

## The Outcomes of the Patients with Cleft Lip-Palate Care Project in Mahosot Hospital the Lao People's Democratic Republic

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**Background:** The collaborations between Tawanchai Center and Lao PDR for the multidisciplinary program of treatment, surgery and rehabilitation for patients with cleft lip-palate had been held in Mahosot Hospital 4 times since 2007 in order to establish the prototype center of services and academics for hospitals in Laotian provinces.

**Objective:** 1) to enhance the academics and operations potentials for patients with CLP treatment in Mahosot Hospital, Lao PDR. 2) to investigate the problems and solutions for patients with CLP treatment in Mahosot Hospital, Lao PDR.

**Materials and Methods:** This is a descriptive study of the outcomes of the 24 to 26 August 2016 workshops at Mahosot Hospital. The data were obtained from the questionnaires and the percentage, means and content analysis are employed.

**Results:** The findings show that the anesthetists have a moderate confidence level in pediatric anesthesia ( $\bar{x} = 2.60$ ), while the nurse anesthetists have a high confidence level in pediatric anesthesia ( $\bar{x} = 3.50$ ). After the training, the 100 percent of nurses are able to use the obtained knowledge to development patient care plans. The breastfeeding nurses have the knowledge in bottle-feeding at good levels ( $\bar{x} = 3.50$ ) as well as in breastfeeding ( $\bar{x} = 3.50$ ). 85.8 percent of the paraprofessional in speech therapy are able to use the obtained knowledge in patient training. The satisfaction of the training is at 87 percent, which is considered as a decent level.

**Conclusion:** The treatment team of Mahosot Hospital is knowledgeable in the treatment of patients with CLP and able to be the model center of services and academics for hospitals in Laotian provinces. The team will be more effective and able to sustain its ability with continuous support from the government and organizations like Tawanchai Center provided.

**Keywords:** Cleft lip-palate, Mahosot Hospital, Vientiane, Lao People's Democratic Republic, Tawanchai Center

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The condition of Cleft Lip-Palate [CLP] is a typical congenital disability of Craniofacial Deformity [CFD] occurred in newborn infants. The CLP incidence

rate in Thailand is 1.62 per 1,000 newborns<sup>(1)</sup>. The highest incidence approaches the rate of 2.49 per 1,000 newborns in the Northeast of Thailand<sup>(2)</sup>. The reports of the incidence rates in newborns in various regions show that 1 per 500 to 700 found in Europe<sup>(3)</sup>, 7.75 per 10,000 found in the USA and 7.94 per 10,000 in other countries<sup>(4)</sup>. People's Democratic Republic of Lao [Lao PDR] has a population of about 6,168,000; incidence occurred 317.57 per 1,000 newborns<sup>(5)</sup>. A majority of

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the population lives in rural and remote areas. A study shows that 87% of the families with a family member treated for cleft lip and palate had an income of less than \$124/month. The Lao government or the Ministry of Health has now made an attempt to cooperate with various sectors, organizations and foundations that have contributed towards the alleviation of cleft lip and cleft palate in the country. At present, surgical treatment is limited and depends highly on experts and budgets from a foreign country. Most of the surgeries are performed in central Hospitals, for instance, Mahosot Hospital. Evaluation of such surgeries lacks clarity and continuity<sup>(6)</sup>.

The CLP situation greatly affected the Lao PDR and led to the physical and mental health problems of the patients and families. The main objective in the treatment of the target patients is to carry on the post-surgical rehabilitation so that the relevant organs can function normally<sup>(7)</sup>. Tawanchai Center is an affiliated unit of The Research Center for Cleft Lip and Palate [CLP] and Craniofacial Deformity [CFD], Khon Kaen University and established the system of treatment to people affected by CLP and CFD through the multidisciplinary approaches by the professional and expert team members from the specific fields. Tawanchai Center is the prototype for the CLP treatment that provides the complete system for the patients and continuously distributes its particular knowledge and experiences to the hospitals in the Northeast of Thailand and Mekong region, especially in Laos PDR<sup>(7)</sup>.

In the CLP treatment process, the surgical operation is one of the most important phases. The anesthesia is an essential procedure to help saving patient's life during the surgery; therefore, it must be conducted by the anesthesiologists who are the expertise children anesthesia. The successful surgery also relies on the multidisciplinary team. The scrub nurse team assists the whole process in the operation room whereas the other nurse team takes care of the patients during their pre- and post-surgical phases in order to save them from the complications. Moreover, the patients are treated throughout the entire process by the expert teams in ear and hearing examination, speech practice, mouth and teeth hygiene, milk and nutrition feeding, and care by age range till they are fully recovered and able to live with the good quality of life<sup>(8)</sup>.

The collaborations between Tawanchai Center and Lao PDR for the multidisciplinary project of treatment, surgery, and rehabilitation for patients with

cleft lip had been held 7 times. The first to the third (2007 to 2009) were held at Mahosot Hospital, Vientiane while the fourth (2011) and the fifth (2013) were held in Kam Muan Province, and the sixth (2014) was held in Champasak Province. The seventh was again held at Mahosot Hospital, Vientiane. The main objective was to strengthen the academic content and supervise the Mahosot team to establish the model center that should be able to distribute its own knowledge to other provinces<sup>(8)</sup>.

The results from the 2011 collaborative workshop in Kam Muan<sup>(9)</sup> showed that the patients and families were satisfied with the free of charge surgery project, and 87 percent of the parents did not have basic knowledge in the causes of CLP, alveolar cleft and bone grating, 75 percent did not have basic knowledge about wound care and 66 percent did not have basic knowledge about ear examine and speech therapy. In addition, 33 percent of the treatment team did not understand the meaning of the multidisciplinary team care while 61.9 percent were not fully confidence, and their knowledge in CLP treatment was at the moderate level ( $\bar{x} = 3.08$ ,  $SD = 0.99$ ). The problems in treatment were the lack of experts, knowledge, medical equipment, funding, and the solutions were raising assistance and funds from government and international organizations<sup>(10)</sup>. Therefore, the reach team conducted the study of the outcomes of the workshop at Mahosot Hospital in order to determine the development approaches for the multidisciplinary team in CLP treatment in Laos PDR.

## Materials and Methods

This is the descriptive study of the outcomes of the 24 to 26 August 2016 workshops at Mahosot Hospital, Lao People's Democratic Republic. After the receiving of an approval from Human Research Ethics (Project No. HE601376), the questionnaires, general information of the staff, CLP patients care, and the knowledge in CLP patients care were analyzed. The data were collected from 69 participants (from 7 units) of the seventh workshop. The analysis and conclusion took 3 months (May to July 2017) to be complete. The percentage, statistic means, and content analysis are employed.

## Results

The findings showed that the participants were female aged between 30 to 39 years from Mahosot Hospital, and the majority was the paraprofessional speech therapists. The results are shown in Table 1.

The anesthetists had a moderate confidence level in pediatric anesthesia ( $\bar{x} = 2.60$ ), while the nurse anesthetists had a high confidence level in pediatric anesthesia ( $\bar{x} = 3.50$ ). After the training, the 100 percent of nurses were able to use the obtained knowledge in patient treatment development. The breastfeeding nurses had the knowledge in bottle-feeding at good levels ( $\bar{x} = 3.50$ ) as well as in breastfeeding ( $\bar{x} = 3.50$ ). 85.8 percent of the paraprofessional speech therapists were able to use the obtained knowledge in patient speaking development. The satisfaction of the training was at the excellent level, 87 percent 87 ( $\bar{x} = 4.82$ ,  $SD = 0.38$ ). The results are shown in Table 2.

### *The qualitative data from nurse interview*

#### *The problems in CLP patients care*

In most cases, the CLP infants were fed by the nasogastric tube and it made them fail to suckle milk by themselves.

The parents lack understanding and did not cooperate with the program owing to the long distance from home to the hospital. After the surgery, most of

them never came back to the hospital for the follow-up.

### *The solutions*

Suggest the patients and parents about the importance of the hospital appointment for the follow-up after the surgery and long term follow-up. Educate them about the healthcare principles and the proper breastfeeding.

Suggest the parents the methods for oral hygiene and NPO before the surgery.

Give the parents advice in wound care twice a day and taking more antibiotic. Give them psychosocial support. Suggest them for post-op care about position, sucking and diet.

Employ the obtained knowledge to take care children with CLP about technique breastfeeding such as up right and football holding for the newborn to suckle easily.

Distribute the obtained knowledge from the workshop to the patients. Making team work and connecting across units to improve quality of care.

### *Discussion*

The collaborations between Tawanchai Center and Lao PDR for the multidisciplinary program of treatment, surgery, and rehabilitation for patients with CLP created more confidence among the members of Mahosot Hospital team in CLP care. For instance, the moderate to high levels of confidence in pediatric anesthesia can be improved by having more training for the Lao PDR anesthetist team, which leads to the more effective CLP care. The findings correlated with the study by Pradubwong et al<sup>(12)</sup> in Champasak, Lao PDR, 2017, which showed that the anesthetists, nurse anesthetists, and nurses had the moderate level of knowledge and understanding in CLP care as well.

The levels of the workshop satisfaction were from high to the highest in the knowledge of the content, the capacity of the instructors in knowledge transmission, being able to employ the obtained knowledge into the work operation, receiving new knowledge, concept, skills, and experiences from the program at the expected level. These were correlated with the study by Pradubwong et al<sup>(12)</sup> in Champasak, Lao PDR, which showed the 100 percent of the high to the highest levels of satisfaction in the program. It obviously shows that the program is truly beneficial for Lao PDR team.

The suggested problems revealed that in most cases, the CLP infants were fed by the nasogastric tube and it made them fail to suckle by themselves, but

**Table 1.** General data by Sex, Age, Affiliated organizations and Position

Data	Number	Percentage
Sex		
Female	13	61.91
Male	8	38.09
Age		
20 to 29 years	3	14.3
30 to 39 years	9	42.9
40 to 49 years	5	23.8
50 to 59 years	4	19.1
Affiliated organizations		
Mahasot Hospital	10	47.5
Setthathirath Hospital	4	19.1
Center of Medical Rehabilitation	3	14.3
103 Hospital	2	9.5
April 5 <sup>th</sup> Hospital	1	4.8
University of Health Science	1	4.8
Position		
Surgeon	2	9.5
Anesthetist	3	14.3
Nurse anesthesia	2	9.5
Dentist	1	4.8
Nurses	1	4.8
Scrub nurse	3	14.3
Pre-post op care nurse	3	14.3
Paraprofessional in speech therapy	6	28.6

**Table 2.** Confidence in Pediatric Anesthesia of the Anesthetists and Nurse Anesthetists, Knowledge in Bottle Feeding and Breastfeeding of the Nurses, and Program Evaluation

Data	Means ( $\bar{x}$ )	Standard deviations (SD)	Interpretations
Anesthetists are confident in anesthesia for CLP children	2.60	0.356	Moderate
Nurse anesthetists are confident in anesthesia for CLP children	3.50	0.236	High
After the training, the breastfeeding nurses have knowledge in bottle-feeding and breastfeeding.	3.50	0.657	High
Program evaluation			
The instructors are knowledgeable in the academic content	4.50	0.500	High
The capacity in knowledge transmission of the instructors.	4.60	0.489	Highest
Being able to employ the obtained knowledge into the work operation	4.25	0.698	High
The program meets the expectation	4.35	0.653	High
Receiving new knowledge, concept, skills, and experiences from the program	4.35	0.792	High
Satisfaction in the program	4.82	0.380	Highest
Means	4.47	0.585	High

Criteria<sup>(11)</sup>

Score 1.00 to 1.50 = Very low agree

Score 1.51 to 2.50 = Low agree

Score 2.51 to 3.50 = Moderate agrees

Score 3.51 to 4.50 = High agree

Score 4.51 to 5.00 = Very high agree

after the training, the nurses were confident to teach mothers to do the breastfeeding and the bottle feeding. The problems of absent patients would be solved by suggesting the patients' families the importance of the hospital appointment for the follow-up care and continuous treatment after the surgery.

However, the multidisciplinary program of treatment, surgery, and rehabilitation for patients with cleft lip in Lao PDR still needs a more effective care system, the development for the experts in the particular fields and the plan for the patients to promote the consistent access to the care. These activities must be continuously supported by government sectors and other organizations such as Tawanchai Center, Khon Kaen University and The Smile Train, USA in order to help the team develop the complete and sustainable care system.

## Conclusion

The multidisciplinary team in Mahosot Hospital, Lao PDR is knowledgeable in CLP care and able to be the model center in academics and services for the hospitals in different provinces. If the team is continuously supported by government sectors and other organizations such as Tawanchai Center, it can develop the complete and sustainable

care system.

## What is already known on this topic?

In Lao PDR, the surgeon, anesthesiologist and nurse anesthesiologist had a moderate level of knowledge in caring for the patients with CLP. In addition, the number of specialists and surgical instruments are not sufficient. Therefore, there is a need for government support in training abroad.

## What this study adds?

The multidisciplinary team in Mahosot Hospital, Lao PDR is knowledgeable in CLP care and able to be the model center in academics and services for the hospitals in different provinces.

## Appendix

The co-authors (and their affiliations) are as follows: Suntaree Numjaitaharn BSc (Division of Nursing, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand), Lalida Pethai BSc (Division of Nursing, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand), and Banjamas Prathanee PhD (Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand).

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### Potential conflicts of interest

The authors declare no conflicts of interest.

### References

1. Chuangsuwanich A, Aojanepong C, Muangsombut S, Tongpiew P. Epidemiology of cleft lip and palate in Thailand. *Ann Plast Surg* 1998;41:7-10.
2. Ruangsitt C, Phraserthsang P, Banpho Y, Lamduan W, Glathamnuay S, Nuwantha A. Incidence of cleft lip and cleft palate in three hospitals in Khon Kaen (Report in Thai). Khon Kaen, Thailand: Department of Orthodontics, Faculty of Dentistry, Khon Kaen University; 1993.
3. Shaw WC, Semb G, Nelson P, Brattstrom V, Molsted K, Prah-Andersen B, et al. The Eurocleft project 1996-2000: overview. *J Craniomaxillofac Surg* 2001;29:131-40.
4. Tanaka SA, Mahabir RC, Jupiter DC, Menezes JM. Updating the epidemiology of cleft lip with or without cleft palate. *Plast Reconstr Surg* 2012;129:511e-8e.
5. Central Intelligence Agenc. The World Factbook [Internet]. 2014 [cited 2017 Jan 20]. Available from: <http://bit.ly/1WQMoTZ>.
6. Panthavong N, Pradabwong S, Luvira V, Khansoulivong K, Chowcheun B. Outcome of patients with cleft lip and cleft palate operated at Mahosoth, Mitthaphab and Setthathirath Hospitals in Lao People's Democratic Republic. *J Med Assoc Thai* 2013;96 Suppl 4:S98-106.
7. Chowchuen B, Prathanee B, Pradubwong S, editors. Parent's guide: a guide to caring for patients with CLP. Khon Kaen: Tawanchai Foundation for Cleft Lip-Palate and Craniofacial Deformities, Faculty of Medicine, Khon Kaen University; 2011.
8. Tawanchai Foundation for Cleft Lip-Palate and Craniofacial Deformities, Faculty of Medicine, Khon Kaen University. Comprehensive care development project for patients with cleft lip-palate and craniofacial deformities in northeast Thailand. In Celebration of Her Royal Highness Princess Maha Chakri Sirindhorn's 60th Birthday 2015 and the 50th Anniversary of Khon Kaen University. Khon Kaen: Khon Kaen University; 2016.
9. Pradubwong S, Rirattanapong S, Volrathongchai K, Keopadapsy K, Chowchuen B. Study of care for patients with cleft lip/palate (CLP) in Lao People's Democratic Republic. *J Med Assoc Thai* 2011;94 Suppl 6:S51-6.
10. Pradubwong S, Mongkhonthawornchai S, Pethcharat T, Keopadapsy KS, Chowchuen B. Study of care for patients with cleft lip/palate (CLP) in the Lao People's Democratic Republic: health provider's perspective. *J Med Assoc Thai* 2011;94 Suppl 6:S79-84.
11. Wongrattana C. Statistic technique for research. 8<sup>th</sup> ed. Bangkok: Thep Neramith Press; 2001.
12. Pradubwong S, Mongkhonthawornchai S, Pathumwiwatana P, Augsornwan D, Rirattanapong S, Sroyhin W, et al. The study of care for patients with cleft lip-palate in Champasak, Lao People's Democratic Republic. *J Med Assoc Thai* 2017;100(8 Suppl 6):S24-9.