Results of Vision Examinations of Mentally Handicapped Persons in Toronto

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Abstract

This paper presents the results of examinations of mentally handicapped persons in Toronto. Discussion is presented concerning the higher prevalence of vision problems in this population.

Abrégé

Ce travail présente les résultats de l'examen visuel d'un groupe de handicappés mentaux dans la ville de Toronto. La plus grand fréquence de problèmes visuelles dans cet échantillon est notée ainsi que le besoin de surveiller ces populations de plus près.

During a two year period, 249 mentally retarded persons underwent vision examinations by the authors at their respective residences, adult development programs (ADP) or employment training centres (ETC).

The primary goal of an ADP is to help severely retarded adults learn skills which will facilitate their personal growth and help them become involved in the community. Personal growth and development may include learning skills for daily living, better communication, recreation and physical fitness. Community involvement encompasses learning to use community resources such as public transportation, keeping informed through newspapers, radio and television and learning to relate to one's surroundings.

The goal of employment training is sucessful employment, appropriate to the individual.

Providing an industrial environment for vocational assessment, employment training at two locations in Toronto covers a range of vocational activities geared to developing marketable skills. Job training may last from two months to two years.

The purpose of these examinations was to satisfy an unmet need in vision care for this population. This has been documented by the Ontario Government and others, most notably in the Royal Commission of the Healing Arts Report (1970) which is the forerunner of the 1974 Health Disciplines Act, and in a government funded project published in 1977 by Drs. Woodruff and Schmidt of the University of Waterloo School of Optometry. This was a study of vision service delivery in Ontario with recommendations for meeting unmet needs for vision care and the rationalization of the delivery of vision care services. There is a need to determine and document the extent and types of vision problems existing in the mentally handicapped population in Toronto.

With the full co-operation of the Metropolitan Toronto Association for the Mentally Retarded (MTAMR) and staff, the authors were able to complete on-site vision exams, using portable equipment and special optometric techniques.

Table 1 presents the age range of the sample. 151 males and 98 females were examined. One hundred seventy four persons were seen at various employment training centres and 75 were seen at adult development programs.

Thirty-one (12%) persons exhibited strabismus (mostly esotropes). 41 (16.8%) persons exhibited ocular pathology, most of these being cataracts or lens opacities. Other conditions were nystagmus, keratoconus, blepharitis, conjunctivitis, keratitis, entropion, ectropion and pupil abnormalities.

Five persons were found to be functionally monocular and five persons were blind (they had been registered with the CNIB).

Referrals for further vision assessment for spectacle therapy were made in 92 (37%) cases. These referrals include a few ophthalmic appliance repairs. When pathology was found, referrals were made to general practitioners or opthalmologists.

Discussion:

It is known that vision defects influence neurological development and that neurological development, in turn, may influence intellectual development and motor achievement.[1] Recent experimental studies of the visual systems of several species, including man, have shown that sensory deprivation has striking consequences. [2,3] Defects of the ocular refractive system tend to deprive the individual of visual input and such deprivation may well inhibit further sensory, perceptual, and cognitive development. Hence, research on the practical implications of correcting sensory malfunction may lead to prevention of defects of sensory and motor development.

It is uncertain what amount of refractive error induces sensory deprivation and the extent to which deprivation depends on the degree of error. The vision care program for mentally handicapped in which we have been involved has already provided insight into the prevalence of vision anomalies among retarded populations.

Previous studies have been able to measure the extent of improvement in visual acuity and ocular muscle balance.[4] Changes in behaviour and

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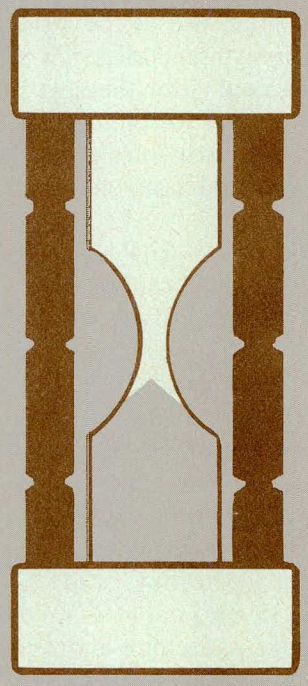

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social interaction have been observed among individuals who received care.[5]

It is evident that the high frequency of refractive errors and eye pathologies among this population places these persons "visually at risk"[6] and in need of optometric care. Even after spectacle therapy, the residual impairment of vision leaves retarded persons at a considerable disadvantage. Consequently, their vision care should include modifications in environment and visual tasks to help them make maximum use of the vision available through spectacles, low vision devices, and vision therapy.

This is essential for the development of individuals in job placement programs, general tasks and their day-to-day lives.

In this population 66.4% persons presented with significant refractive errors. We referred 37% for further evaluation and found that the remaining 29.4% had adequate spectacle corrections at that time.

In a population of normal persons in these age ranges, only approximately 25% would be expected to have significant refractive errors, 5% ocular pathology, and 5% strabismus. In our sample we found 16.8% ocular pathology and 12% strabismus, proving that populations of mentally handicapped persons have a much higher frequency of vision problems. (See Table 3).

TABLE 1
AGE RANGE OF SAMPLE

Age	Number	%
11-20	59	23.7
21-30	140	56.3
31.40	28	11.2
41-50	14	5.6
51-60	8	3.2
Total	**249**	**100.0**

Results: Table 2 presents the nature of the vision problems (Refractive errors)

TABLE 2
NATURE OF VISION PROBLEMS

Refractive Error	Number	%
Hyperopia	55	22.1
Myopia	40	16.1
Hyperopia with astigmatism	35	14.1
Myopia with astigmatism	35	14.1
Marginal refractive error or emmetropia	84	33.6
Totals	**249**	**100.0%**

TABLE 3
FREQUENCY OF VISION PROBLEMS IN SAMPLE

Significant	Normals	M-H
Refractive Errors	25%	66.4%
Ocular Pathology	5%	16.8%
Strabismus	5%	12.0%

Conclusion:

Since the incidence of vision problems is significantly greater in the mentally handicapped population, it appears that vision assessment and correction should be an integral component of their health care program. We stress that vision problems should be detected as early as possible for maximum benefit.

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