

Treatment Outcome of 4 to 7 Years-Old Patients with Cleft Lip and Cleft Palate in Surgery Examination Room Srinagarind Hospital: Follow-up Treatment

Pongpagatip S, MA¹, Pradubwong S, MSN¹, Winaikosol K, MD², Jenwitheesuk K, MD², Surakunprapha P, MD², Chowchuen B, MD, MBA²

¹ Division of Nursing, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand

² Division of Plastic Surgery, Department of Surgery, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand

Background: Cleft palates patients need a complete treatment from a multidisciplinary team including surgeries, follow-up treatments, and a protocol of Tawanchai Center in order to have good results of the treatment

Objective: To study the follow-up treatment and outcome after surgeries of cleft palates patients in the surgery examination room at Srinagarind Hospital.

Materials and Methods: This descriptive study used history and background of 93 patients who have spent 4 to 7 years in the surgery examination room at Srinagarind Hospital and took 3 months to collect the data. The research tool was a general questionnaire on the follow-up treatment and outcome after the patients' surgeries at the surgery examination room and applied statistics and a content analysis conclusion to analyze the data.

Results: Sixty-eight out of 93 patients suffered unilateral cleft palates (73.12%); 82 patients came to receive a follow-up treatment and outcome after the surgery within a two-week period (87.17%); 78 patients received follow-up treatments after the surgery and outcome from cleft palates conditions within the first two weeks (86.67%). They were evaluated, consulted, given treatments from surgeons and nurses in the surgery examination room and Tawanchai Center, and transferred to the multidisciplinary team for further treatment in accordance with the protocol.

Conclusion: Ninety-three patients aged around 4 to 7 years old suffered from unilateral cleft palates the most; most of them came to receive follow-up treatments two weeks after the surgery as well as recovered in accordance to the protocol of Tawanchai Center. They were also sent for further inclusive and suitable treatment from multidisciplinary team according to their ages.

Keywords: Cleft lip and cleft palate, Follow-up treatment and outcome after surgeries, Surgery examination room

J Med Assoc Thai 2019;102(Suppl5): 67-72

Website: <http://www.jmatonline.com>

Cleft palate is an inborn disability, which is the fourth often found disability in babies (1 per 600 newborns)⁽¹⁾. In Thailand, there is a report about cleft palates incidents studying a parturition at Srinagarind Hospital. The rate of the incidents was 1.1/1,000 babies⁽²⁾, and the probability was stable. Moreover, there is a study at 3 Northeastern hospitals stating that the possibility of the incident was higher 2.49 babies born with cleft palates/1,000 babies born⁽³⁾. This is considered the highest rate of cleft palates incidents in Thailand and the world. There is another study which found the average rate of 1.62 per 1,000 babies in Thailand⁽⁴⁾.

Correspondence to:

Surakunprapha P.

Division of Plastic Surgery, Department of Surgery, Faculty of Medicine, Khon Kaen University 40002, Thailand.

Phone: +66-43-363525, **Fax:** +66-43-348393

E-mail: surakunprapha@gmail.com

Cleft palates have effects on the patient's and guardian's physical and mental health as well as the country's economic loss. The obvious physical disabilities are the shape and outline of the face, unclear utterances, Otitis media complication, hearing, swallowing system, dental problems, malocclusion and jaw bone structure disorders, and slow development and growth.

The standard of the treatment for cleft palate patients in accordance to Tawanchai Center started in 1999; the patients would be taken care of by a multidisciplinary team holistically. The team also has a meeting to find a protocol treatment together and apply it systematically. They have improved it five times; the latest one was in May 2017⁽⁵⁾ and it has been used until today.

The treatment of patients with cleft palates aims for a beautiful face, clear utterances and communication abilities. However, to achieve those aims the patients need to undergo surgeries as well in order to correct their disability.

How to cite this article: Pongpagatip S, Pradubwong S, Winaikosol K, Jenwitheesuk K, Surakunprapha P, Chowchuen B. Treatment Outcome of 4 to 7 Years-Old Patients with Cleft Lip and Cleft Palate in Surgery Examination Room Srinagarind Hospital: Follow-up Treatment J Med Assoc Thai 2019;102(Suppl5): 67-72.

Since Srinagarind Hospital has been certified by the Healthcare Accreditation Institute⁽⁶⁾, when patients receive an examination and surgery, they are required to get service at the surgery examination room⁽⁷⁾. Therefore, there are many patients coming to the hospital to get service and those who are transferred from other hospitals in Northeastern region or neighboring countries in order to receive an examination and undergo surgery to correct the cleft palate disability. It was found that in 1993 to 2001, there were patients who underwent cheiloplasty surgery aging between 3 to 4 months old (32.35%), underwent palatoplasty surgery aging between 9 to 12 months old (52.29%)⁽⁸⁾, and there were patients who underwent cheiloplasty surgery aging between 3 to 4 months old (56.59%) and those undergoing palatoplasty surgery aging from 9 to 12 months old (63.40%). The study of the follow-up treatment for cleft palate patients aging between 4 to 5 years old found that 120 out of 123 patients have undergone surgery. There was follow-up treatment in the surgery examination rooms 960 times or 30.66%⁽⁹⁾. In regard to changing context, the study of the follow-up treatment then focused on patients aging between 4 to 7 years old working with surgeons and nurses in the examination rooms at Srinagarind Hospital. The results of the study would be able to be applied in the administration planning for protocol service system for patients and to have equivalent quality as an international standard as shown in Table 1 and 2.

Objective

To study the follow-up treatment and outcome after the surgery of cleft palate patients at surgery examination

rooms at Srinagarind Hospital in accordance with Tawanchai Center's protocol.

Materials and Methods

A descriptive study from 93 patients' histories aging between 4 to 7 years old who came for follow-up outcome after surgery 2 weeks, 3 months, 6 months and 1 year at Tawanchai Center, Srinagarind Hospital. This article was approved by Institute Research Board, Khon Kaen University (HE601414), the data collection took three months (January to March 2018) using general questionnaires-treatment, nursing and follow-up treatment after surgery of cleft palate patients in surgery examination rooms. Percentage statistics and content analysis was applied as data analysis means.

Research results

For the general information, 68 out of 93 patients or 73.12% suffered from unilateral cleft palates, 22 patients or 23.66% suffered from bilateral cleft palates and 3 patients or 3.22% suffered from cleft lip.

In terms of follow-up treatment and outcome after the surgery, 82 patients (87.17%) came to the follow-up treatment in the first two weeks the most; 50 patients (55.56%) came to the treatment 3 months after the surgery. The patients were evaluated, consulted, and appointed to admit at the hospital in order to prepare for a surgery, treatment, incision evaluation, getting stitches off (some cases), massage demonstration and incision care to prevent keloid, how to put nose firming equipment, consultation, and

Table 1. Follow-up treatment appointment practice for patients after their surgery by a multidisciplinary team, Tawanchai Center, May 2014⁽¹⁰⁾

Appointment	Ordinal/period	Reasons
Follow-up treatment appointment after Cleft Lip surgery as follows:	1 st /2 weeks	Evaluate incision after surgery
	2 nd /3 months	Demonstrate how to massage and evaluate incision and examine ears and hearing(if cleft palates as well)
	3 rd /6 months	Evaluate incision and scar; ear and hearing examination; appoint for cleft palate surgery(if cleft palate)
	4 th /1 year or 2 years whichever appropriate	Appoint for Cleft & Craniofacial Clinic when age 7 to 8 years old for dental braces preparation(if cleft lip)

Table 2. Follow-up treatment appointment practice for patients after their surgery by a multidisciplinary team, Tawanchai Center, May 2014⁽¹⁰⁾

Appointment	Ordinal/period	Reasons
Follow-up treatment appointment after Cleft Lip surgery as follows:	1 st /2 weeks	Evaluate incision after surgery
	2 nd /3 months	Evaluate if incision has fistula; speaking practice; ears and hearing examination
	3 rd /6 months	Evaluate if incision has fistula; if so, appoint for a surgery to fix the hole.
	4 th /1 year As appropriate	Appoint for Cleft Clinic when 7 to 8 years old for dental braces preparation (if cleft lip)

Table 3. Follow-up Treatment and Nursing Intervention in Surgery Examination Room after Cheiloplasty (n = 93)

Follow-up treatment after surgery	Cheiloplasty (n = 93)	Percentage	Follow-up treatment (Doctor)	Nursing Intervention (Nurse)
2 weeks	82	88.17	-examine and evaluate incision, stitches off (some cases), prescribe ointment to prevent keloid/putting nose firming equipment, appoint for hospital admission for cleft palate surgery.	-evaluate incision, stitches off (some cases), ointment use and massage demonstration to prevent keloid and how to clean nose firming equipment
3 Months	50	55.56	-examine and evaluate incision, demonstrate how to massage, appoint for follow-up treatment and examine ears and hearing (in case of cleft palate)	-evaluate incision and demonstrate how to massage -issue appointment card and suggest what to do when coming for follow-up treatment as well as documents of treatment rights -coordinate with otolaryngology doctors and hearing pathologist
6 Months	3	3.23	-evaluate incision and scar, examine ears and hearing (if not evaluated yet), appoint surgery date (in case of cleft palate)	-evaluate incision and scar and suggest about massaging -advise about what to do before-after cleft palate surgery such as milk feeding equipment preparation or water instead of suckling, prevent fistula on the palate after surgery, avoid sickness, necessary items and documents preparation when admitting at the hospital or follow-up treatment appointment -coordinate with otolaryngology doctors, hearing pathologist (if not evaluated yet)
1 Year	3	3.23	-evaluate scar, nose's shape, treatment results and satisfaction -appoint for Cleft & Craniofacial Clinic when 7 to 8 years old for dental braces preparation (in case of cleft palate)	-evaluate scar, nose's shape, treatment results and satisfaction -issue appointment card, suggest what to do and necessary documents to bring when coming for follow-up treatment
2 Years	1	1.08	-evaluate scar, dental health, treatment results, and satisfaction -consult child dentists (in case of dental caries) -appoint a follow-up treatment in 1 or 2 years, whichever is appropriate	-evaluate scar, dental health, treatment results, and satisfaction -consult and coordinate with child dentists (in case of dental caries) -issue appointment card, suggest what to do and necessary documents to bring when coming for follow-up treatment
3 Years	1	1.08	-evaluate treatment results and satisfaction -appoint for 1 or 2-year follow-up treatment	-evaluate treatment results and satisfaction -issue appointment card and suggest what to do and necessary documents to bring when coming for follow-up treatment

coordination for further treatment with multidisciplinary team such as Otolaryngology, hearing pathologist, child dentist etc (Table 3).

For follow-up treatment after surgery, it was found that most of the patients (78 patients or 86.67%) came for a follow-up treatment within the first two-week period; 52 patients came three months after their surgery, which is about 57.78%. They were evaluated by their

incisions, fistulas, utterance, hearing, dental health, treatment results and satisfaction, consultation with the multidisciplinary team such as otolaryngologists, hearing pathologists, speech-language pathologists, orthodontics dentists, or child dentists (Table 4).

Discussion

From the study of the follow-up treatment and

Table 4. Follow-up Treatment and Nursing Intervention in Surgery Examination Rooms after Palatoplasty (n = 90)

Follow-up Treatment after Surgery	Palatoplasty (n = 90)	Percentage	Follow-up treatment (doctor)	Nursing Intervention (Nurse)
2 weeks	78	86.67	-evaluate the incision whether there is a fistula or not	-evaluate incision; advise how to clean and care incision and oral cavity for eating
3 Months	52	57.78	-evaluate the incision whether there is a fistula or not -advise; transfer to speech pathologists; examine ears and hearing	-evaluate the incision whether there is a fistula or not -provide information and advice about what to do before and after fistula closure surgery (in case of fistula) and cleft lip nose correction surgery -coordinate and transfer to otolaryngologists, speech or hearing pathologists
6 Months	22	24.44	-evaluate the incision whether there is a fistula or not If so, appoint for a fistula closure surgery	- evaluate whether there is a fistula or not - provide information and advice about what to do before and after fistula closure surgery (in case of fistula) and cleft lip nose correction surgery
1 Year	43	47.78	-evaluate incision and treatment results and satisfaction -appoint for Cleft Clinic when 7 to 8 years old for dental braces preparation (in case of cleft palate)	-evaluate incision and treatment results and satisfaction-issue appointment card; suggest what to do and necessary documents to bring when coming for a follow-up treatment
2 Years	36	40.00	-evaluate incision, utterance, hearing,	-evaluate incision, utterance, hearing,
3 Years	27	30.00	dental health, treatment results, and	treatment results, and satisfaction
4 Years	14	15.56	satisfaction	-advise and coordinate the multidisciplinary
5 Years	10	11.11	-transfer to the multidisciplinary	team such as otolaryngologists, hearing or
6 Years	4	4.44	hearing or speech pathologists,	speech pathologists, orthodontics dentists,
7 Years	1	1.11	orthodontics dentists, child dentists -appoint for a follow-up treatment as necessary	child dentists-issue appointment card; suggest about what to do and necessary documents to bring when coming for a follow-up treatment

outcome after surgery of the cleft palate patients aging between 4 to 7 years old according to Tawanchai Center's protocol, it can be seen that all 93 patients came for follow-up treatments after the surgeries in 2-week, 3-month, 6-month, and 1-year periods appointed with surgeons and nurses in surgery examination rooms. They were examined, evaluated, consulted, treated, appointed for a surgery, treatment, incision evaluation, recovery, and being transferred for further treatment to multidisciplinary teams. The surgery examination rooms are the department that cleft palate patients come for services the most, which corresponds with study on the topic of follow-up treatment of cleft palate patients aging between 4-5 years old, which found that 120 out of 123 patients underwent surgeries and have come for follow-up treatments 960 times, which is 30.66%⁽⁹⁾.

They also found that more than 80% of the patients came to the follow-up treatments within the first two weeks after the surgeries because they as well as their care takers had been evaluated since their admission at Srinagarind Hospital by their senses and acceptance of the mother and family. Additionally, they had been advised about the treatment after the surgery and recovery in accordance with the multidisciplinary team; they also received coordination

and administration so that they could access the services inclusively according to their ages. The services include support, reinforcement, friends, economic status evaluation, and help with the coordination and consultation with the multidisciplinary teams⁽¹¹⁾; this raises awareness in the caretakers of the importance of the issue and motivates them to bring their children to get surgeries according to their ages as well as follow-up treatments as appointed. For the patients who did not come for follow-up treatments two weeks after the surgeries, nurses and assistant caretakers from Tawanchai Center would make a phone call and appoint the patients for a follow-up treatment. In the case of the patients who have financial difficulties to travel to the hospital, the center would help with this or other cases as well.

However, the number of the patients who come to follow-up treatment 3 months, 6 months, and 1 year after the surgeries is decreasing because the caretakers have experiences being involved in taking care of patients while recovering at the hospital after surgery as well as preparation from Care Units to take care when the patient recovers at home in the first two weeks after the surgery⁽¹²⁾. This is corresponding to Wanita Kwansumran et al's study⁽¹³⁾, which found that the guardians' participation helps reduce their

stress and fear about how to take care of the patient after the surgery. When the patient comes back home, the caretakers continuously treat them as when they were at the hospital. Sometimes, the caretakers cannot take the patient to follow-up treatment as appointed in a 3-month or 6-month period. Moreover, child patients are dependable on their parents or guardians to make a decision and take them to follow-up treatment after the surgery. These conditions could be factors which affect the decision making of the caretakers resulting in the patients not being able to come to protocol follow-up treatment from Tawanchai Center. The study about the factors relating to cleft palate patients to come to follow-up treatment at Srinagarind and Khon Kaen Hospital showed that factors of the caretakers such as age, sex, education, marital status, income, family members, knowledge about treatment and the sources useful for the treatment have an effect on the patients' coming to follow-up treatments⁽¹⁴⁾.

In the cases when the follow-up treatments in 3-month, 6-month, and 1-year periods after surgeries did not go as planned from the protocol, it is because the cleft palate patients have many appointments in the same period such as cleft palate surgery, ear examination, or hearing examination. As a result, they have to change the appointment date from the protocol as necessary. Therefore, the case manager is responsible to manage, coordinate, and make it convenient for the patients to get a one-day service so that they do not have to come many times – to save time and money as well.

Conclusion

There were 93 patients aging between 4 to 7 years old getting cleft palate surgery, and 90 of them came for follow-up treatment in 2-week, 3-month, 6-month, and 1-year periods respectively; this is a protocol treatment of Tawanchai Center. The patients were taken care of by surgeons and a multidisciplinary team in order to be appropriately treated according to their ages.

Acknowledgements

Our gratitude towards the administrators for the permission to collect data. Thanks to the multidisciplinary team and officials in surgery examination rooms for your kind cooperation to collect the data. Special thanks to Center of Cleft lip Cleft Palate and Craniofacial Deformities Khon Kaen University under Tawanchai Royal Granted Project (Tawanchai Center) for the financial support to do and publish this research.

What is already known on this topic?

The inclusive treatment and care for cleft palate patients is a result of the practice according to the protocol set by the disciplinary team who help take care inclusively.

What this study adds?

From the follow-up treatment after cleft palate correction surgery in the first two weeks as set in the Tawanchai Center's protocol, the patients were not able to

be fully treated and recover as there were other problems to look for and find solutions to them.

Potential conflicts of interest

The authors declare no conflicts of interest.

References

1. Chowchuen B, Kiatchoosakun P. Manual of incidence, causes, and prevention of cleft lip, cleft palate, and craniofacial deformities. Khon Kaen: Klungnana Wittaya; 2013.
2. Ratanasiri T, Junthathamrongwat N, Apiwantanakul S, Wongkam C, Bowornsilp C. The birth incidence of cleft lip and palate at Srinagarind Hospital, 1990-1999. *Srinagarind Med J* 2001;16:3-7. [in Thai]
3. Ruangsitt C, Phraserthsang P, Banpho Y, Lamduan W, Giathamnuay S, Nuwantha A. Incidence of cleft lip and cleft palate in three hospital in Khon Kaen. Khon Kaen: Department of Orthodontics Faculty of Dentistry, Khon Kaen University; 1993. [in Thai]
4. Chowchuen B, Thanaviratnanich S, Chichareon V, Kamolnate A, Uewichitrapochana C, Godfrey K. A Multisite Study of Oral Clefts and Associated Abnormalities in Thailand: The Epidemiologic Data. *Plast Reconstr Surg Glob Open* 2016;3:e583.
5. Chowchuen B, Pradubwong S. Annual report of center for patients with cleft lip, cleft palate, and craniofacial deformities, Khon Kaen University, fiscal year 2014. Khon Kaen: Klungnana Wittaya; 2017.
6. The Healthcare Accreditation Institution (Public Organization). Hospital standards and healthcare services, 60th Anniversary Celebration of the King's Accession to the Throne Edition. Nonthaburi: The Healthcare Accreditation Institution; 2015. [in Thai]
7. Pongpagatip S. Handbook of preparation patients with cleft lip and palate for treatment and surgery. Khon Kaen: Division of Nursing Srinagarind Hospital Faculty of Medicine, Khon Kaen University; 2010.
8. Pradubwong S, Pongpagatip S, Prathanee B, Thanawirattananit P, Ratanaanekchai T, Chowchuen B. The treatment of 4-5 year-old patients with cleft lip and cleft palate in Tawanchai Center: follow-up. *J Med Assoc Thai* 2012;95 Suppl 11:S135-40.
9. Chowchuen B, Pradubwong S. Annual report of center for patients with cleft lip, cleft palate, and craniofacial deformities, Khon Kaen University, fiscal year 2017. Khon Kaen: Klungnana Wittaya; 2018.
10. Pradubwong S. Cleft lip and palate patients by age interdisciplinary. *Srinagarind Med J* 2007;22:291-6. [in Thai]
11. Aksornwan D, Mongkholtawornchai S, Pradubwong S. Preparation on surgery for caregivers of patients with cleft lip-palate in handbook of caregivers: Guideline of caring with patients with cleft lip and palate. Khon Kaen: Klungnana Wittaya; 2013.
12. Kwansumran W, Ngamtippayapan A, Chaimongkol N. Parent participation in caring for hospitalized children

- after cleft lip-cleft palate repair. J Fac Nurs Burapha University 2015;23:20-30.
13. Pradubwong S, Mongkholtawornchai S, Akaratiensin P. Factors related to treatment of patients with cleft lip-palate in Srinagarind and Khon Kaen Hospital. Khon Kaen: Division of Nursing Srinagarind Hospital Faculty of Medicine, Khon Kaen University; 2009.