Development in Severely Visually Handicapped Children and Visual Therapy Remediation

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The motor and cognitive development of a visually handicapped child is delayed due to various constraints placed on learning by the handicap. The child requires a functional visual assessment, and assessment of mental & motor development. Based on these findings a total remediation programme needs to be worked out. This is individualised, integrated & includes stimulation of residual vision, optional use of residual vision and special measures to promote general development.

Key words : Visual handicap; Development disability; Remediation.

The prevalence rate of visually disabled persons in India are 653 per 1,00,000 persons in rural areas and 356 per 1,00,000 persons in urban areas. Of these 39 per 1,00,000 are from 0 to 4 years and 66 per 1,00,000 are from 5 to 14 years. In both rural and urban areas of the country nearly 20 persons per 1,00,000 persons are estimated to be visually disabled with no light perception since birth. Visual handicap in children is easily missed, especially when they are partially sighted and mentally handicapped. The prevalence of visual handicap increases a 100 fold in mentally retarded children i.e. 11 to 15%. The frequency increases if the mental handicap is severe and is then 25%. In deaf children the frequency of additional visual impairment is about 6%. Cerebral

palised children have a 10 fold risk of squinting (4 to 6%) which is often associated with amblyopia (25%). In our rehabilitation clinic, one out of five mental handicap infants have visual problems.

In the early months, vision brings the world to life, and the normal baby alive to himself, his potential and the world. Vision is one of the most important input modality for normal development. Sounds come and are gone and touch does not span space. Only sight presents the world in a perspective which remains to be examined again. It also spans space and thus forms a superior channel for learning. 2

Motor development is commonly delayed with presence of unusual patterns in babies with severe visual disability (Adelson & Fraiberg 1974, Fraiberg 77, Jan et al 1977). Unsatisfactory vision for learning, along with an immature motor system and poor integration between various sensory
channels both secondary to defective vision account for this delay.

This paper is based on work done by 'Sonksen et al' since 1981 at the Wolfson Centre, London.

CONSTRAINTS ON DEVELOPMENT

Diminished Drive

Drive is an inherent need to explore and participate in the world around us. This drive must be awakened before development can proceed. Due to reduced parental infant interaction and the lack of visual stimuli, the natural drive is greatly reduced.

Poor Body Image

A child has to realise the potential functional capacity of different parts of his body e.g. hands for prehension. Hand regard seen in normally sighted babies between 10 to 12 weeks is an important step towards understanding of one's body. In blind babies instead of progressing from finger play through hand regard and reach, spontaneous arm-movements tend to lessen, the arms coming to lie idly at the shoulders (Fraiberg 77).

Reduced Opportunity

Movement is part of the everyday experience of babies but maybe reduced for several reasons in the visually disabled. It may be due to overprotectiveness by parents, reduced opportunity and ability to initiate. Floor play helps develop spatial understanding of the environment-what is up, down etc. Blind babies get less floor experience, not only due to overprotectiveness but also fear produced in the baby by sudden movements. Due to poor floor experience, adjustments to changes in posture is delayed especially the tilt reactions.

A baby has to realize that a person or object is present, before he is motivated to reach for or move towards it or him. Vision is more important than sound to learn this concept.

Localisation Sound

Auditory localisation is tutored by vision. When the head turns to sound, the eyes confirm the position of the source. Thus blind babies are merely still to sound and do not turn towards the source. This also leads to delay in object permanence.

Reduction in Monitoring Capacity

Vision is used to monitor the effect of gross and fine movement on the environment. It also alerts the child to changes in the environment requiring adaptive motor response e.g. door opening, moving ball etc. Blind children are thus comparatively less equipped to cope with non-static and new environments.

To all these is added the fear the blind child feels in trying anything new, whether it is his own movements or those in others around him.

This leads to delayed and unusual development patterns in early childhood.

VISUAL THERAPY AND REMEDIATION

Whilst designing developmental guidance in visually handicapped babies the following points need to be considered. Firstly, many such babies have additional disabilities which require assessment and consideration. Secondly, by using suitable scales like the Reynell Zinkin Scales the current level of mental development needs to be assessed as also motor development. Thirdly, a detailed visual evaluation is essential to assess residual vision, distance at which the