGUYỄN ĐÌNH CHIỂU

HẠNG MỤC CÔNG TRÌNH - PROJECT ITEM

KHOA PHẪU THUẬT

CODE 01

TÊN BẢN VẼ - DRAWING TITLE

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LOẠI - DRAWING TYPE

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FOR CONSTRUCTION

BẢN VẼ SỐ - DWG No.

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Figure 3. Drawing construction of operation theater

Figure 4.1. Operation room

Figure 4.2. Outside of the operation theater

Figure 4.3. Recovery room

Figure 4.5. The elevator area

Figure 4.4. Digital subtraction angiography (DSA) room

Table 2. Summary surgeries in the Vietnamese-Japanese-cooperated-operation-theater from 2014 - June 2024

Year	Number of all surgeries	Number of Coronary angiography and angioplasty surgeries	Number of pacemaker implantation surgeries	Note
2016	8.376			
2017	3.698			
2018	4.289			
2019	5.074			
2020	3.900			COVID-19
2021	180	76 / 47	13	COVID-19
2022	253	169 / 120	37	COVID-19
2023	6.237	472 / 372	47	
First 6 months of 2024	2.680	127 / 98	20	

In 2021, the hospital renovated the operating room system using the hospital's funds. This renovation includes several items: infrastructure improvement, elevator repairs, replacement of the cooling system, and acquisition of medical gas equipment.

Due to the expansion of operating rooms and intensive care units, the number of surgeries and intensive care procedures for elective and seriously ill patients has increased. The following table is the summary of all the surgeries that the new operation theater from 2016 until now (Table 2).

The expansion of Nguyen Dinh Chieu Hospital has significantly boosted its surgical capacity, as evidenced by the average number of surgeries in the operation theater from 2016-2023 is 4001 cases/ year. New operating rooms, an emergency operating room, and an intensive care unit have enabled the hospital to handle more complex and urgent cases efficiently. The infrastructure improvements, including a new elevator and air-conditioned units, have streamlined patient transport and care, directly contributing to the rise in surgical procedures. In 2021, because of the renovation, there were only 180 surgeries performed. On the other hand, despite a dip in surgeries during the COVID-19 pandemic in 2020 and 2021, the hospital has shown resilience and growth, particularly in specialized surgeries like angiography, coronary angioplasty, and pacemaker implantation. This expansion underscores the hospital's commitment to enhancing clinical care and medical education.

Along with a new operation theater, JCPF also sponsored Nguyen Dinh Chieu Hospital with medical equipment and supplies, including two cleft lip and palate surgical sets funded in 2020 (Figure 5.1, Figure 5.2), along with the APLIO SSA diagnostic ultrasound imaging system sponsored in 2015. The number of patients who have undergone surgery at the hospital with 02 sponsored surgical sets from 2020 until now is 10 cases of cleft palate and 05 cases of lip repair (due to the COVID-19 pandemic, it only started being implemented in late 2022). Until now, the two surgical sets are still in good condition. However, the ultrasound system has broken due to the lack of replacement components since 2017.

Furthermore, to improve the quality of medical care in the nearby area, we also worked with the Women's Union and the Ben Tre Provincial Child Protection and Development Committee, which have close ties with mothers and children, to open

Figure 5.1. Palate cleft surgical set

Figure 5.2. Lip cleft surgical set

up avenues for treatment for disabled children who are unable to visit hospitals. Even poor patients who have difficulty going to the hospital far away will be able to receive treatment in their local area, such as in towns and villages. In addition, by tying up with local women's associations, we will use our long-term loan system (microcredit: MC) (Figure 6) to ensure that patients can continue to visit the hospital, thereby improving the difficulty of going to the hospital due to poverty.

2. Nguyen Dinh Chieu Hospital's Comprehensive Training Initiative

Nguyen Dinh Chieu Hospital has launched an ambitious initiative to expand and enhance its clinical and educational capabilities. This effort aims to improve the standard of medical care and ensure sustainable knowledge transfer to local medical professionals through a series of technical and training programs.

Dispatch of Japanese Experts

As part of the hospital's operating room expansion, Japanese doctors and nurses have been actively involved in training local anesthesiologists, emergency doctors, pediatricians, oral surgeons, and nurses. Approximately 10 months into the project, Japanese experts were dispatched to provide hands-on technical training to around 20 local doctors and nurses, focusing on treating seriously ill patients (Figure 7.1, Figure 7.2). Up to now, the JCPF has conducted several voluntary dispatches at Nguyen Dinh Chieu Hospital.

Medical Education Training for Affiliated Hospitals

The training extends beyond Nguyen Dinh Chieu Hospital, as doctors and nurses trained there will pass on their medical skills to colleagues in affiliated hospitals, towns, and villages. This system, designed to improve local medical care, occurs four times/year and includes quarterly training sessions where over 20 doctors and nurses from district hospitals are invited to Nguyen Dinh Chieu Hospital for case discussions and conferences.

Enhancing Medical Expertise: Vietnamese Doctors' Training in Japan

However, since dispatching experts alone is not enough, four Vietnamese doctors were accepted at Asahikawa Medical University, Nagoya University School of Medicine, and Aichi Gakuin University, and have been given training in 1) ICU and emergency lifesaving, 2) training to improve the safety of childbirth and Caesarean sections, and 3) training on sterilization and storage of surgical instruments. In addition, training is scheduled to run from April 2014 to February 2015 to develop them as central figures locally for this training system, there are also plans to accept pediatricians to Japan for training in pediatric medicine, and the training will be carried out at self-funded costs.

ĐỒNG KHỞI

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Thời sự (https://baodongkhoi.vn/thoi-su/) > Tin trong tỉnh (https://baodongkhoi.vn/thoi-su/tin-trong-tinh/)

Mang lại nụ cười cho nhiều trẻ em

01/01/2013 - 16:23 Chi

Cuối năm 2012, đoàn bác sĩ, điều dưỡng (gồm 43 người) của Hội Hở môi hàm ếch Nhật Bản, do giáo sư, tiến sĩ y khoa Nagato Natsume - Giám đốc Hội làm trưởng đoàn, đã đến làm việc tại Bến Tre.

Đoàn đã tiếp tục đến Bệnh viện Đa khoa Nguyễn Đình Chiểu khám sàng lọc 100 bệnh nhân và tiến hành phẫu thuật 50 ca và cấp tiền bồi dưỡng sức khỏe cho bệnh nhân.

Trong 19 năm qua, đoàn đã phẫu thuật an toàn cho 1.200 ca (chủ yếu là trẻ em). Giáo sư, tiến sĩ Nagato Natsume cho biết, ngoài chương trình phẫu thuật, trong thời gian qua, Hội đã vận động để xây dựng một phòng mổ hiện đại, một khoa nhi và tặng rất nhiều trang thiết bị y tế cho Bệnh viện Đa khoa Nguyễn Đình Chiểu. Trong chuyến đi lần này, đoàn đã tặng cho Bệnh viện dao phẫu thuật hiện đại cùng nhiều phương tiện để phục vụ cho ca mổ; đồng thời, tận tình chuyển giao công nghệ phẫu thuật mới cho các bác sĩ. Ngoài ra, Hội còn triển khai chương trình tín dụng giúp cha mẹ các em có vốn nuôi heo, trồng trọt, cải thiện cuộc sống. Đến nay, tại Bến Tre, có trên 700 lượt hộ vay vốn (khoảng 100 USD/hộ) không tính lãi.

Tin, ảnh: T.Long

Figure 6. Dong Khoi Newspaper dated January 1st, 2013, mentioned the JCPF association's loan credit program to improve people's lives. More than 700 households borrowed (each household 100 USD), without interest[5)]

Figure 7.1. JCPF's doctor (on the left), operated on a Vietnamese patient

Figure 7.2. JCPF doctors examined patients in Nguyen Dinh Chieu hospital

Figure 8. Tra Vinh University was welcomed for an internship at Nguyen Dinh Chieu Hospital in 2017

Expanding Impact: Beneficiaries of the Project

Prior to the project, Nguyen Dinh Chieu Hospital had 20 doctors, including surgeons, pediatricians, and anesthesiologists, stationed in the operating rooms and intensive care units. With the completion of the project, the number of direct beneficiaries has significantly increased. Now, the direct beneficiaries include 40 doctors and nurses from the departments of surgery, anesthesiology, and pediatrics, as well as approximately 20 medical interns. Furthermore, approximately 30 doctors and 20 nurses from regional hospitals will benefit from the enhanced training programs.

Furthermore, approximately 13,200 surgical patients at Nguyen Dinh Chieu Hospital and around 3,000 surgical patients at district hospitals, where doctors have received training, will gain from the improved medical services. This development means that there will be no need for patients to travel to urban areas for treatment. With the development of the education system, the number of treatments available at hospitals in counties, towns, and villages will increase. This will strengthen medical systems in these areas and provide access to treatment for difficult-to-treat patients living far away. Since 2017, the hospital has collaborated with health universities to train students, allowing them to observe surgeries in the Vietnamese-Japanese operating room. From 2017 to the present, a total of 4,036 medical students have interned at the hospital (Figure 8), averaging 800 students per year. Additionally, the hospital conducts an average of 12 training sessions annually for regional hospitals, with participation from 9 hospitals and medical centers, alongside the hospital staff.

Nguyen Dinh Chieu Hospital's comprehensive training initiative represents a significant advancement in medical care standards for the region. Through expert training, international collaboration, and local knowledge transfer, the hospital is set to play a pivotal role in improving healthcare outcomes for its community. This project not only enhances the skills of medical professionals but also directly benefits thousands of patients, contributing to the overall well-being and health of the population served by the hospital and its affiliated institutions.

3. Utilize the Birth Defects Monitoring Center at Nguyen Dinh Chieu Hospital

Nguyen Dinh Chieu Hospital has been using a congenital anomaly monitoring center since 2007 with the support of our organization. The summarized data on congenital anomaly cases

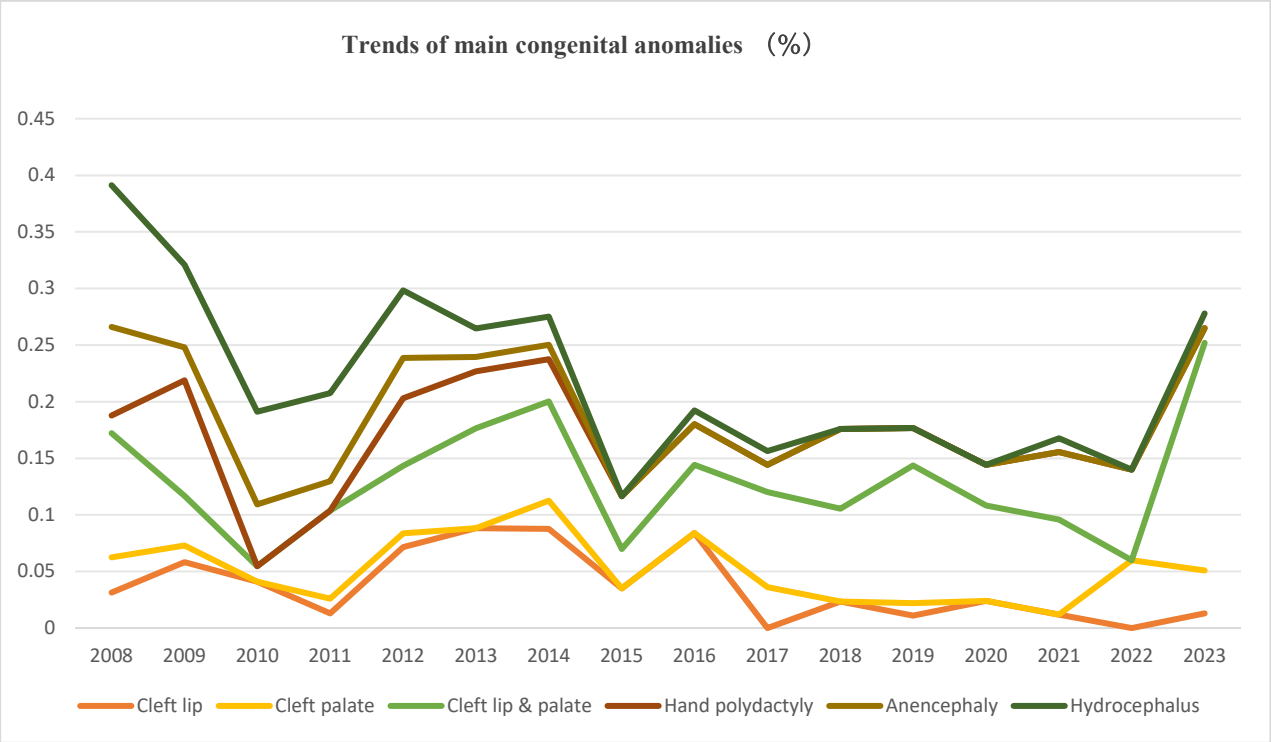

Figure 9. Trends of main congenital anomalies

collected from Nguyen Dinh Chieu Hospital since 2008 are displayed in the following table and figure (Table 3)(Figure 9). This data provides a comprehensive record of congenital anomaly cases reported at Nguyen Dinh Chieu Hospital from 2008 to 2023. The data encompasses a variety of anomalies, including cleft lip and palate, hand polydactyly, and hydrocephalus. The data reveals a fluctuating pattern in the number of congenital anomaly cases over the years. The incidence of anomalies appears to be relatively low but varies year to year, indicating potential factors influencing these rates such as environmental, genetic, or healthcare access variations. Cleft lip and palate are among the more frequently reported anomalies, with a noticeable consistency in their occurrence. The data also shows that certain years experienced a spike in specific anomalies, which could correlate with broader epidemiological trends or improvements in diagnostic capabilities at the hospital.

Therefore, detailed monitoring and recording at Nguyen Dinh Chieu Hospital are crucial for developing targeted healthcare interventions. Understanding the prevalence and trends of these congenital anomalies aids in resource allocation, training for specialized medical staff, and the establishment of preventive measures. In the future, the hospital will gather accurate data on all diseases, monitor disease trends in Ben Tre Province, and evaluate the current status of examinations and surgeries. This initiative aims not only to transfer medical technology but also to regularly assess the understanding of emergency doctors, pediatricians, anesthesiologists, and obstetricians in areas such as lifesaving knowledge and techniques, medical accident prevention systems, and ethical patient care. The ultimate goal is to ensure safe and secure medical care, encompassing lifesaving measures and post-operative rehabilitation. By analyzing the patterns and trends within the data, healthcare providers and policymakers can better understand the impact of congenital anomalies on the local population, allowing for more informed decisions and strategic planning to improve overall medical care.

Table 3. Data of anomalies cases from Nguyen Dinh Chien hospital from 2008-2024

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	Incidence
Male	3263	3521	3892	3915	4562	4061	4065	4387	4774	4268	4547	4695	4337	4301	3246	4146	65980	
Female	3127	3335	3429	3795	3814	3873	3931	4201	3551	4049	3980	4357	3981	4053	2982	3795	60253	
Total	6390	6856	7321	7710	8376	7934	7996	8588	8325	8317	8527	9052	8318	8354	6228	7941	126233	
Cleft lip & palate	7	3	1	6	5	7	7	3	5	7	7	11	7	7	0	16	99	0.0784
Hand polydactyly	1	7	0	0	5	4	3	4	3	2	6	3	3	5	5	8	59	0.047
Cleft lip	2	4	3	1	6	7	7	3	7	0	2	1	2	1	0	1	47	0.037
Hydrocephalus	8	5	6	6	5	2	2	0	1	1	0	0	0	1	0	1	38	0.03
Anorectal malformation	2	2	0	1	3	3	4	1	0	1	0	2	5	4	2	6	36	0.029
Cleft foot	6	0	0	0	0	0	0	0	0	0	0	7	0	5	3	0	21	0.017
Cleft palate	2	1	0	1	1	0	2	0	0	3	0	1	0	0	4	3	18	0.014
Anencephaly	5	2	4	2	3	1	1	0	0	0	0	0	0	0	0	0	18	0.014
Down Syndrome	0	3	1	1	2	1	1	4	1	0	0	0	0	1	0	0	15	0.012
Omphalocele	4	2	3	2	1	0	0	1	0	0	0	0	0	0	0	0	13	0.01
Syndactyly	0	0	0	0	2	0	0	0	0	0	0	1	3	1	1	1	9	0.007
Gastroschisis	6	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	9	0.007
Microtia	0	2	0	0	0	0	0	1	0	0	0	0	0	3	1	0	7	0.006
Encephalocele / Meningoencephalocele	1	0	0	1	1	0	1	0	0	0	2	1	0	0	0	0	7	0.006
Toe polydactyly	0	0	0	1	1	0	1	0	0	0	0	1	0	0	1	1	6	0.005
Toe syndactyly	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	1	5	0.004
Hypospadias	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	4	0.003
Cleft Hand	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0	4	0.003
Microphthalmia	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4	0.003
Upper Limb Reduction Deformities	0	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	4	0.003
Aural Atresia	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	3	0.002
Ambiguous Genitalia	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0.002
Amniotic Band Syndrome of the Upper Limb	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0.002
Facial Clefts	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.001
Conjoined Twins	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.001
Total	**47**	**34**	**18**	**27**	**38**	**29**	**31**	**18**	**18**	**15**	**17**	**31**	**22**	**31**	**17**	**39**	**432**	**0.342**

Discussion

According to the Statistical Yearbook of Vietnam 2014, the limited number of hospitals and beds in the Ben Tre Province and Mekong River Delta is insufficient to meet the healthcare needs of the population (Table 4). The table highlights several critical disparities and areas for improvement that are essential for healthcare planning and development. The average population of Ben Tre Province is approximately 1,262,000, with a population density of 535 persons per square kilometer. This density is higher than the Mekong River Delta average of 432 persons per square kilometer, indicating a relatively concentrated population that necessitates efficient healthcare resource distribution. Despite this, Ben Tre Province has only 12 hospitals and 3,702 hospital beds, which, although somewhat proportional to its population, reflects a strain when considering the population density and healthcare needs.

A significant aspect of the data is the ratio of medical doctors and hospital beds per 10,000 population. Ben Tre Province has 5,69 doctors per 10,000 population, which is slightly higher than the Mekong River Delta average but significantly lower than the national average of 8 and drastically below the Japanese standard of 24. This discrepancy underscores a critical shortage of medical professionals, impacting the quality and accessibility of healthcare services. Furthermore, the ratio of medical beds per 1,000 population stands at 2,93 higher than the regional average but still indicating room for improvement to meet growing healthcare demands. This data illustrates the pressing need for infrastructure development in Ben Tre Province. With only 12 hospitals serving over 1.26 million people, the province faces challenges in providing timely and adequate healthcare services. The disparity in healthcare resources between Ben Tre Province and more developed regions like Japan highlights the

Table 4. Statistical database on medical resources in 2014[1,2,3)]

	Ben Tre Province	Mekong River Delta
Average population (Thous. persons)	1262,2	17517,6
Population density (Person/km^2)	535	432
Hospital	12	162
Hospital beds	3702	44378
Doctors	718	9684
	Medical doctors (per 10 000 population)	Medical beds (per 1 000 population)
Ben Tre Province	5,69	2,93
Mekong River Delta	5,53	2,53
Viet Nam	8	2,6
Japan	24	13,2

necessity for strategic investments and policy interventions.

As a result, the Vietnamese government and International organizations aim to improve infrastructure and enhance healthcare quality in Ben Tre, especially in Nguyen Dinh Chieu Hospital - Ben Tre's core hospital. This project highlights the critical role of international cooperation in addressing healthcare disparities in developing regions. The strategic expansion of operating facilities and the incorporation of advanced medical technologies have not only increased the hospital's surgical capacity but also improved the overall quality of care. The emphasis on training local medical professionals by Japanese experts ensures that the improvements are sustainable and continue to benefit the community long after the project's completion.

One of the most significant impacts of the project is enhancing the capabilities of Nguyen Dinh Chieu Hospital, the project has made advanced medical care accessible to residents of Ben Tre province and surrounding areas. Additionally, the establishment of a training system that includes on-site training and opportunities for local doctors to study in Japan ensures that the knowledge and skills transfer is comprehensive and long-lasting.

Moreover, the project has fostered a collaborative environment between Japanese and Vietnamese medical professionals, leading to the exchange of best practices and innovations in healthcare. This collaboration has been instrumental in addressing the specific healthcare challenges faced by the region, such as the high incidence of congenital anomalies and the need for specialized surgical procedures.

The successful completion of the Nguyen Dinh Chieu Hospital project exemplifies the positive impact of Japan's Official Development Assistance (ODA) in Vietnam. Japan has funded numerous initiatives to enhance healthcare infrastructure, education, and rural development. For instance, the Japanese government has supported building schools in rural areas, installing clean water systems, and developing agricultural technologies to boost local economies. In healthcare, other ODA-funded projects include renovating hospitals in various provinces and training medical professionals to tackle specific health challenges like infectious diseases and maternal health. Internationally, Japan's ODA has supported similar projects across Asia and Africa, such as improving maternal and child health in Cambodia and Kenya by upgrading medical facilities and extensively training healthcare workers 4. In Indonesia, Japan's ODA has helped establish disaster-resistant hospitals to ensure the continuity of medical care during natural disasters. These initiatives demonstrate the widespread impact of Japan's ODA, which not only provides immediate relief and improvements but also fosters the sustainable development of healthcare systems globally. The Nguyen Dinh Chieu Hospital project stands as a testament to the power of long-term international cooperation in transforming healthcare systems. The decade of dedicated effort and partnership between Japan and Vietnam has improved healthcare accessibility and quality, setting a precedent for future collaborative endeavors aimed at sustainable development and enhancing community well-being worldwide.

Conclusion

The Nguyen Dinh Chieu Hospital project by the Japanese Cleft Palate Foundation has achieved substantial progress in improving healthcare infrastructure and services in Ben Tre province. Through the construction of new operating rooms, the transfer of medical technologies, and the establishment of a robust training program for local healthcare professionals, the project has significantly enhanced the hospital's capacity to provide high-quality medical care. The successful implementation of this project serves as a model for future international healthcare collaborations aimed at addressing disparities in medical access

and quality in developing regions. The continued focus on training and development ensures that the benefits of this project will be sustained for many years to come, ultimately contributing to the overall improvement of healthcare in Vietnam.

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Author's contributions

Nagato Natsume designed the study. Nguyen Kim Chi drafted the original manuscript. All authors reviewed the manuscript draft and revised it critically for intellectual content. All authors have participated in this project and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

Availability of data and materials

The datasets used during the current study are available from the corresponding author upon reasonable request.

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［活動報告］

モンゴル国ウランバートル市内ゲル地区での歯科保健医療支援における活動報告

小田切ゆかり[1)]、松井　渚[1)]、尾澤　優[2)]、杉本太造[3,10,11)]、竹内一夫[4,10,11)]、川名剛之[5,6,8,10,11)]、
速水佳世[8,9,10,11)]、石貝肇美[5)]、前田初彦[7,10)]、冨士谷盛興[1,6,10,11)]、夏目長門[8,9,10,11)]

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9) 特定非営利活動法人日本口唇口蓋裂協会
10) 一般社団法人日本口腔ケア学会
11) 日本歯科保健医療国際協力学会

要　旨

我々は1997年よりモンゴル国にて歯科医療援助活動を行っている。2024年8月6日－10日、首都ウランバートル市内の児童保護育成施設で子供たちを対象に、ART（非侵襲的修復治療）を主とした歯科診療と口腔衛生指導を実施した。2日間で200余名の口腔の機能および衛生の管理を行った。

Keywords：モンゴル、歯科医療援助活動、非侵襲的修復治療、グラスアイオノマーセメント

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緒　言

1990年代、モンゴル国はソビエト連邦崩壊後の混迷の渦中にあり、医療状況も非常に厳しいものであった。モンゴル国での医療援助活動は、1997年に日本口唇口蓋裂協会の夏目長門常務理事が在モンゴル日本大使、故久保田眞司氏より歯科治療援助要請を受けたことに端を発する[1,2]。

活動は愛知学院大学歯学部保存修復学講座の千田　彰名誉教授と共に開始され、1998年からは同口腔病理学・歯科法医学講座の前田初彦教授、2009年からは同保存修復学講座の冨士谷盛興前特殊診療科教授も加わり、現在では近郊の医科大学や関連企業とも協働して、歯科診療や口唇口蓋裂手術、国立がんセンターにおけるがん治療をはじめ、多岐にわたる支援によりモンゴル国の発展に貢献している。

モンゴルの社会背景と口腔衛生

モンゴル国は1990年に民主化を果たし、1992年にはモンゴル人民共和国からモンゴル国（以下、モンゴル）へと国名を変更し、新憲法を制定した。しかし民主化後もしばらくは一党独裁の社会主義体制の影響が色濃く残り、生活の質は決して豊かとは言えなかった。とくに口腔衛生に関する知識や教育の水準は低く、歯磨きの習慣もほとんど普及していない状況であった。

モンゴル人はもともと狩猟民族であり、また当時のモンゴルは食生活が非常に貧しいことも加わり、糖分に富んだ食物や柔らかい粘着性の食物の摂取が非常に少ないものであった。そのため、歯磨きを主とした口腔衛生に関する自己管理ができていなくても、幸いなことにう蝕リスクは比較的低い傾向にあった。ところが、経済成長が進むにつれて生活習慣が急激に変わり食生活も大きく変化した。すなわち、伝統的な食事に代わって、コーラやチョコレートといった糖分に富んだ食品が普及し、う蝕の発生率が急増することとなった。ちょうど、日本における戦後の高度成長期に入る直前の「むし歯の洪水時代」の状態と言っても過言ではないくらいである。

歯科医療支援活動の展開

このような状況を受け、日本口唇口蓋裂協会を中心として歯科医療援助活動が愛知学院大学歯学部の主管のもと開始され、僻地や孤児収容施設での歯科治療や国立母子病院での口唇口蓋裂の手術、国立がんセンターでの手術など、コロナ禍を除き多岐にわたる援助活動をこれまでに行ってきた。また、モンゴル国立医療科学大学での講義や研修会の実施、歯科用・医科用機器、材料の寄贈、モンゴル人医師や歯科医師の日本留学支援なども行われている。

これら種々の歯科医療援助の中で主たる活動の一つが、僻地など歯科医療が十分に供給されていない地域に赴き、設備や材料が限られている中でWHOが推奨するART（Atraumatic Restorative Treatment、非侵襲的修復治療）を応用してう蝕の進行を抑制・停止する治療、およびそれに伴うブラッシング指導とフッ化物の塗布である。これらの歯科診療活動には、両国の教職員や学生も積極的に参加して援助を行うだけでなく、これら活動の持続的展開のために両国の関係者の友好交流も積極的に行われている。

ゲル地区

モンゴルは、全国人口約350万人（2023年、モンゴル国家統計局）のうち半数近くの約174万人が首都ウランバートルに集積する首位都市人口率の高い国家である[3]。社会主義体制の崩壊をきっかけに1990年代から2000年代にウランバートルへの転入人口が急激に伸び、住宅の需要が増大した。彼らはウランバートル中心のアパート地区を取り囲む斜面や谷沿いにハシャーと呼ばれる区画を作り、固定家屋（バイシン）を建てて居住を始めた。この地区はゲル地区と呼ばれ、市人口の57%がここで生活を営んでいる。

ゲル地区には非常に多様な職業の人々が居住しているが、その賃金水準は総じて低く、多くの家庭が共働きや副業を組み合わせなければ生活を維持することはできない。また、ゲル地区は電気以外のインフラ整備もあまり進んでおらず、生活水準はいまだ低いものと

図１　ゲル地区

なっている（図１）。

実施事業の概要

本活動は、2024年8月6日に入国して、2024年8月7日から8月8日にかけて、ウランバートル市内ゲル地区にある2か所の児童保護育成センター（Magic Land 1およびMagic Land 2）にて実施した。8月9日に現地との意見交換会を開催した。以下に活動内容の詳細を示す。

１．設　営

施設内の２部屋を使い、①受付　②歯科医師による口腔内検査　③歯科医師によるARTもしくはフィッシャーシーラントの施術　④口腔清掃指導とフッ化物塗布の４つのブースに分けて行った（図２）。

①には長机と椅子、②には歯科医師一人につき１台の机と、歯科医師、記録者、患児が座る椅子を配置した。③には２台ないし３台の簡易チェアを配置し、それぞれに歯科医師と介助者が利用する椅子を配置した。また、グラスアイオノマーセメントの練和や器具の消毒などに使用するための長机をチェアの背面付近に配置した。④には患児が利用するための椅子と机を多数配置し、含嗽後に水を吐き出すためのバケツを用意した。

２．活動内容

①　受　付

検査ブース手前の廊下に受付を配置した。受付係には患児や親と意思疎通を図りやすい現地スタッフを配備し、検査票に氏名と年齢を記入後、紙コップ、歯ブラシと共に手渡し、口腔内検査のブースに移動するよう促してもらった（図３)。

②　歯科医師による口腔内検査

愛知学院大学歯学部および関連歯科医院の歯科医師2人の口腔内検査により患児の現存歯とDMFを調査した（図４）。ここで積極的治療介入（ARTまたはフィッシャーシーラント）が必要な患児と口腔清掃指導とフッ化物塗布のみで問題のない患児とをスクリーニングし、前者は③のブース、後者は④のブースへとそれぞれ誘導した。

③　歯科医師によるARTもしくはフィッシャーシーラントの施術

患児をチェアの上に寝かせ、 施術を行った。すなわち、象牙質に達するう窩はあるが歯髄疾患や失活の可能性の低い歯にはARTを行い、また着色が観察されエナメル質う蝕の可能性の高い小窩裂溝にはフィッシャーシーラントを施した（図５）。各術式を以下に記す。

【ＡＲＴ】

1. スプーンエキスカベーターにて感染象牙質を除去する。このときARTの良好な予後を期待して、う窩の開口部周囲の感染歯質はなるべく除去することにより填塞したグラスアイオノマーセメントが容易に脱落しないよう図る。また、歯髄腔付近へのアプローチは避け、露髄の危険のある部位の感染歯質は残すようにする。

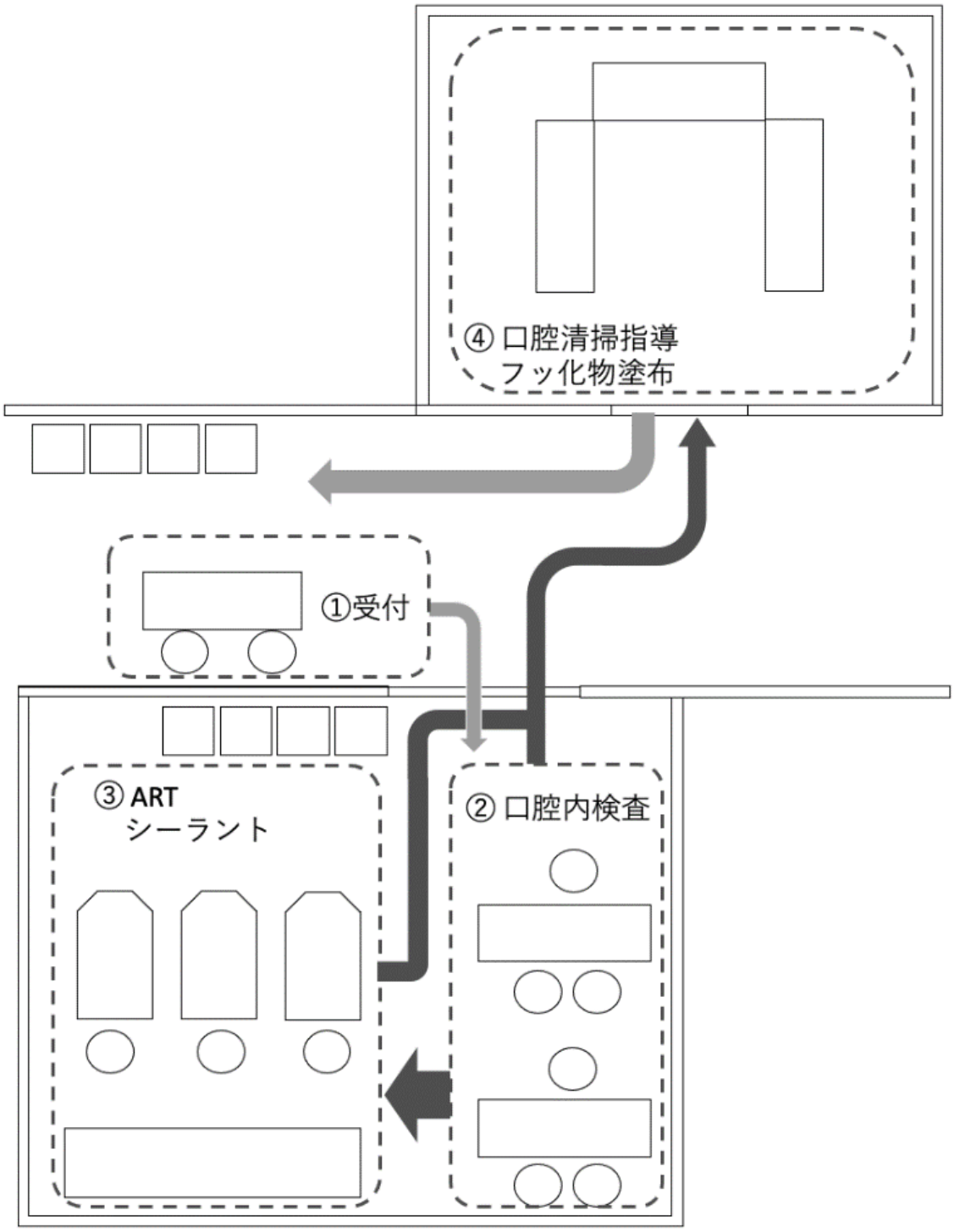

図 2　設営の概略図（Magic Land 2 での設営）

2. ロールワッテにて簡易防湿を行う。
3. 高強度充填用グラスアイオノマーセメント（フジIXGP、ジーシー、東京）を、規定どおりに計量し練和する。このとき、一度に修復する窩洞数に応じて、若干の稠度調整を行う。
4. 練和したグラスアイオノマーセメントを練成充填器にて窩洞内に圧入するような感じで填塞する。
5. 咬合を確認する。

【フィッシャーシーラント】

1. ロールワッテにて簡易防湿を行う。

図３　受付ブース

図４　口腔内検査ブース

図５　ART または
フィッシャーシーラントを行うブース

図６　ハンズオン指導を受ける
現地の若手歯科医師

2. 前述のグラスアイオノマーセメントを規定より液を若干多く計量し練和する。
3. 練和したグラスアイオノマーセメントを探針などで小窩裂溝に填入する。
4. 咬合を確認する。

以上の処置を愛知学院大学歯学部および関連歯科医院の歯科医師が行った後、口腔清掃指導とフッ化物塗布のために④のブースに患児を誘導した。なお、本活動の持続的展開の観点から現地の若手歯科医師へのハンズオン指導も同時に行い、彼らが実際に施術することもあった（図６）。

④　口腔清掃指導とフッ化物の塗布

口腔清掃指導とフッ化物の塗布は、JICA派遣の歯科衛生士、愛知学院大学歯学部の若手歯科医師、愛知学院大学歯学部の学生が担当した。まず、患児に対し術者が直接ブラッシングを行い、その様子を鏡で見せた。次いで、実際に歯ブラシを持たせて患児自身にブラッシングをしてもらい、不十分なところを指導した。その後、歯科用フッ素塗布剤（フルオール・ゼリー歯科用2%、ビーブランド・メディコーデンタル、大阪）を歯面に塗布し、30分間飲食を控えるよう指示した（図7）。

児童保護育成センターからの感謝状および記念品の贈呈

それぞれの施設（Magic Land 1およびMagic Land 2）における診療事業が終了した後、感謝状と記念品の贈呈を受け、感謝の念をいただいた。（図8）

図 7　左：口腔清掃指導　右：フッ化物の塗布

図 8　Magic Land 2 での感謝状の贈呈（左）記念写真（右）

事後評価

8月7日の診療結果

Magic Land 2において、150名の患児に対して前述の診療を実施した。患児の年齢別の内訳は、0-5歳が20名、5-10歳が60名、10-15歳が62名、15-20歳が8名であった。このうち、積極的治療介入が必要である患児は134名であり、全体の89.3%を占めていた。

8月8日の診療結果

Magic Land 1において、52名の患児に対して前述の診療を実施した。患児の年齢別の内訳は、0-5歳が4名、5-10歳が23名、10-15歳が21名、15-20歳が4名で、全ての患児が積極的治療介入の必要な状態であった。

考　察

モンゴルへの医療協力を行うにあたっては、日本政府外務省アジア大洋州局中国・モンゴル第１課モンゴル担当者への概要説明、また駐日モンゴル大使バヤルサイハン・バンズラグチ閣下はじめ関係者との連絡、調整、許可を行うとともに、モンゴル政府保健省への連絡等の手続きを行った上で、在モンゴル井川原賢大使、北澤彰浩参事官兼医務官等に拝眉の上、詳細を報告等実施して慎重に活動が行われた。

2024年度の診療活動においては、ゲル地区の子供たちにおいてはいまだに多発性う蝕の蔓延が認められることが明らかとなった。とくに、患児全ての年齢層に広範なう蝕が認められ、それらの多くが進行した状態（ICDAS Code5～6）であった。また、診療後に実施したブラッシング指導やフッ素の塗布は、多くの子供たちとその保護者にとって初めての経験であることが多く、その効果に対する理解も限定的であるように思われた。都市化が進み生活水準が向上したウランバートル市内でも、ゲル地区においては適切な口腔衛生を維持するための習慣がいまだ根付いておらず、家庭での口腔ケアが十分行われていないことも明らかとなった。

これらは、口腔の健康管理に関する教育不足、あるいは学校や歯科医院における定期検診の実施不足等により、う蝕に対する早期発見と予防的介入が不十分であることが主な原因と考える。したがって、言わば「むし歯の洪水」状態にあるゲル地区におけるこの度の歯科医療支援活動を通じて、今後はさらなる口腔衛生に関する教育プログラムの実施とともに、教育機関や医療機関との連携も強化し、地域全体に予防歯科の重要性を浸透させ、親のデンタルIQの向上と家庭での日常的な口腔ケアの徹底を図る取り組みの必要性を痛切に意識した。

今回のウランバートル市内ゲル地区での歯科保健医療支援における活動は、モンゴル国における歯科医療の現状と課題を浮き彫りにし、今後の支援活動の方向性を示す重要な機会となった。持続可能な支援を実現するためには、現地の医療従事者との連携強化、予防歯科教育の普及、そしてコミュニティとの信頼関係の構築が不可欠であり、これらを踏まえた長期的な支援計画の策定が求められる。

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謝　辞

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[Field Report]

Activity report on dental health care support in a Ger District in Ulaanbaatar, Mongolia

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9) Japanese Cleft Palate Foundation
10) The Japanese Society of Oral Care
11) Japan Association of International Cooperation for Oral Health

Abstract

Since 1997, we have been actively involved in dental health care support in Mongolia. From August 6 to 10, 2024, we offered dental treatments emphasizing Atraumatic Restorative Treatment (ART) and provided oral hygiene education for children of a child protection and development facility in Ulaanbaatar, the capital city. Over the span of two days, we successfully managed the oral health and hygiene of more than 200 children.

Keywords: Mongolia, Dental Care Support Activities, Atraumatic Restorative Treatment, Glass-ionomer cement

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歯学系外国人指導者資格制度

日本において歯科医学を学び研究する留学生を指導する十分な指導資格を有する歯科医学研究者並びに歯科医師を認定して学会として海外へ広く周知する事により、我が国における歯科医学分野への留学を促進する。

但し、本制度は厚生労働省の定める臨床修練歯科医師の臨床指導者ではなく、博士号取得等学術分野の研究等を指導する上での適格者を認定するものである。

指導者資格者は、以下の１～６の要件を満たすものとする。

1. 以下のいずれかに該当する経歴資格を有する者
- 英語圏にて４ヶ月以上の留学経験を有する者
- 英語圏以外で一年間以上の留学経験を有する者
- 英語検定で準一級以上又は同等の語学力を有する者
- 国際学会において 10 回以上の発表経験を有する者で最低３回以上は筆頭口頭発表であるもの
- 国際医療協力の経験等で上記と同等と審査委員会が認めた者

2. 指導する学術分野において関連学会の専門医、指導医等の資格を有する者
   上記と同等の能力経験があると審査委員会が認めた者
   但し、基礎系で関連学会に認定資格がない場合は学会経験５年以上である者

3. 博士（医学）を有する者
   博士（歯学）を有する者
   博士（薬学等）を有する者
   又はこれと同等の資格を有すると審査委員会が認めた者

4. 大学や大学院において講師以上の役職において教育経験が５年以上ある者又は現職の者（現職者は経験年数を問わない）
   上記と同等の教育経験があると審査委員会が認定した者

5. 研究業績
   初回認定時には
   最小限 IF を有する論文を１編以上有する者
   IF を有しない場合、英語論文を３編以上有する者
   査読のある日本語論文を 10 編以上有する者
   を認定する
   但し、５年後の更新時に英文論文業績（共著でも可）の加算が認められる者又は本学会での発表経験がある者のみ更新される
   最終的には、基礎系歯科医学分野では IF50 以上、IF 第１発表者 15 以上
   臨床系歯科医学分野ではＩＦ２５以上、第１発表者ＩＦ５以上が望ましい

6. 以上全てを満たし、留学生の指導を行う上で必要な倫理観と使命観等を有すると審査委員会が認めた者
   また、本学会会員であることが望ましい
   この場合、５年ごとの更新時には新たな業績を求めない

上記に鑑みて必要に応じ面接を行う場合がある。
申請は下記の学会ホームページより関係資料を御確認下さい。

日本歯科保健医療国際協力学会 HP
https://jaicoh.org/

Japan Association of International Cooperation for Oral Health
日本歯科保健医療国際協力学会 理事長
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歯科医学留学促進協議会部門 部門長
九州大学 名誉教授
森　悦秀

The Journal of JAICOH（日本歯科保健医療国際協力学会雑誌）投稿規定

1. 本誌への投稿者（代表者）は日本歯科保健医療国際協力学会の会員に限るが、共著者は全員会員であることが望ましいが必須ではない。
2. 投稿に際しては、別添の「執筆要綱」に従うこと。英文による投稿も受け付ける。
3. 投稿論文の受理ならびに採択、掲載順序は本誌編集委員会において決定する。なお、原著、症例報告については、複数の査読者の意見をもとに、編集委員会でその採否、掲載巻号を決定する。完成原稿になるまでに編集委員会から変更、書き直しを要請することもありうる。
4. 編集委員会で日本歯科保健医療国際協力学会の会員に有益と認めた場合、セカンドパブリケーションを認める。この場合、基礎とした論文を引用してセカンドパブリケーションであることを明記する。
5. 本誌に掲載された論文の著作権は本学会に帰属する。ただし、論文内容については、著者が責任を負う。
6. 原稿は、原稿ファイルを電子メールに添付し、日本歯科保健医療国際協力学会編集委員会へ送信する。
7. 論文掲載料ならびに英文査読、校正料は有料とする。ただし、学会からの依頼原稿については一部または全部の掲載料を免除する場合もある。カラー印刷、トレース代、英語の査読、校正料、別刷代などは、別途著者の負担とする。
8. 受付日（Received Date）は原稿が The Journal of JAICOH 編集委員会に到着した日とする。
9. 受理日（Accepted Date）は掲載可と判定された査読結果が日本歯科保健医療国際協力学会に到着した日とする。
10. 投稿規定に合致しない論文は受け付けない。
11. 投稿の締め切りは別途定める。
12. 投稿方法
    1) The Journal of JAICOH 編集委員会のアドレス（jaicohjournal@gmail.com）宛に E-mail 添付で次の３つのファイルを送信ください。
    2) 本文と図表をまとめて、１つの WORD ファイルでも可です。
    3) 本文と図表を別ファイルとする場合には、各ファイル名に分かりやすい名前をつけてください。例：日本太郎（本文）、日本太郎（図１）、日本太郎（表１）。
        a. 本文ファイル（表紙、抄録、本文、文献等）
           ファイル形式は WORD（97～）もしくはテキスト形式
        b. 図表ファイル（図および表）
           ファイル形式は WORD（97～）もしくはパワーポイント（97～）
           最終原稿は解像度 600 dpi 以上のもの
        c. PDF ファイル（本文・図表をすべて１つにまとめたもの）
13. 問合せ先

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附則

本規定は改定を受けて 2024 年 04 月 01 日から適用する。

The Journal of JAICOH（日本歯科保健医療国際協力学会雑誌）執筆要綱

1. 論文の種別について

1) 原稿は総説、原著、研究報告（統計を含む）、活動報告、症例報告、短報、資料、レターとする。

2) セカンドパブリケーションを認める。但し、この場合必ず論文中にその文献を引用し事前に編集委員会にその旨明記して掲載許可を得ることとする。

3) 論文の種別については、投稿者による種別、査読者の意見をもとに、編集委員会が最終的に決定する。

種　類	内　容
総説 Review Article	基本的には学会からの依頼により執筆する。
原著 Original Article	基礎研究、臨床研究を問わず、研究によって得られた新知見等を基に考察した論文とする。特に、海外プロジェクトの知見を原著として重要視している。
研究報告 Research Note	原著には該当しないが、国際保健、国際協力などについての価値ある報告を中心とした論文とする。
活動報告 Field Report	国際保健、国際協力に関する実践的な活動をまとめたもので、他地域で同様の事業を展開する者に参考となる報告を中心とした論文とする。
症例報告 Case Report	海外において経験した症例や国内における外国人を対象として行った治療、臨床例を報告するための論文とする。
短報 Short Communication	原著論文、研究報告より簡潔な形で報告可能な、公表する価値のある内容の論文とする。
資料 Information	国際保健、国際協力を行う上で参考になる治療や予防の手技、材料、器具等を紹介する論文とする。
レター Letter	上記のいずれにも当てはまらないが重要な内容を紹介する。関連学会、会合等の参加報告など。

2. 論文の体裁について

1) 詳細については「記載例」を参照ください。

2) 研究報告、活動報告、短報は原著と同様とする。

3) 症例報告は、「対象（材料）と方法」の代わりに、「症例」として原則、主訴、疾患名あるいは診断名、家族歴、既往歴、現病歴、現症、経過などの順に記載する。

4) 倫理的配慮が必要と思われる論文の場合は、その旨を記すこと。

5) 学会の利益相反の規定に準拠していること。
投稿に際しては、利益相反（Conflict of Interest: COI）に関する情報開示を必要とする。著者は、投稿論文において研究の遂行や、論文の作成にバイアスをもたらす可能性がある全ての利益関係（金銭的・個人的関係）を開示する。
開示が必要とされる利害関係
   a. 営利団体（企業）からの研究助成金、寄附講座に関する寄附金の受領
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   c. 特許権使用料・ライセンス料
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6) 原稿はＡ４用紙を使用し、余白は上下左右 25ｍｍ、１頁 30 字×25 行（12 ポイント）、横書きとする。本体は「～である」調、新かなづかい、常用漢字、算用数字を用いる。
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9) 英文はすべて半角、スペースも半角で入力してください。改行は行ごとでなく、各段落の最後にしてください。

The Journal of JAICOH（日本歯科保健医療国際協力学会雑誌）記載例

論文種別

総説、原著、研究報告（統計を含む）、活動報告、症例報告、短報、資料、レター

Article types

Review Article, Original Article, Research Note, Field Report, Case Report, Short Communication, Information, Letter

タイトル

Title

（総説、原著、研究報告（統計を含む）、活動報告、症例報告、短報、資料では和文英文ともに必須、レターでは和文英文どちらかは省略可）

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（すべての論文種別で和文英文ともに必須）

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（すべての論文種別で和文英文ともに必須）

キーワード

３～５語

Keywords

3-5 words

（総説、原著、研究報告（統計を含む）、活動報告、症例報告、短報、資料では和文英文ともに必須、レターでは和文英文ともに省略可）

要旨
1,000 字以内
Abstract
300 words or less
（総説、原著、研究報告（統計を含む）、活動報告、症例報告、短報、資料では和文英文ともに必須、レターでは和文英文ともに省略可）

緒言
Introduction

方法
Methods

結果
Results

考察
Discussion

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著者役割
著者 A、B は研究全体の計画立案を行った。著者 A は論文執筆を行った。著者 B はデータ解析を行った。全著者が論文最終稿を確認し投稿に同意した。
Author's contributions
A and B designed the study. A drafted the original manuscript. B analyzed the data. All authors reviewed the manuscript draft and revised it critically for intellectual content. All authors have read and approved the final manuscript.

利益相反
COI に関し開示すべきことはない。
Competing interests
The authors declare that they have no competing interests.

データと試料の利用
この研究で取得し解析したデータセットは、正当な要求があれば責任著者から開示されます。
Availability of data and materials
The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

倫理的承認と被験者の同意（該当する場合）
Ethics approval and consent to participate (if applicable)

出版に対する同意（該当する場合）
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文献
References
（総説、原著、研究報告（統計を含む）では必須、活動報告、症例報告、短報、資料、レターでは省略可）
著者は3名までを挙げ、それを超える場合には「他」と記す。
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