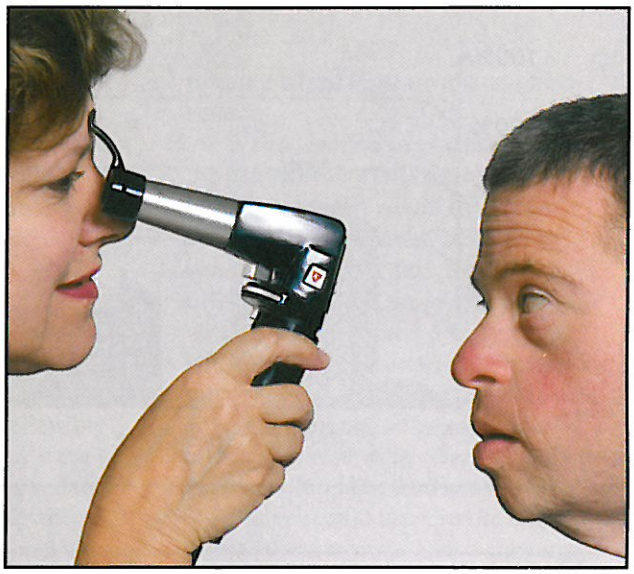
A Multi-Disciplinary Diagnostic & Treatment Approach With Institutionalized Mentally Retarded Adults:

Initial Report of Ocular and Visual Findings



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Abstract

The most frequent problem in the management of the mentally retarded is the lack of knowledge of other pre-existing conditions that can influence the direction, mode and success of treatment. Studies in this area show under-reporting of deficits in vision, audition and kinesthesia. Our program is a pilot study of 20 residents with severe mental retardation . Each received comprehensive evaluations by an optometrist, speech therapist, dietician, physiotherapist, and occupational therapist. The findings were then coordinated with the staff of care givers: physicians, nurses and ward personnel to maximize treatment regimens. This report covers vision and visually-related defects both from the aspect of their amounts and how the awareness of their existence impacts the treatment regimens. More than 50% of the subjects had significant refractive errors, while 20% had ocular pathology that was not previously documented. In close to 60% of the cases there were recommendations to change aspects of the treatment plans based on the obtained data. Further results of this project will be reported as the evaluations by the multidisciplinary team are completed and the information coordinated. It is hoped that this pilot project will be expanded to include a thorough vision evaluation of all 6000 mentally retarded persons in Israeli institutions to develop optimal treatment strategies .

Key Words

mentally retarded adults, ocular dysfunction, visual dysfunction, multi-disciplinary

A number of studies give evidence that aside from the obvious problem of inadequate mental development, the mentally retarded population suffers from other disorders in various body systems.[1-7] Compounding these difficulties is the fact that this population, especially when institutionalized, are rarely tested in areas other than mental capacity and even that is often done only upon intake. When more comprehensive testing is performed, the most frequent result is an alarming rate of under-reported and untreated ancillary disorders.[8-10] Prominent among these under-reported deficits are defects in vision and audition.[11-12]

The current preliminary study evaluated a sample of institutionalized, retarded adults who also suffered from paresis and/or various degrees of cerebral palsy. These patients underwent a full battery of testing by practitioners of optometry, speech, hearing, diet, physical therapy and occupational therapy. The findings were then discussed by the testers and correlated with information obtained from the care givers in order to plan a coordinated treatment program to maximize the patients' quality of life. This report deals only with the results of the visual evaluations. At a later date the entire study will be reported.

Subjects

Twenty moderately to severely retarded adults were evaluated at the Ruchama Facility for the Retarded in the city of Kfar Sava, Israel. This is a state institution housing adult mentally retarded residents. Patients in the unit chosen for the pilot project were a group who had both mental retardation and ancillary physical handicaps (varying degrees of cerebral palsy). As a prerequisite for admission to this facility the degree of retardation had previously been determined by the Department of Social Welfare psychologists. The precise tests used varied according to the subject and the year of admission. The group consisted of ten males and ten females with an age range from 28 to 62 years of age and an average age of 38

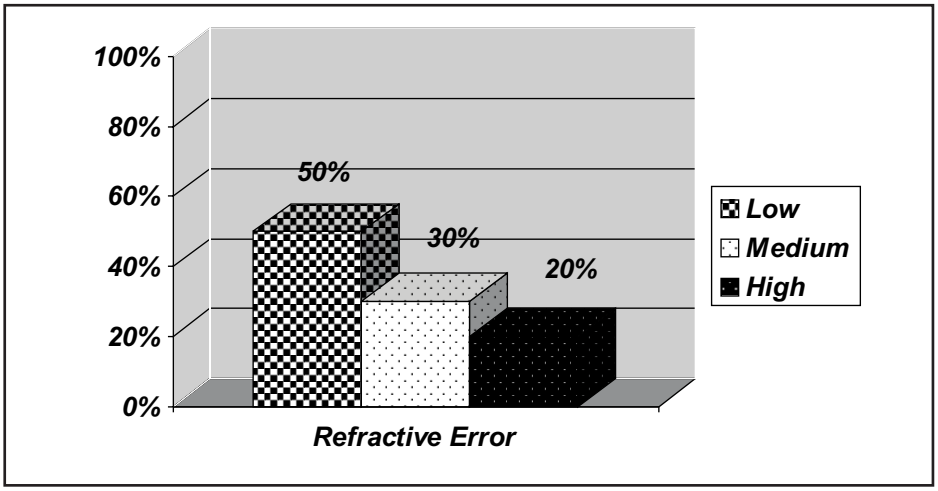

Figure 1.

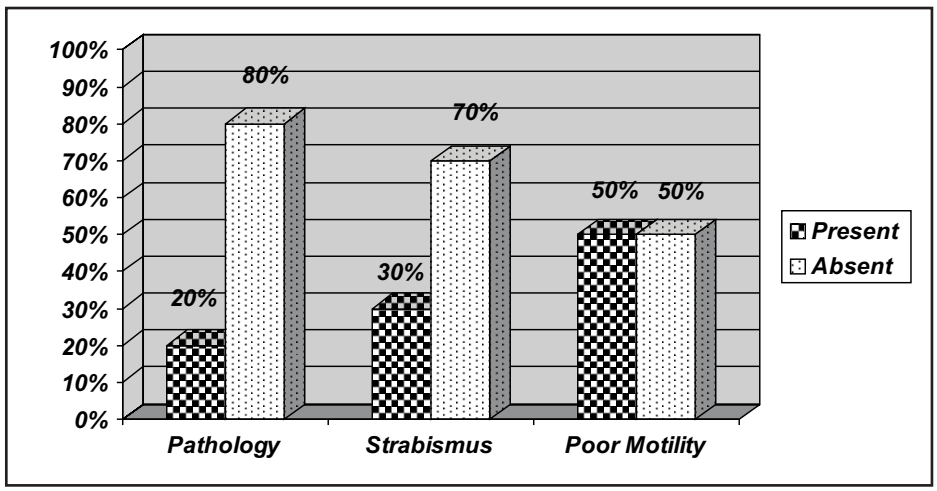

Figure 2.

to 62 years of age and an average age of 38 (Standard Deviation = 11.8). All subjects were tested at the facility in surroundings that were familiar to them. None of the subjects was wearing glasses at the time of the evaluation and there was no record of them ever having been fit with lenses or prisms.

Methods

The testing was performed while the subjects were either in a wheelchair or in a special orthopedic bed in accordance with feasibility. Attempts at measuring visual acuity using shapes or pictures were unsuccessful and no more elaborate means were available at this stage of the study. Ophthalmoscopy was performed using a monocular direct ophthalmoscope without dilation. Estimation of refractive status was obtained by retinoscopy (without the use of cycloplegia) along with the use of hand-held lenses. Distance fixation/attention was obtained through the assistance of staff members who were available at the time and known to the subjects. The presence or absence of strabismus was determined by a cover test with a prism bar or by the Hirschberg method. Pupillary responses were evaluated with a transilluminator and visual tracking (ocular motility) was tested using a shiny bell as a target or with other appropriate targets. These methods had also been used effectively in a previous study on Down's Syndrome subjects.[6]

Results

Figure 1. shows that more than 20% of the subjects had significant refractive errors. The criteria for this category were 6.00 diopters or more in spherical error and/or 3.00 diopters or more in cylindrical error. An additional 30% had refractive errors in the medium range (2.00-6.00 diopters sphere, 1.00-2.00 diopters cylinder). Additionally, as seen in Figure 2., 20% had some form of ocular pathology that was not previously documented. And 30% had strabismus, while 50% manifested a dysfunction of ocular motility (visual tracking). The frequency of high uncorrected refractive errors (20%) was quite significant, though, in view of previous studies, not unexpected.[4,5,15,17] The ocular pathologies noted included retinal detachments, optic nerve atrophy and chorio-retinitis.

Discussion

As has been shown in other studies,[13-18] when mentally retarded adults are evaluated in an area beyond mental capacity, the results justify the effort. The incidence of pathology and refractive error fairly well matches available data. In 55% of the subjects, changes in their treatment plans were made based on the ocular and visual evaluations. These included altering the visual environment, providing protective eyewear for monocular patients, providing corrective lenses when indicated and felt that they would be worn, and determining the degree to which the individual patient was visually responsive. One of the most significant outcomes was that in many cases, previously unexplained behavior patterns became comprehensible in the context of the ocular and visual conditions. These included head tilts, eye closings, postural deviations and preferred location of sitting in communal areas. In all cases the results of the evaluation were important in deciding whether the treatment strategies should stress, include, or eliminate visual stimulation. This has important implications both for the individual treatment offered each patient and to the overall design of the treatment and living areas. An important facet of this preliminary study that was essential in understanding and utilizing the data obtained, was the ability to discuss the findings with the entire evaluation team and correlate the various findings.

This preliminary report strongly indicates the need to enlarge the population pool of future projects of this nature and the advantage of a multi-professional team that coordinates its efforts.

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