



Contents lists available at ScienceDirect

Asian Pacific Journal of Tropical Medicine

journal homepage: www.elsevier.com/locate/apjtm

Document heading doi:

Behavioral pattern in Chinese school-aged children with cleft lip and palate

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ARTICLE INFO

Article history:

Received 10 November 2012

Received in revised form 15 December 2012

Accepted 15 January 2013

Available online 20 February 2013

Keywords:

Cleft lip and palate

CBCL

Psychosocial adjustment

Behavior problems

ABSTRACT

Objective: To obtain descriptive information of behavioral pattern in Chinese school-aged children with cleft lip and palate. **Methods:** A total of 93 cleft lip and palate patients between the age of 6–11 year-old and treated at West China Stomatology Hospital were selected. And another 100 unaffected controls, matched for age and gender, were recruited randomly from a common primary school in Chengdu. Chart review of medical records was used to obtain psychosocial checklists. Scores were compared with published norms and controls to evaluate the risk of problems, separately for three diagnostic groups. **Results:** The patients group had lower scores of social and academic competencies, especially those with facial deformity or speech problem. No difference was found in the aspect of activity competency. All patients showed elevations in behavior problems. But the type of behavior problems varied in different genders. **Conclusions:** Chinese school-aged children with cleft lip and palate are at raised risk for social and academic difficulties. Specific pattern of behavior problems displays differently depending on gender of the patient.

1. Introduction

Period of school age (6–11 year-old) is an important phase for children, during which they accumulate ability and experience in acquiring knowledge, gaining recognition of other children, and communicating smoothly with others. In this certain period, child may suffer from psychological problems if encountering frustration. For children with cleft lip and palate (CLP), there is an elevated risk to have psychological problems[1–3]. Richman and Millard[4], in a study of 44 children with clefts from age 4–12, find that rates of internalizing problems are increased. Other researchers report poor self-concept regarding social and personal

functioning[5–7]. Difficulty occurs in social inhibition[8–11], social skills[12–14], sleep problems[15], and dissatisfaction with physical appearance[12].

Chinese people have their own psychological characteristics, due to the unique culture and educational background. In general, Chinese people are more modest, especially in ways of expressing. At present, there are few researches discussing the psychological condition of Chinese children with CLP. Lim *et al*[16] assessed the psychological well-being of Chinese patients with CLP, and reported that those patients had lower self-esteem than non-CLP patients.

The purpose of the current study is to expand limited research on the psychological condition of Chinese children with CLP, and provide some useful reference and suggestions for the psychological treatment. In this study, the hypothesis that Chinese children with CLP would differ from controls and American norms with regard to social-emotional functioning is tested.

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2. Materials and methods

2.1. Participants

The index sample comprised 93 CLP patients between the age of 6–11 year-old, who were treated at a CLP department from June 2010 to March 2012. Eligible patients had isolated clefts of the lip (with or without cleft palate). Children with other abnormalities or health problems were excluded. Potential controls were matched to index patients by sex and, as far as possible, age and school grade, but were otherwise randomly selected from a local common primary school ($n=100$).

Parents of those selected children were gathered by small groups. Each group contained no more than 10 members. Every parent completed a piece of CBCL independently, with a total comprehension of the checklist. Of those identified for recruitment, parents of 100% index and 76% controls agreed to participate. Finally, the qualified checklists of 88.2% index ($n=82$) and 85.5% controls ($n=65$) were withdrew.

2.2. Measures

CBCL/4–18[17] was used to assess behavior problems and competencies in children aged 4–18 year-old. The instrument comprises 3 main parts: generic items (eg. name, gender, age), social competency (eg. hobbies, communication ability, academic ability), and behavior problems. A 3-point response scale (scored 0 to 2) was used to denote whether the item was true, somewhat or sometimes true, or very true or often true. The generic items did not score. The score for the social competency was higher, the greater the social ability was for the child. But the score for the behavior problems was higher, the bigger the difficulties were for the child. This measure had adequate validity and reliability.

According to Kapp–Simon[18] and Zoe’s[19] evaluating standard, the result of the CBCL was valued by a certain percentile rank of norms. The percentile of 2% for the score of social competency subscales (P_2) and the percentile of 10% for the total score of social competency (P_{10}) were the lower limit. The percentile of 98% for the score of behavior problems subscales (P_{98}) and the percentile of 90% for the total score of behavior problems (P_{90}) were the higher limit.

2.3. Statistical analysis

Epidata 3.0 for Windows was employed for statistical input, and SPSS 17.0 for Windows was employed for statistical analysis. The patients’ scores were compared with the controls’ scores using t tests for paired samples. The data of male and female patients were compared with t tests for independent samples. One-sample t tests were used to compare means with norm data.

3. Results

3.1. Social competency

For all male patients, P_{10} of total score was lower than American Norm, and P_2 of activity subscale was also lower. But the P_2 of the other two subscales, communication and academic ability, varied among groups. Patients with speech problem had lower scores of the communication subscale. Patients with facial deformity and patients with both facial deformity and speech problem had lower scores of the academic ability subscale (Table 1).

Table 1

Comparison of CBCL social competency limit between male patients and American norm.

Social competency subscales	Patients with facial deformity (P_2)	Patients with speech problem (P_2)	Patients with both facial deformity and speech problem (P_2)	American norm (P_2)
Active	1.42	2.50	1.76	3.0–3.5
Communication	4.08	2.91	3.52	3.0–3.5
Academic ability	0.77	3.59	1.41	2.0–2.5
Total score (P_{10})	11.00	11.86	11.76	16.0

For all female patients, P_{10} of total score was lower than American Norm, P_2 of activity subscale was also lower, but P_2 of communication subscale had no difference from norm data. Patients with speech problem and patients with both facial deformity and speech problem had lower scores of the academic ability subscale (Table 2).

Table 2

Comparison of CBCL social competency limit between female patients and American norm.

Social competency subscales	Patients with facial deformity (P_2)	Patients with speech problem (P_2)	Patients with both facial deformity and speech problem (P_2)	American norm (P_2)
Active	0.00	0.36	2.06	2.5–3.0
Communication	3.70	3.77	3.35	3.5
Academic ability	4.00	0.00	2.96	3.0–3.5
Total score (P_{10})	8.96	8.16	9.58	16.0

Compared with the controls’ data, both male and female patients’ total score and score of active subscale were lower. Male patients with facial deformity had lower scores of communication subscale, and patients with both facial deformity and speech problem had lower scores of academic ability subscale. Meanwhile female patients with speech problem had lower scores of communication and academic ability subscales, and patients with both facial deformity and speech problem had lower scores in communication subscale (Table 3, Table 4).

3.2. Behavior problems

Compared with American and Chinese Norms respectively, both male and female patients scored higher than limit (P_{90}), which means behavior problems exist. But specific pattern of behavior problems displayed differently depending on gender. All the three groups had higher scores than norm data, however each group of patients scored differently in

subscales (P_{98}) (Table 5, Table 6).

Compared with the controls' data, both male and female patients' total scores were much higher. Male patients were significantly more likely to score in the clinical range in the attention problems and aggressive behavior. Female patients were significantly more likely to score in the clinical range in the anxious–depressed, somatic complains and social problems (Table 7, Table 8).

Table 3

Comparison of CBCL social competency scores between male patients and controls.

Social competency subscales	Patients with facial deformity	Patients with speech problem	Patients with both facial deformity and speech problem	Controls
Active	4.37±2.45	4.65±2.07	4.69±2.06	4.88±2.09
Communication	6.50±1.88*	6.74±2.00	7.30±1.79	7.96±1.57
Academic ability	4.82±0.87	4.73±0.85	4.54±1.36*	5.36±0.57
Total score	15.38±4.27*	16.16±3.88	16.53±3.90	18.19±3.44

*Comparing with controls, $P<0.05$.

Table 4

Comparison of CBCL social competency scores between female patients and controls.

Social competency subscales	Patients with facial deformity	Patients with speech problem	Patients with both facial deformity and speech problem	Controls
Active	3.90±2.63	3.58±2.37	4.50±3.43	4.43±2.33
Communication	5.64±1.77**	6.18±1.64*	6.71±3.00	7.71±1.38
Academic ability	4.83±0.80	4.23±2.08*	4.96±1.19	5.29±0.96
Total score	14.37±4.69	13.99±3.79*	16.18±6.85	17.42±3.18

Comparing with controls, * $P<0.05$, ** $P<0.01$.

Table 5

Comparison of CBCL behavior problems limit between male patients, American norm, and Chinese norm.

Behavior problems subscales	Patients with facial deformity(P_{98})	Patients with speech problem (P_{98})	Patients with both facial deformity and speech problem(P_{98})	Chinese norm(P_{98})	American norm
Withdrawn	6.00	4.82	7.44	5–6	4–5
Anxious–depressed	8.44	7.64	17.12	9–10	12–13
Communication problems	9.16	6.28	9.00	5–6	5–6
Obsessive behavior	5.00	7.00	11.96	8–9	9
Somatic complains	5.72	1.82	5.00	6–7	4
Social problems	7.44	6.28	10.96	5–6	6
Attention problems	10.44	14.46	13.44	10–11	10–11
Aggressive behavior	20.16	24.38	25.12	19–20	20
Delinquent behavior	6.44	5.64	11.96	7–8	5–6
Total score(P_{90})	42.60	58.00	43.80	40–42	–

Table 6

Comparison of CBCL behavior problems limit between female patients, American norm, and Chinese norm.

Behavior problems subscales	Patients with facial deformity(P_{98})	Patients with speech problem(P_{98})	Patients with both facial deformity and speech problem(P_{98})	Chinese norm(P_{98})	American norm
Withdrawn	3.82	8.28	4.48	3–4	3–4
Anxious–depressed	11.00	11.00	20.56	13–14	12–13
Sex problems	3.00	5.00	3.00	3–4	2–3
Destructive behavior	0.00	8.80	2.00	3–4	3–4
Somatic complains	7.64	7.28	9.40	8–9	7
Social problems	8.82	7.76	11.40	8–9	6–7
Attention problems	13.46	17.04	15.92	10–11	10
Aggressive behavior	21.00	18.28	34.72	18–19	20–21
Delinquent behavior	2.00	2.00	1.00	2–3	2–3
Total score(P_{90})	61.50	71.20	73.40	38	–

Table 7

Comparison of CBCL behavior problems scores between male patients and controls.

Behavior problems subscales	Patients with facial deformity	Patients with speech problem	Patients with both facial deformity and speech problem	Controls
Withdrawn	2.73±1.79*	2.10±1.85	2.78±2.04**	1.10±1.37
Anxious–depressed	2.53±2.59	2.60±2.91	2.70±5.25	0.90±1.52
Communication problems	2.80±2.65	1.90±2.08	2.41±2.42	0.65±0.99
Obsessive behavior	2.30±1.88	2.90±2.85*	3.44±3.15**	0.75±1.16
Somatic complains	1.53±2.10	0.50±0.71	1.11±1.65	0.55±1.05
Social problems	2.73±2.31**	1.90±2.13	2.33±2.97**	0.35±0.67
Attention problems	4.67±3.04*	6.10±5.30**	4.96±3.79**	1.75±1.80
Aggressive behavior	9.13±6.29**	7.60±8.78*	8.04±7.37**	1.65±1.57
Delinquent behavior	1.93±2.15	1.90±2.18	2.44±3.62*	0.60±1.19
Total score	24.87±19.03*	25.50±24.15*	26.30±24.37**	9.25±6.39

Comparing with controls, * $P<0.05$, ** $P<0.01$.**Table 8**

Comparison of CBCL behavior problems scores between female patients and controls.

Behavior problems subscales	Patients with facial deformity	Patients with speech problem	Patients with both facial deformity and speech problem	Controls
Anxious–depressed	5.80±3.71**	4.08±3.93*	7.86±6.89**	1.15±1.68
Social problems	4.10±2.88**	2.92±2.78**	4.14±4.22**	0.44±0.70
Somatic complains	2.50±2.80*	2.46±2.22*	3.71±3.30**	0.44±1.22
Withdrawn	1.60±1.43*	1.92±2.75**	2.00±2.08*	0.19±0.48
Attention problems	4.10±5.47	5.77±5.67*	5.71±5.71*	1.52±2.47
Sex problems	1.50±1.08*	1.31±1.89	2.00±1.54**	0.48±0.80
Delinquent behavior	0.40±0.84	0.31±0.75	0.29±0.49	0.11±0.42
Aggressive behavior	8.50±7.47*	7.85±6.19*	12.43±12.75**	2.41±3.67
Destructive behavior	1.60±2.41*	2.00±3.11**	0.86±0.90	0.00±0.00
Total score	29.30±21.70**	27.15±25.09**	36.29±34.01**	7.85±9.56

Comparing with controls, * $P<0.05$, ** $P<0.01$.

4. Discussion

Compared with normal children, children with CLP have more difficulties in study^[20]. Those patients who have learning problems usually cannot build a healthy and close friendship with others, and have a higher risk to suffer from emotional and behavioral problems^[21]. Broder and Richman's research^[22,23] represented an early step in assessing learning ability of children with CLP. Results showed that children with CLP have a lower self-esteem, less confidence, and more problems of communication. Hunt and Burden^[8] showed that patients with CLP reported greater social problems and more symptoms of depression; they were teased more often and were less happy with their facial appearance and speech.

Our research showed Chinese children with CLP have similar social and study problems. However compared with American norm data, Chinese patients scored lower in social competency. Compared with Chinese controls, those patients also scored lower. There was one result needed to pay attention, that is, Chinese patients with CLP scored lower in academic and communication subscales but there was no significant distance in activity subscale. We also noticed that patients with facial deformity showed elevation in social problems.

Behavioral problems were greater among children with CLP than in control subjects, as assessed by the CBCL. Kapp-Simon *et al*^[6] reported that children with cranio-facial deformities met more obstacles in their everyday life and were easier to behave badly, especially in an aggressive way. Other researches stated that children with CLP had different kinds of behavioral problems^[24–26].

Our research showed that Chinese children with CLP scored higher than both American and Chinese norm data. Patients with facial deformity and speech problem scored even higher. We also noticed that the type of behavior problems varied in different genders. Male patients were significantly more likely to score in the clinical range in the attention problems and aggressive behavior. Female patients were significantly more likely to score in the clinical range in the anxious–depressed, somatic complains and social problems.

Society and culture may have influence on both normal and CLP populations. Chinese CLP children were found to have more social and behavioral problems. Further psychosocial studies of Chinese CLP populations are needed and could provide further information. As a starting point for providing psychological help for these children, the results suggest that, Chinese children with CLP may need different help according to their gender.

Conflict of interest statement

We declare that we have no conflict of interest.

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