

# Services for Developmental Dyslexia in Hong Kong

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## What is Dyslexia?

The Greek prefix *dys* refers to *difficult* or *hard*, and *lexia* refers to *words*. Dyslexia characterises significant word recognition and spelling difficulties in affected individuals. It is one of several distinct specific learning disabilities, in contrast to the more general terms "Specific Learning Disabilities (SLD)" or "Learning Disabilities (LD)" used to describe larger sets of individuals with listening, speaking, reading, writing and mathematics difficulties. Epidemiological studies show that dyslexia constitutes at least 80% of the SLD/LD population;<sup>1</sup> and because of its long lasting effects, it has an important impact on public health.

This definition which draws from the relationship of biological and psychological underpinnings with behaviour, is in contrast with both the International Classification of Diseases ICD-10<sup>2</sup> and DSM-IV,<sup>3</sup> which apply operationalised criteria in their definitions of a reading disability. The National Institute for Child Health and Development of the United States reported an approximate prevalence rate of 10% of school-aged children being affected to varying degrees, with 3-5% estimated to be severely affected.<sup>1</sup>

## Hong Kong's Children with Dyslexia: To-day's Situation

### *Dyslexia in Chinese in Hong Kong*

In studies of reading disabilities, it is widely believed

that dyslexia in different languages share biological bases that are related to regional brain dysfunctions associated with deficits in written language processing, with ensuing difficulties in decoding respective scripts. Recent fMRI findings on reading disabilities in Chinese<sup>4</sup> show that while details of the dysfunctional activation in Chinese may differ from that of alphabetic languages, biological abnormalities are responsible for deficits in mapping word form (morphological and orthographical aspects of reading) to its sound and meaning. Recent behavioural studies suggest that difficulties in morphological awareness and orthographic knowledge contribute significantly to problems encountered in Chinese reading disabilities.<sup>5,6</sup> Local experience suggests that up to 10% of students fall within the disorder criteria for dyslexia in the HK Test for Specific Learning Difficulties,<sup>7</sup> and that 2-3% within these have severe difficulties.

Since increase in public awareness over the past 5-7 years, there has been remarkable rise in the numbers of referral for assessment and support at both the Department of Health (DH) and the Education and Manpower Bureau (EMB). However, it is believed that many are still not receiving attention because of the limited awareness within schools to identify these students, especially those in higher elementary grades or in secondary school.

### *Identification*

To date, there are no systematic measures to identify students at risk for or with dyslexia in Hong Kong. Current channels include:

1. Community paediatricians and family physicians who see children for well child care and periodic illnesses, who detect at risk factors or symptoms of learning problems, such as early oral language impairment or reading and writing difficulties.
2. Developmental screening for children 5 years or under at the Family Health Service (FHS) of Department of Health. There is no system for these at risk children to

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be followed through into primary schools when literacy problems arise.

3. The Student Health Service (SHS) of the Department of Health screens students from P1 to S7 for physical and mental health well being. If information obtained from parents/students raises the possible presence of dyslexia, students may be further assessed and referred to EMB for further assessment and action.
4. In 2000, The Hong Kong Specific Learning Difficulties Behaviour Checklist for primary school pupils<sup>7</sup> was made available to schools to assist teachers in identifying students suspected to have specific learning disabilities.
5. From September 2004, a new Primary One Checklist screening for Learning Abilities was launched, where Chinese, English, mathematics, social adaptation, verbal language and motor abilities of all P.1 students, in principle, are checked at the end of the first semester in December/January to identify any learning problems and additional educational needs. Teachers are expected to provide additional support to those identified as at risk, and to refer those who are identified to have significant difficulties. School and teacher readiness for taking up this role is variable.

#### **Assessment for Diagnosis**

1. Teachers and student support personnel within schools refer students with learning problems and suspected dyslexia to specialists from EMB or their own schools for further workup.
2. Students and parents may also be referred by medical doctors or psychologists to the Department of Health's or the Hospital Authority's Child Assessment Centres, or directly approach other non-profit making or private services for diagnostic assessment. These include evaluations by medical, allied health, educational, and social work disciplines, according to the setting.
3. The HK Test for Specific Learning Difficulties is normed for local students up to 10 ½ years, in which cut-off scores for the "diagnosis" of dyslexia are recommended. However, there is no locally agreed operational "severity benchmark" above which active remediation and accommodations must be provided. In view of the high prevalence of this condition, dyslexia poses a critical issue of resource and support service gate-keeping, in contrast to other much less common but more visible conditions such as autism or physical and sensory impairments.

#### **Educational Support**

Specialist support to schools' learning support teams may be requested as indicated.

1. Regional Educational Office (REO) educational teams which provide overall support to schools within its region, including support for students with dyslexia.
2. School based educational psychological services which are an alternative source of support in a small percentage of schools that engage their own specialist personnel.
3. Private educational and support services outside of school. There are few that particularly specialise in students with dyslexia, especially those with Chinese as their native language.

#### **Open Examinations**

With increasing awareness of the needs and rights of students with dyslexia taking open, high stakes O-Level and A-Level Examinations, the Hong Kong Examination and Assessment Authority issued a pamphlet in 2002 reminding schools of the channels for providing necessary accommodations to students with dyslexia at these examinations.<sup>8</sup> Understanding of these issues in secondary schools, and students' access to the required updating on diagnosis and documentation of accommodations during secondary forms are very limited.

In Hong Kong, the Code of Practice on Education issued by the Equal Opportunity Commission in 2001 lays out principles for reference by administrators in the management of students with dyslexia and specific learning disabilities, including the provision of a level playing field for them in open examinations.<sup>9</sup>

#### **Future Directions**

Support to children diagnosed with dyslexia should be safeguarded by laws and policies on special education and disabilities. All parties serving students with serious reading difficulties need to recognise that in Hong Kong, this condition constitutes a disability that falls under the ambit of its Disability Discrimination Ordinance.

#### **Identification and Assessment**

As for all developmental disabilities, early identification and intervention are critical to ultimate success in remediation and habilitation. Early

identification during preschool should be promoted through professional awareness, systems in place and availability of standardised tools. These apply to child health centers, general paediatricians, family physicians and kindergartens who are in the best positions to identify at risk and affected children. Ready availability of diagnostic assessment for students of all ages should be available to all schools – public, aided or private. Lack of tools and well trained personnel are obstacles often mentioned today.

### **Educational Support**

Multiple levels of service are needed for these children after diagnosis, including:

1. Specific reading and language therapists who provide direct remediation on reading difficulties, including outside of regular classroom sessions.
2. Regular teachers who have basic understanding of the condition and are able to provide general teaching adaptation and accommodation.
3. Special learning support teams within the school to provide overall administrative and educational support to students with special needs, including dyslexia.
4. Professional support from outside the school as indicated, including by educational psychologists to the school's learning support team as these children progresses in grades.
5. Potential role of special classes/schools for students with dyslexia, *currently unavailable in Hong Kong*, which could help children with severe dyslexia who are not benefiting from mainstream curriculum at that point because of severe reading problems. Intensive specialist attention could be provided to them at these special settings, together with adapted teaching measures to ensure continuous upkeep with grade level education contents, so that when these children return to mainstream schools they could follow on with curriculum appropriate to their age.

### **Open Examinations**

Provision of level playing fields in open examinations needs to be ensured for students with dyslexia, so that they could demonstrate what they know of the subjects tested. Much publicity still needs to be provided to Hong Kong's students, parents, and school administrators, to raise their understanding of the principles, availability, and measures to secure accommodations in secondary

school allocation assessments, HKCEE (O-Level) and HKALE (A-Level) examinations.

### **Tertiary Education**

Children and young people with dyslexia have normal intelligence and are capable of completing tertiary education and further. Some may be gifted in specific aspects and go on to great achievements if given the opportunity. Tertiary institutions in Hong Kong, as in developed countries, have systems whereby students with special learning needs, including dyslexia, may be supported during their college years. Students should be given due guidance when they apply for universities at the end of secondary school, so that necessary knowledge of their rights, documentation of needs, and expectations are in place.

### **Vocational Training and Employment**

At school leaving, students with dyslexia who do not have the option to proceed further in mainstream education may opt for vocational training. Guidance services for these students are needed in Hong Kong. Most are simply regarded as failures in the education system, expected to go the route of "bottom rung" students when looking for further educational opportunities or employment. Furthermore, dyslexia is a life-long condition that may or may not be compensated for in adulthood through training and the educational process. Many adults with dyslexia remain undiagnosed. Adult literacy programs as in Western countries should be promoted, through which affected individuals living in today's literate society could be rescued from lives of low expectations and achievements to become productive citizens of Hong Kong.

### **Research Needs**

Although dyslexia has been known and studied in western countries for many decades, it is still a new subject to Hong Kong. Research needs cover a wide range of aspects, including local epidemiology, developmental trajectory of Chinese children with dyslexia, underlying neuropsychological processes, clinical characteristics of Chinese children using Cantonese, tool development, and long term outcome studies on intervention programs for dyslexia in the Chinese language.

## Role of the Paediatrician and Other Medical Professionals

Paediatricians and medical professionals who serve children are their guardians, watching out for their health and developmental needs. It is therefore the task of paediatricians and medical professionals to familiarise themselves with developmental disorders, such as dyslexia, that not only impact severely on development and learning, but are also amenable to remediation with successful life outcomes. Paediatricians who suspect dyslexia in their patients should be knowledgeable about referral and service systems in their community, and take action to ensure that the necessary support is being engaged. Ongoing guidance to the family as they go from stage to stage would be invaluable.<sup>10</sup> The vision of these children's greatly improved chance of self-fulfillment and life success as a result of timely intervention, will no doubt provide ample gratification for all those who take these extra steps.

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