Effectiveness of Networking of Khon Kaen University Community-Based Speech Model: Quality of Life

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Background: *After surgically correcting deformities in children with cleft lip/palate (CLP), 88% still had speech disorders, resonance disorders, voice abnormalities, and unintelligibility that affected daily life. Accessibility to speech therapy in developing countries is limited. The community-Based Speech Therapy Model is one means of improving communication and quality of life.*

Objective: *To evaluate quality of life and reflections from children, families, and speech assistants (SAs) who participated in Networking of Khon Kaen University Community-Based, Speech Therapy Model (KKUCBSM) in Mahasarakham province.*

Material and Method: *The model was piloted from March 2014 to February 2015. The Tawanchai Quality of Life questionnaire, General Health Questionnaire (Thai GHQ-12), and open-ended question feedback were used for collecting data June to August 2015. Demographic data were reported as percentages, means, standard deviations, and content analysis of open-ended questions.*

Results: *Fourteen children with cleft lip and palate (mean age 5.5 years: 7 boys, 7 girls), 14 caregivers and 6 SAs were recruited for this study. Most caregivers were parents (9 families). Their needs were dental care followed by skills to support child development and skills to improve the children's speech (score 4.64±0.497, 4.57±0.646, 4.50±0.519, respectively). The score for psychosocial satisfaction vis-a-vis facial appearance was good (3.50±0.760), but for negative result scores, they felt significantly less happy, tired, and hopeless (4.79±0.579). The anxiety score was in the normal range.*

As a result of interviewing about problems and obstacles before joining, caregivers reported their greatest problems arose from difficulties traveling to join the project (costs were greater than reimbursements and time was insufficient). SAs reported being overworked. Benefits from participation in the project included: children with clefts consistently accessed speech services by SAs in community, caregivers gained good experiences for daily living support and speech correction. SAs gained experiences in speech correction under supervision of Speech and language pathologists (SLPs) that could be used to help other children with speech defects and other patients besides children with clefts.

Conclusion: *KKUCBSM for children with CLP was not only the effective way for solving articulation defects, but also improved quality of life in children with CLP.*

Keywords: *Community-based speech, Quality of life, Cleft lip, Cleft palate*

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After corrective surgery for the included children with cleft lip/palate (CLP), about 88% still had problems with speech defects such as articulation disorders, voice disorders, hoarseness, and nasal voice, affecting communications vis-a-vis daily living and social function[1]. The problems might be decreased if they were to receive early speech correction by qualified speech and language pathologists (SLPs). There are, however, limited speech services in Thailand, particularly in the impoverished populated, northeast region[2].

Networking-using the Khon Kaen University Community-Based Speech Therapy Model (KKUCBSM)-for children with CLP was extended to catchment area 7 of the National Health Security Organization. The area included the provinces of Khon Kaen, Maha Sarakam, Roi-Et, and Kalasin. A program "Training for the Trainer" was established to train local healthcare providers to be speech assistants (SAs) for the primary and local community healthcare units in 6 districts in Mahasarakham

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province (viz., Mueang, Kosumpisai, Kantarawichai, Chiang-yuen, Borabue, and Wapipathum)[2-4].

Objective

To evaluate the quality of life and gather reflections from the children, their families, and the speech assistants who participated in the study.

Material and Method

KKUCBSM in Maha Sarakham Model was piloted between 2013 and 2014. It included, (a) a 4-day intensive speech camp run by SLPs with teaching on home-based, speech correction services for SAs and caregivers and (b) six 1-day follow-up speech camps for monitoring speech correction by SAs. Six SAs provided speech correction with supervision from speech and language pathologists (SLPs) for a year. Subsequently, the Networking of KKUCBSM was run between March 2014 and February 2015. The process comprised (a) a 1-day intensive speech camp by SLPs and (b) two 30-minute speech correction sessions a month by SAs at District or Tambon Health Promoting Hospitals. After 1 year, a QoL questionnaire[5], a General Health Questionnaire (Thai GHQ-12), and individual interviews using open-ended questions were used to gather feedback from children and families regarding satisfaction with treatment and training. We were particularly interested in: (a) problems and obstacles in enrollment in the pilot; (b) how these problems were solved; and, (c) what the outcomes were. Data were reported as percentages, means, SDs, as appropriate. Content analysis was performed on the open-ended questions.

Ethical

The study was reviewed and approved by the Human Research Ethics Committee, Khon Kaen University (HE 581161).

Results

Fourteen children with clefts and 14 caregivers' characteristics were presented as Table 1. General information on SAs is presented in Table 2. QoL questionnaires obtained from caregivers had 5 groups; the included items are shown in Table 3. The results of the Thai GHQ-12 for assessing anxiety is presented in Table 4.

The results from the direct interviews with caregivers and SAs revealed that participating in the networking posed difficulties in making travel arrangements, and affording the costs of travelling.

Table 1. Demographics for participants (n = 14)

General information	Number	Percentage (%)
Males/females	7/7	50/50
Mean age, years	5.5	
Diagnosis		
Lt. CLP	6	43
CP	4	29
Bilateral CLP	3	21
Rt. CLP	1	7
Caregiver		
Father/mother	9	64
Grandfather/grandmother	5	36

Lt. CLP = left cleft lip and palate; CP = cleft palate; Bilateral CLP = bilateral cleft lip and palate; Rt. CLP = right cleft lip and palate

Table 2. Demographics speech assistants (SAs) (n = 6)

General information	Number	Percentage (%)
Females/males	4/2	67/33
Mean age, years	34.8	
Occupation		
Physical therapist	3	50.0
Nurse	1	16.7
Occupational therapist	1	16.7
Health personnel	1	16.7

Relatedly, the number of sessions was inadequate because of (a) appointment management, (b) too many assignments for the SAs, and (c) job overload for the SAs. Table 5 showed some suggestions from the participants to resolve the problems

Discussion

The Khon Kaen University, community-based, speech therapy, networking model (KKUCBSM) created a process for creating an in-community SA team, where before there was a dearth of personnel and limited resources. This is a significant development and could help to improve QoL of children with CLP and their respective family. The outcome of speech training could be a consistent improvement the children and family needs and QoL. This supported the study by Patjanasoontorn et al[5] who found that children and family needs included physical healthcare, dental hygiene, and speech correction; these needs should be provided near home. The current study queried

Table 3. Questionnaires asking for needs and quality of life of families with CLP (n = 14)

Needs and QoL questionnaires	Mean ± SD (standard deviation)
Medical healthcare	
1) To know how to feed the infant	1.93±1.542
2) To know how to do speech training	4.50±0.519
3) To stimulate child development	4.57±0.646
4) To know how to do home dental care	4.64±0.497
5) To know how to prevent ear infection	3.86±1.562
6) To know when to get a hearing test & audiometry	3.64±1.499
7) To know how to communicate to the child what is happening to him/her	3.36±1.393
8) To know what coping skills to teach when he/she is teased or bullied	2.79±1.847
Medical service	
9) Where to get health services	3.79±1.122
10) Need to share decisions regarding treatment	3.93±1.141
11) Need a referral from their local health service	3.86±1.231
Cost of medical care	
12) To know about their health coverage	2.93±1.542
13) How to get economic support	3.14±1.562
14) Your family is economically self-sufficient	2.50±1.225
15) You cannot afford travelling expenses	2.71±1.541
Family's satisfaction	
16) Your child is satisfied in him/herself	3.43±0.756
17) You are worried about your child's health	3.21±1.188
18) You are satisfied with your child's appearance	3.50±0.760
19) Your child has behavioral problems	2.07±1.207
Family's impact	
1) You have to work more to cover CLP health expenses*	2.71±1.204
2) You quit your job or work to care for the CLP child*	2.93±1.492
3) You have to borrow money	3.93±1.072
4) You haven't enough time to work because you spend so much time on CLP care	3.79±1.369
5) Your family has no leisure activity because you have to so much CLP child care	4.57±0.756
6) Your family has little happiness because of the CLP child	4.79±0.579
7) You have less time to care for your other children	4.71±0.726
8) You lack energy because of the CLP child care	4.79±0.579
9) Your family is supportive	3.50±0.855
10) You are afraid to get pregnant again	3.50±1.454
11) You worry about your CLP child's future	3.36±1.216
12) You feel pity the CLP child	3.50±1.506
13) Your family is resolved to find solutions to problems	4.29±0.726
14) Your family has been strengthened	4.14±0.770
15) The CLP child is disliked by his/her other siblings	4.57±0.756
16) The CLP child has more temper tantrums	3.43±1.651
17) The CLP child's illness has given you health problems	4.64±0.745
18) You have less time to care for yourself	4.71±0.726
19) You have less time to rest	4.64±0.745
20) You have decreased sexual enjoyment	4.71±0.726

Rating scale was 1-5 (1: don't agree, 2: somewhat agree, 3 agree, 4: moderately agree, 5: strongly agree).
Score level of opinion/need/satisfaction[6]: 4.50-5.00 (very highly satisfied); 3.50-4.49 (highly satisfied); 2.50-3.49 (moderately satisfied); 1.50-2.49 (slightly satisfied); 1.00-1.49 (very dissatisfied)

about the mental health of caregivers and found it good. Praduabwong et al found that caregivers functioned adequately if given guidance on how to help their children; namely, information about: speech training,

Table 4. General Health Questionnaire (Thai GHQ-12) for caregivers (n = 14)

Information	Mean ± SD
1) You can concentrate on your work	1.79±0.426
2) You cannot sleep well because you feel anxious	1.21±0.579
3) You feel useful and helpful to others	1.93±0.267
4) You can make a good decisions	1.93±0.267
5) You feel tension	1.29±0.611
6) You feel over whelmed by difficulties	1.29±0.611
7) You feel enjoyment on a regular basis	1.79±0.426
8) You can face problems by yourself	1.86±0.363
9) You feel unhappy and sad	1.14±0.535
10) You have lost self-confidence	1.07±0.267
11) You feel worthless	1.07±0.267
12) In general, you feel adequate and peaceful	1.79±0.426

Likert score from 1-4 (1 = not at all, 2 = seldom, 3 = sometime, 4 = most of the time).
Based on criteria score ≥2 suggests that there is a mental health problem[8]. Findings revealed that there were no mental problems in any item.

testing hearing, stimulating child development, dental care, and coordinating multidisciplinary health services[8].

The current project is part of the THAICLEFT OUTCOME STUDY aimed at improving the quality of care for children (around 5.5 years of age) under the Tawanchai Project[9]. Like the current study, Pumnum et al, 2015[10] found that networking in the Non Thong Tambon Health Promotion Hospital, Borabue, Mahasarakham, significantly reduced the number of post-articulation errors for 3 children with cleft lip/palage. Similarly, Hanchanlert et al 2015[11] demonstrated that the Model significantly reduced the number of articulation errors-both at the word and sentence levels-for children with cleft lip/palate. Networking through the Kosumphisai pilot of the Model provided a valid and efficient means of providing speech services for children with cleft lip/palate and could be extended to any area in Thailand and other developing countries, with similar contexts. This supported the study by Makarabhirom et al[12] who found that the Model is a valid and efficient method for providing speech therapy for children with cleft lip/palate.

Conclusion

Networking through KKUCBSM for children with cleft lip/palate (a) provided a conduit for identifying (i) children and families needing speech services and (ii) local persons willing to be trained to provide speech services, and (b) resulted in good satisfaction with the developed services and improved quality of life. Health administrators should consider supporting speech training for CLP patients of local healthcare providers.

What is already known on this topic?

There is a lack of speech services and SLPs for children with CLP in Thailand; how this affects quality of life (QoL) has not been evaluated.

What this study adds?

The study looks at solutions for the lack of speech services and SLPs for children with CLP by training up local healthcare provider (SAs) under supervision of SLPs. The project also improved QoL of children and families in the pilot.

Acknowledgements

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Potential conflicts of interest

None.

References

1. Chowchuen B, Godfrey K. Development of a

Table 5. Problems and suggestions from caregivers (n = 14) and speech teachers (n = 6)

Ideas	Suggestions
- Grandfather took his grandchildren to speech camp by Motorcycle ,it unsafe to ride in highway - Child's parent was separated, left the child with grandparent - No parents at home to encourage the child to practice	- Calling for making appointment - SA found a local vehicle to bring them to hospital - Teach grandfather to be speech supporters
- Grandmother could not take the child to hospital on time on appointment day, because of could not control the bus time - Grandmother could not control and discipline the child and she was too old and illiterate - Child had no capability to train because intellectual lag	- Calling for making appointment - Parent should be encouraged to bring their child and teach him
- Parents' unresponsibility due to alcohol use and gambling, left grandchild to live with grand parents - Too short time to arrange to come to SA after call for appointment	- Calling for making appointment
- Divorce parents divide the kids for each of them - Aunt take responsibility for taking care child and keep child to practice and learn, child also behaved good in study and doing chores	They feel inspire with SA
- Caregiver could join only 2/3 sessions because on week day, she could not get permit to work leave. If the activities were on weekend, she would come. Child have many health care appointments such as Dental Clinic, Ear Nose Throat Clinic	- Calling for making appointment - Asking the same day with another appointments and make appointment on weekend
- Family prepared well to go to hospital to speech practice - Mother train her child to speak and kid had good cooperation	- Calling for making appointment
- Child could not read well, mother called to hospital to confirm and come	- She has to have more calm and encourage her child to practice - Mother call to hospital to confirm and come
- She spent 1,000 baths for traveling but she got reimburses from the organization only 500 baht - She took the child to community hospital to practice speech	- She was happy to spend the 500 baht part for the good thing to her child - She called for making appointment before she go
- Child could not get complete training due to caregiver and SA had the same free time on appointment	- Project should to organized and concern about child advantage
- Single mother took care 3 children and worked to earn money alone, grandmother was caregiver. She spend 1,000 baht for traveling but she got reimburses from the organization only 500 baht	- Speech teacher is very good responsibility - Grandmother know how to teach the kid

network system for the care of patients with cleft lip and palate in Thailand. Scand J Plast Reconstr Surg Hand Surg 2003; 37: 325-31.
2. Prathanee B, Dechongkit S, Manochiopinig S. Development of community-based speech therapy model: for children with cleft lip/palate in northeast Thailand. J Med Assoc Thai 2006; 89: 500-8.
3. Prathanee B, Lorwatanapongsa P, Makarabhirom

Table 5. Cont.

SA ideas	suggestions
- At the beginning, she use extra time after work to teach but she could not do anymore ,and make a class in hospital, it make the parent could not easily join - Regular job assignment is overload - The project help her to gain confidence to be SA	
- She had a lot regular jobs and increased - Her boss did not fully support her to joined project and many follow-up speech camps negative impact to her - Project gave her skills of speech correction to use in children with CLP kid and Autism	
- She could do and gain more professional, she could use it in many patients not only in CLP - Her boss support her work	
- It make her more busy - Her boss gave her new job so she will do this job until closing project - Project had a lot meeting it increases her friend work load	- The project should inform the leader of community hospital to allow the participants to come
- She had overloaded regular work - Project made her busy on official time - She could use the skills for her work and her kids	- To get personnel to the project should concern the hospital that has enough personnel

K, Suphawatjariyakul R, Wattanawongsawang W, Prohmtong S, et al. Speech camp for children with cleft lip and/or palate in Thailand. Asian Biomed 2011; 5: 111-8.

4. Prathanee B, Pummum T, Seepuaham C, Pradaubwong S, Chowchuen B. Development of a network system in Khon Kaen community and multidisciplinary team care for patients with cleft lip/palate. Khon Kaen, Thailand: Department of Otorhinolaryngology, Faculty of Medicine, Khon Kaen University, Thailand; 2013.
5. Patjanasoontorn N, Pradaubwong S, Rongbutsri S, Mongkholthawornchai S, Chowchuen B. Tawanchai Cleft Center quality of life outcomes: one of studies of patients with cleft lip and palate in Thailand and the Asia Pacific Region. J Med Assoc Thai 2012; 95 (Suppl 11): S141-7.
6. Wongrattana C. Statistical technique for research. 8th ed. Bangkok: Thep Neramith Press; 2001.
7. Nilchaikovit T, Sukyist C, Silpakit C. General health questionnaire [Internet]. 2002 [cited 2015 Aug 10]. Avaliable from: http://www.dmh.go.th/test/download/files/ghq.pdf
8. Pradubwong S, Mongkholthawornchai S, Keawkhamsean N, Patjanasoontorn N, Chowchuen B. Clinical outcomes of primary palatoplasty in pre-school-aged cleft palate children in Srinagarind hospital: quality of life. J Med Assoc Thai 2014; 97 (Suppl 10): S25-31.
9. Chowchuen B, Prathanee B, Pradubwong S. Parent handbook: Guideline for treatment and care of patients with cleft lip/palate. 2nd ed. Khon Kaen: Klangnanavittaya Press; 2013.
10. Pumnum T, Kum-ud W, Prathanee B. A Networking of Community-Based Speech Therapy: Borabue District, Maha Sarakham. J Med Assoc Thai 2015; 98 (Suppl 7): S120-7.
11. Hanchanlert Y, Pramakhatay W, Pradubwong S, Prathanee B. Speech Correction for Children with Cleft Lip and Palate by Networking of Community-Based Care. J Med Assoc Thai 2015; 98 (Suppl 7): S132-9.
12. Makarabhirom K, Prathanee B, Suphawatjariyakul R, Yoodee P. Speech Therapy for Children with Cleft Lip and Palate Using a Community-Based Speech Therapy Model with Speech Assistants. J Med Assoc Thai 2015; 98 (Suppl 7): S140-50.

ประสิทธิภาพของเครือข่ายรูปแบบการฝึกพูดในชุมชนของมหาวิทยาลัยขอนแก่น: คุณภาพชีวิต

สุธีรา ประดับวงษ์, เบญจมาศ พระธานี, นิรมล พัจนสุนทร

ภูมิหลัง: *หลังการผ่าตัดแก้ไขความพิการของเด็กปากแหว่งเพดานโหว่แล้วร้อยละ 88 ยังคงมีปัญหาการพูดไม่ชัด พูดเสียงขึ้นจมูกผิดปกติ เสียงแหบ พูดแล้วฟังไม่รู้เรื่อง ทำให้มีปัญหาในการพูดสื่อสารและการดำรงชีวิตประจำวัน การเข้าถึงบริการด้านการแก้ไขการพูดในประเทศที่กำลังพัฒนามีอยู่อย่างจำกัด รูปแบบการฝึกพูดแบบชุมชนเป็นวิธีหนึ่งที่มีประสิทธิภาพในการช่วยให้เด็กมีความสามารถสื่อสารที่ดีและมีคุณภาพชีวิตที่ดีขึ้น*

วัตถุประสงค์: *เพื่อศึกษาคุณภาพชีวิตและการสะท้อนมุมมองจากเด็กปากแหว่งเพดานโหว่ ครอบครัว และผู้ช่วยฝึกพูดที่เข้าร่วมโครงการเครือข่ายการฝึกพูดโดยชุมชนของมหาวิทยาลัยขอนแก่นในจังหวัดมหาสารคาม*

วัสดุและวิธีการ: *เครือข่ายของรูปแบบการฝึกพูดในชุมชนของมหาวิทยาลัยขอนแก่นได้ดำเนินการในระหว่างเดือนมีนาคม พ.ศ. 2557 ถึง เดือนกุมภาพันธ์ พ.ศ. 2558 แบบสอบถามคุณภาพชีวิตของศูนย์ตะวันฉาย แบบสอบถามสุขภาพทั่วไป (Thai GHQ-12) และการสัมภาษณ์ด้วยคำถามปลายเปิด ถูกใช้ในการเก็บข้อมูล ข้อมูลเกี่ยวกับลักษณะทั่วไปของผู้เข้าร่วมโครงการถูกรายงานเป็นร้อยละ ค่าเฉลี่ย ค่าเบี่ยงเบนมาตรฐาน และการวิเคราะห์เนื้อหา (content analysis) ของข้อมูลที่ได้จากคำถามปลายเปิด*

ผลการศึกษา: *เด็กปากแหว่งเพดานโหว่อายุเฉลี่ย 5.5 ปี จำนวน 14 ราย เป็นเพศชาย 7 รายและหญิง 7 ราย และผู้ช่วยฝึกพูด 6 คน เข้าร่วมในการศึกษาครั้งนี้ ผู้เลี้ยงดูหลักส่วนใหญ่เป็นบิดามารดา (9 ครอบครัว) ความต้องการในการดูแลเรื่องฟันเป็นสิ่งที่ต้องการมากที่สุด รองลงมา คือ ความต้องการทักษะในการส่งเสริมพัฒนาการของเด็ก และทักษะในการฝึกพูดให้กับเด็กตามลำดับ (4.64±0.497, 4.57±0.646, 4.50±0.519) ความพึงพอใจด้านจิตสังคมเกี่ยวกับใบหน้าของบุตรมีอยู่ในระดับมาก (3.50±0.760) ด้านผลกระทบต่อครอบครัวที่มีบุตรภาวะปากแหว่งเพดานโหว่ พบว่าความเจ็บป่วยของเด็กทำให้ครอบครัวมีความสุขลดลง และรู้สึกเหนื่อยล้าและหมดกำลังใจที่จะดูแลมากที่สุด (4.79±0.579) ส่วนความวิตกกังวลของผู้ดูแลพบว่ามีความวิตกกังวลอยู่ในเกณฑ์ปกติ*

จากการสัมภาษณ์เกี่ยวกับปัญหาและอุปสรรคในการเข้าโครงการ ผู้เลี้ยงดูหลักมีปัญหามากที่สุด คือความลำบากในการเดินทางมาเข้าโครงการ เช่น ได้รับเงินช่วยเหลือในการเดินทางไปฝึกพูดน้อยกว่าที่จ่ายจริง ไม่ค่อยมีเวลา ส่วนผู้ช่วยฝึกพูด มีภาระงานมากเกินไป ประโยชน์ที่ได้รับจากโครงการ คือ เด็กปากแหว่งเพดานโหว่ได้รับการดูแลฝึกพูดโดยสม่ำเสมอโดยผู้ช่วยฝึกพูดในชุมชน ผู้ดูแลได้รับประสบการณ์ที่ดีในการดูแลและฝึกพูดเด็ก ผู้ช่วยฝึกพูดได้รับประสบการณ์ในการฝึกพูด เด็กที่มีปัญหาการพูดภายใต้คำแนะนำของนักแก้ไขการพูดและสามารถนำไปประยุกต์ใช้กับเด็กที่มีปัญหาการพูดอื่นนอกจากเด็กปากแหว่งเพดานโหว่ได้

สรุป: *เครือข่ายรูปแบบการฝึกพูดในชุมชนของมหาวิทยาลัยขอนแก่น สำหรับเด็กปากแหว่งเพดานโหว่เป็นโครงการที่มีประสิทธิภาพในการแก้ไขการพูดและช่วยให้คุณภาพชีวิตของเด็กปากแหว่งเพดานโหว่ดีขึ้น*