Nursing Care System Development for Patients with Cleft Lip-Palate and Craniofacial Deformities in Operating Room Srinagarind Hospital

Saowaluck Riratanapong BSc*, Waranya Sroihin ME*, Kingkan Kotepat BSc*, Kanittha Volrathongchai PhD**

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

Background: For a successful surgical outcome for patients with cleft lip/palate (CLP), the attending nurses must continuously develop their potential, knowledge, capacity and skills. The goal is to meet international standards of patient safety and efficiency.

Objective: To assess and improve the nursing care system for patients with CLP and craniofacial deformities at the operating room (OR), Srinagarind Hospital, Khon Kaen University.

Material and Method: Data were collected for two months (between March 1, 2011 and April 30, 2011). Part 1 was an enquiry regarding the attitude of OR staff on serving patients with CLP; and, Part 2.1) patient and caregiver satisfaction with service from the OR staff, and 2.2) patient and caregiver satisfaction with the OR transfer service.

Results: The authors interviewed 28 staff in OR unit 2 of the OR nursing division and 30 patients with CLP and his/her caregiver. The respective validity according to the Cronbach's alpha coefficient was 0.87 and 0.93. The OR staff attitude vis-a-vis service provision for patients with CLP service was middling. Patient and caregiver satisfaction with both OR staff and the transfer service was very satisfactory.

Discussion and Conclusion: Active development of the nursing care system for patients with CLP and craniofacial deformities in the operating room, Srinagarind Hospital improved staff motivation with respect to serving patients with CLP. The operating theater staff was able to co-ordinate the multidisciplinary team through the provision of surgical service for patients with CLP.

Keywords: Cleft lip-cleft palate (CLP), Operating theater attitudes, Patient caregiver satisfaction

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The Northeast region of Thailand has a disproportionately high incidence of cleft lip-palate (CLP) and craniofacial deformities (2.49 per 1,000 newborns)(1). Since CLP affects the facial structure and function, having a newborn with CLP is deeply disturbing (including grief, guilt and anxiety) and breaks positive expectations of the parents and extended family. Although the deformity is physical, the sequelae are nutritional, developmental and psycho-social. Patient care and treatment therefore emphasizes a trajectory of corrective surgeries and symptom resolution through the growing years into young adulthood (birth to 18 years of age). A multidisciplinary team approach works to achieve as normal an appearance and as much functionality as possible. The satisfaction of the patient and family is the goal. In this regard, the patient and family receive encouragement, knowledge, suggestions and assistance from the team throughout the two decades of treatment(2,3).

The key to successful treatment is assessing, correctly diagnosing and addressing cum treating the needs of each patient; by co-ordinating the diverse and particular skill sets of specialists in the correct sequence over the various growth stages/phases of the patient. At each stage, the results of treatment must enable a good quality of life. In other words, the treatment itself comprises discrete cum complete stages of success. There will be a beautiful face, a good speaking voice, dental eruption, order and occlusion as close to normal as possible, so that the patient may
continue to develop intellectually and adapt socially(3).

Services for cleft lip-palate and craniofacial
Deformities began at Srinagarind Hospital, Faculty of
Medicine, Khon Kaen University in 1978. The collection
of surgical data began in 1984. The total number of CLP
patients since then is 2,153 (from 3,545 cases), for an
average 150 persons per year. The number of surgeries
has increased to between 200 and 250 persons per year
(e.g., 221 in 2010). Since nurses are key persons in the
care and safety of patients having surgery, they must
improve their potential, capability and skills and keep
abreast with new medical procedures and technology;
in order to achieve the best (quality and effective) care
of patients undergoing surgery.

The center for cleft lip-cleft palate and
craniofacial deformities at Srinagarind Hospital is
integrated with the Tawanchai Foundation (a charity)
which provides financial and ‘in kind’ support to
augment the capacity to what the government sector
provides. The foundation also co-ordinates medical
services and provides information to patients with CLP
who need surgery, crucial for quality medical service.

The researchers asked patients (and family
member caregivers) about the attitudes of the staff
taking care of CLP patients in the operating room. After
their experience in OR, the patients and caregivers
completed a questionnaire on their satisfaction and
knowledge. The results of these questions provided
baseline data. The purpose of these questions and
formation of a database is to enable continuous
improvement of medical services for patients with CLP.

Objective
To study and develop the nursing care system
for patients with cleft lip-palate and craniofacial
deformities in the operating theatre at Srinagarind
Hospital, Faculty of Medicine, Khon Kaen University,
Thailand.

Material and Method
There were 2 groups of the study: the first
group was 28 nurses (22 registered nurses, 6 practical
nurses) and the second group was 30 care givers. The
researchers created a two-part questionnaire. Part 1
included 6 questions on the attitude of the operating
theatre staff about care of CLP patients. Part 2 comprised
(a) 2 sets of 6 questions on patient satisfaction with
operating theatre service and transfers and (b) 6
questions on caregiver satisfaction with operating
theatre services and transfers. The emphasis was on
staff attitudes and performance of their assigned duties.

Seven experts performed the content validity of the
questionnaire. The cronbach’s alpha coefficient was
0.87 and 0.93 for parts 1 and 2, respectively.

The questionnaires were administered to 2
purposively sampled groups: 1) 28 staff in the operating
unit 2 of the operating theatre nursing division, and 2)
30 patients with CLP, they also were homogeneous.
Then, they could represent the entire sampling group.
Besides, their caregivers present at the operating theatre
nursing division.

Data were collected during working hours over
a 2-month period (between March 1, 2011 and April 30,
2011).

Ethical consideration
Study was approved by the Ethic committees
on human rights Related of Khon Kaen University.

Interpretation criteria
The scoring criteria for the questions ranged
between Strongly agree = 5 and Strongly disagree = 1.
An attitude score of 4.50-5.00, 3.50-4.49, 2.50-3.49, 1.50-
2.49 and 1.00-1.49 indicated the highest, a high, a
medium, a low and lowest level, respectively.

The respective scoring for great, good and
fair transfer service or needs improvement was 4, 3 and
2 or 1 point.

A respective caregiver satisfaction score of
3.10-4.00, 2.10-3.00 and 1.00-2.00 indicated high, medium
and needs improvement.

Respondents were asked where and how
services might be improved.

Results and Discussion
The majority of operating theatre personnel
were nurses 28 person (100%); 36% of whom had
worked in this position for more than 15 years. Most of
the caregivers were the mothers of the CLP patient
(73.3%). Most caregivers had graduated from high
school or had a vocational certificate (63.3%). Most
(90%) of the caregivers were rural denizens and 40%
were wage earners.

The survey of attitudes of operating theatre
personnel with respect to serving patients with CLP
3.83, revealed that they work together with the
multidisciplinary team for the benefit of patients at a
high level. The lowest score was 3.13 points and that
was in the realm of personnel confidence in the
specialized instruments used for CLP surgery (Table
1).

Patient/caregiver satisfaction with the
operating theatre transfer service was ‘great’ for every item. The highest satisfaction was with ensuring that the patient had stopped drinking water and eating before surgery (3.67 points). The lowest score was for self-introductions to patients by personnel when they met the patient in the ward and for satisfaction with transfer services from the Operating Theatre to ward (3.40 points) (Table 2). There was good overall patient satisfaction with the services in the operating theatre. Caregivers were very satisfied with the personnel in all categories. The highest score was for self-introductions to patients before providing information (3.40 points) while the lowest score was for not observing how the patient felt (i.e., anxiety) and whether or not the patient could understand the information being given (3.07 points) (Table 3).

The authors found that patients with CLP and their caregivers were wholly satisfied with their overall surgical experience; that is, the preparatory phase, the transfer and the surgery itself: the personnel at each step of the journey were conscientious, professional and dedicated to the patient. This result agrees with Kawewong, who studied the Development of the Out-patient Department at Kamalasai Hospital, Kalasin Province and Client satisfaction and found that the level of client satisfaction was high after implementation of systematic nursing processes. Kawewong suggested that other departments could use her study for improving services and personnel attentiveness. All departments could, moreover, query clients, patients and caregivers about their level of satisfaction with services and personnel about their attitudes toward work and levels of stress. Similarly, Khurasei studied the Development of out-patient department at Changhan Hospital, Roi Et Province and client

### Table 1. Attitude of operating theatre personnel to patients with cleft lip-cleft palate (n = 28)

<table>
<thead>
<tr>
<th>Services</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Point average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You know about CLP</td>
<td>3.17</td>
<td>0.737</td>
<td>Medium</td>
</tr>
<tr>
<td>2. You are confident that you can give correct information about CLP to the patients and their family</td>
<td>3.23</td>
<td>0.793</td>
<td>Medium</td>
</tr>
<tr>
<td>3. You can properly prepare the OR and instruments</td>
<td>3.73</td>
<td>0.903</td>
<td>High</td>
</tr>
<tr>
<td>4. You can properly prepare the instruments and sutures for the patient getting CLP surgery</td>
<td>3.50</td>
<td>0.957</td>
<td>High</td>
</tr>
<tr>
<td>5. You are confident you can pass the correct instruments during the CLP surgery</td>
<td>3.13</td>
<td>0.916</td>
<td>Medium</td>
</tr>
<tr>
<td>6. You can coordinate with the multidisciplinary team in order to serve the CLP patient at each stage of surgery</td>
<td>3.83</td>
<td>0.996</td>
<td>High</td>
</tr>
</tbody>
</table>

### Table 2. Patient/caregiver satisfaction with the operating theatre (OR) transfer service (n = 30)

<table>
<thead>
<tr>
<th>Services</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Point average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OR personnel introduced themselves to you when he/she met you at the patient ward</td>
<td>3.40</td>
<td>0.724</td>
<td>Best</td>
</tr>
<tr>
<td>2. OR personnel asked your first and family name and confirmed it on the patient case history file on the bed</td>
<td>3.60</td>
<td>0.621</td>
<td>Best</td>
</tr>
<tr>
<td>3. You were satisfied with the transfer services from the patient ward to the OR before the surgery</td>
<td>3.57</td>
<td>0.571</td>
<td>Best</td>
</tr>
<tr>
<td>4. OR personnel were polite and carefully transferred you/the patient</td>
<td>3.50</td>
<td>0.571</td>
<td>Best</td>
</tr>
<tr>
<td>5. OR personnel confirmed that you, the patient, had stopped drinking and eating the night before</td>
<td>3.67</td>
<td>0.535</td>
<td>Best</td>
</tr>
<tr>
<td>6. You were satisfied with the transfer services from the OR to the patient ward after surgery</td>
<td>3.40</td>
<td>0.621</td>
<td>Best</td>
</tr>
</tbody>
</table>
Table 3. Patient/caregiver satisfaction with the operation theater (OR) personnel (n = 30)

<table>
<thead>
<tr>
<th>Services</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Point average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OR personnel introduced themselves before giving information/</td>
<td>3.40</td>
<td>0.62</td>
<td>Best</td>
</tr>
<tr>
<td>suggestions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. You felt comforted and relaxed while you were waiting at the patient</td>
<td>3.30</td>
<td>0.69</td>
<td>Best</td>
</tr>
<tr>
<td>preparing room before surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. You understood about the CLP disease including the medical treatment</td>
<td>3.10</td>
<td>0.66</td>
<td>Best</td>
</tr>
<tr>
<td>you were about to undergo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. You had sufficient information to make you confident regarding</td>
<td>3.10</td>
<td>0.66</td>
<td>Best</td>
</tr>
<tr>
<td>the treatment after surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. You, the patient, felt taken care of so that you were at ease while</td>
<td>3.33</td>
<td>0.53</td>
<td>Best</td>
</tr>
<tr>
<td>waiting at the patient preparing room before surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. You observed that while taking care of the patient, the patient felt</td>
<td>3.10</td>
<td>0.66</td>
<td>Best</td>
</tr>
<tr>
<td>relaxed and cooperated with the OR personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

satisfaction there and found that after implementation of nursing procedures, client satisfaction was high.

**Conclusion**

After developing the nursing care system, the authors found that operating theatre personnel had a good overall attitude toward providing service to patients with cleft lip-cleft palate. Personnel were able to serve patients at each stage of the surgery process (pre-, during and post-). Patient/caregiver satisfaction was very good both with OR transfers and the service from the OR personnel themselves. System development has, therefore, effectively improved the attitude and performance of OR personnel: patients with cleft lip-cleft palate and caregivers are satisfied with the services.

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**Potential conflicts of interest**

None.

**References**

การพัฒนาระบบการพยาบาลผู้ป่วยที่มีความพิการปากทางส่งเสริมสุขภาพในหน่วยและศีรษะท้องผิดตั้ง
โรงพยาบาลศิริราช

สาขาวิชานวัตกรรมการพยาบาล


c0. การให้การพยาบาลและการดูแลผู้ป่วยให้ได้รับความปลอดภัยทุกประการของการพยาบาลอย่างที่ต้องให้ทันท่วงที ประสบ
ผลสำเร็จ พบผลการพยาบาลคัดค้าน ความผิดปกติสามารถถูกทราบความเสี่ยงทางคัดเห็นผิดพลาดที่จะ
เกิดขึ้นสำหรับในศูนย์การแพทย์ที่มีสิ่งที่ช่วยให้การบริการที่ปลอดภัย มีผลกับรายและมีประสิทธิภาพ นอกจากนั้น
วัตถุประสงค์: เพื่อศึกษาและพัฒนาระบบการพยาบาลผู้ป่วยปากทางส่งเสริมสุขภาพในหน่วยและศีรษะ ท้องผิดตั้งโรงพยาบาล
ศิริราช

วัตถุประสงค์และวิธีการ: เรื่องนี้ในการเก็บรวบรวมข้อมูล แบ่งออกเป็น 2 สวน คือ ในสวนที่ 1 แบบสอบถามพัฒนา ของเจ้าหน้าที่
ท้องผิดตั้งการบริการผู้ป่วยผิดตั้งปากทางส่งเสริมสุขภาพ สวนที่ 2 แบบสอบถามความพึงพอใจของผู้บริการสำหรับผู้ป่วยปากทาง
ส่งเสริมสุขภาพ/พื้นที่ จำนวน 2 ชุด คือ 1) แบบสอบถามความพึงพอใจของผู้ป่วยปากทางส่งเสริมสุขภาพ
2) แบบสอบถามความพึงพอใจของผู้ป่วยปากทางส่งเสริมสุขภาพเรื่องบริการส่งเสริมสุขภาพ โดยวิเคราะห์ความเครื่องแบบด้วยสิ่งประดิษฐ์และส่วนบุคคล หลังน่าประชาสัมพันธ์ (Cronbach’s alpha
coefficient) ได้ 0.87 และ 0.93 แบบสอบถามไปสิ่งที่ใน 2 กลุ่มตัวอย่าง ที่สอดคล้องเฉพาะงาน (purposive
sampling) คือ เจาหนาที่ผู้มีประสบการณ์ในการผิดตั้ง 2 แผนการพยาบาล ท้องผิดตั้ง จำนวน 28 คน และผู้ป่วยปากทาง
ส่งเสริมสุขภาพ/พื้นที่ เรื่องบริการที่แผนการพยาบาลท้องผิดตั้ง จำนวน 30 ราย ใช้วิธีการรวมข้อมูลดังนี้: 1.
มีค่าที่ 2554 ถึง 30 เมษายน พ.ศ. 2554 ที่วันและเวลาเริ่ม
ผลการพินิจ: ทัศนคติของเจ้าหน้าที่ท้องผิดตั้งการบริการผู้ป่วยผิดตั้งปากทางส่งเสริมสุขภาพในระดับมาก และเห็นความ
พึงพอใจของผู้ป่วยส่งเสริมสุขภาพ/พื้นที่ คือการบริการっぺน และการบริการของเจ้าหน้าที่ ท้องผิดตั้งอยู่ในระดับมาก
ที่สอดคล้อง

สรุป: การพัฒนาระบบการพยาบาลผู้ป่วยที่มีความพึงพอใจปากทางส่งเสริมสุขภาพ ศีรษะและใบหน้า แผนการพยาบาล ท้องผิดตั้ง
โรงพยาบาลศิริราช ทำให้เจ้าหน้าที่ท้องผิดตั้งมีทัศนคติที่ดีต่อการให้บริการ ผู้ป่วยผิดตั้งปากทางส่งเสริมสุขภาพสามารถ
ประสานงานกับหน่วยส่งเสริมสุขภาพในการบริการผู้ป่วยผิดตั้งปากทางส่งเสริมสุขภาพให้ทุกชั้นตอนของการพยาบาล

The project meeting of academic service of excellent center; 19-21 October, 2009. Khon Kaen:
Faculty of Medicine, Khon Kaen University; 2009.