

Health care screening for people with mental handicap living in the community

David N Wilson, Anne Haire

Abstract

Objective—To determine what contact people with mental handicap had had with their general practitioner in the previous year; what prescribed drugs they were taking and whether these had been reviewed; when hearing and vision had last been screened; and what medical problems were found on examination.

Design—Case series.

Setting—Day centre for adults with mental handicap.

Subjects—A balanced sample of 75 of the 150 people attending the day centre. 10 Were excluded because consent was not given.

Results—The subjects did not consult their general practitioners more frequently than the general population but were more likely to be taking prescribed drugs, and 57% of these prescriptions had not been reviewed by a doctor. Thirty three people failed vision screening, including 13 who wore glasses. Twenty seven of the 62 who were testable had a hearing impairment.

Conclusions—As only eight out of 65 people examined in the study did not have an appreciable problem brought to light, screening seems to be worth while. Whether such screening needs to be done by a medically qualified person needs further research.

Introduction

The transfer of adults with a mental handicap to the community begs many questions about the type of facilities provided in the community. Clearly, health care is an important component of any community service, yet there are particular difficulties for adults with mental handicaps. They have their general medical needs met by their general practitioner, but to use the service a person must recognise a problem and ask for help. People with severe mental handicap are often unable to do this and rely on their carers.

The evidence suggests that the general medical needs of many people with mental handicap are not being adequately met.¹⁻⁴ Howells, for example, found an inadequate level of health care provided to many of the 151 people attending a day centre for the mentally handicapped: 25% had impaired hearing or vision on screening tests, and many of their medical conditions were poorly managed.⁵ Others have made similar findings.⁶⁻¹⁰

We therefore performed a study at one day centre to determine what contact people with mental handicap had had with their general practitioner in the previous year, what prescribed drugs they were taking and whether they had been reviewed, and when screening of vision and hearing had last been performed. We also performed a physical examination to assess any medical problems.

Patients and methods

The study took place at Barncroft Day Centre, run by the social services department of Nottinghamshire County Council. One hundred and fifty people with a wide range of mental handicaps attend the centre for day care.

From the 150 we drew a balanced sample of 75 people, matched with the other 75 for age, race, level of ability, membership of special care group, and presence or absence of Down's syndrome and profound sensory impairment. Sixty five of the 75 in the sample were seen and screened. Of the 10 people who refused seven were capable of giving consent and chose not to. The remaining three could not give consent and their carers chose not to.

Most of the people in the sample were in their 20s and 30s, and their age distribution was typical of a day centre population in England.¹¹ Half the sample were aged under 30 and only four were over 45. Twenty five were women and 40 men.

Twelve people had attended schools for children with mild learning difficulties and 33 schools for children with severe learning difficulties; 20 (31%) were deemed ineducable and had attended junior training centres before the 1971 Education Act. This last group would almost all now require education in schools for children with severe learning difficulties. At the day centre 10 people were in the special care group, which caters for people with profound and multiple handicaps. Eighteen of the sample had Down's syndrome, and in 27 the cause of the handicap was unknown. The remaining 20 had a collection of other diagnoses, including perinatal problems and autism.

Fifty one people in the sample lived in the family home, 13 lived in staffed accommodation, and only one person had his own tenancy. About half the sample came from large council housing estates, and most of the other half lived in owner occupied accommodation. The mean ages of these two groups were similar.

PROCEDURE

All subjects in the sample were seen, interviewed, and examined in the presence of their main carer at home. In most cases this was the mother, but for those living in residential accommodation it was the key worker. For many of the subjects the carer had to supply information; and each carer was asked whether he or she thought the person had problems with vision or hearing. Each person's day centre instructor was also asked to complete a short questionnaire to cross validate this information, including that on vision and hearing. Demographic data such as age, sex, home address, and type of residence were collected, together with details of the type of school that the person attended and name of the general practitioner. A structured interview ascertained: recent medical care received, the date and place of last screening tests for

Department of Mental Handicap, University of Nottingham Queens Medical Centre, Nottingham NG7 2UH
David N Wilson, MRCPSYCH, senior lecturer
Anne Haire, MRCP, clinical assistant

Correspondence to: Dr Wilson.

Br Med J 1990;301:1379-81

vision and hearing, and, for people with Down's syndrome, the date of the last assessment of thyroid function. Finally, the interview listed current medical problems and noted treatments received, including drugs.

Vision was assessed using Snellen, Stycar, and/or Kay picture charts for near and far vision. Fundi were visualised when possible. A result of 6/12 in the best eye was considered to be adequate vision; 6/18 or worse was a fail. Those who wore glasses were tested wearing them.

In most cases hearing was assessed with an MEG Warbler at 500 Hz, 2 kHz, and 4 kHz at 30, 40, and 50 dB placed 50 cm from the ear. A pass indicated no reading worse than 40 dB and a response in one ear at 30 dB at the highest frequency (4 kHz). A fail indicated a response at 50 dB or better at every frequency and a response in at least one ear at 40 dB or better at 4 kHz. A bad fail indicated that there was no response at 50 dB for any one frequency or that there was no response in either ear at 4 kHz. In a few cases hearing was assessed with the voice, checked with a sound level meter. Performance tests and the McCormick Toy Test were used as appropriate.

The physical examination included an assessment of obesity using callipers to measure skinfold thickness, blood pressure measurement, and general physical examination. Medical problems identified as a result of the examination were then classified as appropriately managed or unmanaged by using treatment information from the interview. Both authors conducted this exercise separately and there was 98% inter-rater agreement.

Results

All but four of the people with mental handicap in the sample had been registered with their general practitioners for more than a year, and over half had seen them within the past six months; only 18 had not seen their general practitioners in the past year. The average number of consultations over the past year was 2.7. Overall, over half the sample—35 people—had visited their general practitioner only once in the past year or not at all.

Thirty seven people were taking no drugs, 10 were taking psychoactive agents, 16 anticonvulsant drugs, and 15 other agents. Of the 28 taking drugs, 27 received repeat prescriptions, but in only 11 of these had the drug been reviewed.

Forty two of the sample had not had their vision tested for over five years. Among the 21 people who wore glasses, seven had not had their vision tested in the past five years compared with 35 of the 44 who did not wear glasses. Thirty three failed the test, including roughly equal proportions of those who wore glasses and those who did not. Nine were blind or untestable.

Only five people had had their hearing tested in the past five years and no one with Down's syndrome had a hearing aid; in fact only three people in the sample had a hearing aid. On screening three people were untestable; of the remainder 27 passed the hearing test, 27 failed, 16 of them badly, and eight passed a distraction test, though this was thought to be unreliable as it was carried out by one person alone. Thirty three people had wax totally obscuring one or both eardrums, and 15 of these failed their hearing tests.

In each case two carers had been asked to assess the person's vision and hearing, but they were poor at predicting impairment. For the 33 people who failed their sight test only 15 carers predicted this; 37 were incorrect, and in 14 cases the data for that question were missing. For the 27 people who failed their hearing test only 13 carers correctly predicted this; 23

thought that the person had no problem, and in 18 cases the data were missing.

The medical problems found on physical examination are listed in the table. Forty three were thought to have no unmanaged medical problems (excluding wax in the ear and obesity), 17 to have one problem that was unmanaged, and five to have more than one. For example, the two cases of hypertension were severe and were thought to require treatment. The two cases of congenital heart disease were thought by a cardiologist to require follow up to prevent further complications.

Medical problems found on examination in 65 mentally handicapped adults

	Managed	Unmanaged
Cardiovascular system:		
Hypertension		2
Congenital heart disease	3	2
Arrhythmias		6
Oedema of legs	2	
Respiratory system		
Gastrointestinal system:		
Abdominal pain		1
Obesity		29
Genitourinary system:		
Testicular abnormality		3
Hypospadias		1
Secondary incontinence		1
Intermenstrual bleeding		1
Other:		
Seizure disorder	7	9
Weight loss		1
Blepharitis		1
Blocked tear duct	1	
Wax in ears		33

Of the arrhythmias most were bradycardias occurring in people with Down's syndrome and probably a symptom of previously undetected hypothyroidism. Of the testicular abnormalities one person had a seminoma detected and proceeded to surgery and radiotherapy. Another with an undescended testicle had had the other testicle brought into the scrotum as a child. He had been advised to return to have the other side operated on but had never been recalled. The hypospadias required investigation and surgery to prevent renal tract infection. Of the people with seizure disorders that were unmanaged several were taking phenobarbitone without review. Of the 19 people with Down's syndrome, only four had had their thyroid function tests checked in the past five years.

Some of the problems found—such as cerebral palsy (11) orthopaedic deformities (19), and minor skin problems (11)—were not classified as managed or unmanaged because medical intervention would not have been of benefit.

People living in council housing did not have more unmanaged medical problems than those living in owner occupied accommodation.

Discussion

This study shows that most people with mental handicap do not consult their general practitioners more commonly than other patients. The 1985 General Household Survey suggested an average consultation rate of 3 per year for men and 5 per year for women.¹² The average for this sample was 2.7. This is less than among other vulnerable groups such as children and elderly people, who had consultation rates of 5-7 per year in the 1985 survey.

The people with a mental handicap in our sample were more likely to be taking drugs than the general population. Ten (15%) were taking neuroleptics or antidepressants and 16 (25%) anticonvulsants. These findings are comparable with those of Gowdrey *et al.*, who found 17% taking neuroleptics and antidepressants and 23% taking anticonvulsants in their Canadian study.¹³ The more disturbing finding of this study was

that 57% of these prescriptions had been obtained by using repeat prescription cards without review.

Very few of our subjects had had regular screening of vision. Forty two had not had their eyes tested for five years, and 50 had a visual impairment; only eight of this group wore glasses which adequately corrected this. Studies have shown that people with a mental handicap usually benefit from the use of glasses and continue to wear them.

Likewise hearing impairment is known to be common in people with a mental handicap and particularly associated with Down's syndrome. Only five people in this study had had their hearing tested in the past five years. Twenty seven of those who were testable failed the hearing test, which is similar to the proportion in other studies. Those already fitted with hearing aids had access to the hearing services department for maintenance of their aids and for ear cleaning but they were not having their hearing checked and were expected to recognise change in their hearing themselves. Two out of three hearing aid wearers needed new aids fitted.

Home carers and day centre staff were unable to predict who would fail the vision and hearing tests. There would therefore seem to be no substitute for screening. The uptake of vision screening at high street optometrists could be encouraged by approaching particular optometrists, who might develop a special interest in people with a mental handicap. Some optometrists in our area will visit day centres to see those people for whom a consultation in a high street shop would be difficult. As only 11 of the sample were unable to cooperate with a hearing test, most adults could also have their hearing screened in day centres.

Nevertheless there are problems. In most parts of England the only way to have a hearing test is through an appointment with an ear, nose, and throat specialist. Most audiological services are short of resources and under pressure dealing with their current workload, and the task of fitting hearing aids and helping people with a mental handicap to use them is not to be underestimated.¹⁴

Few general medical conditions were found as a result of the physical examination. This suggests that a suitably trained nurse could carry out screening of vision and hearing together with inspection of the external auditory meatus and ear syringing. Health education and advice about diet would help to combat the high level of obesity found. Many of those in whom minor skin problems were found could also benefit from advice from a nurse.

Out of the 65 people with a mental handicap who were examined in this study, only eight had nothing of importance brought to light by the exercise, and there

was no evidence that people were already being screened for problems that are known to be common. Most carers appeared to find the screening helpful.

We have an impression that people who had had significant problems overlooked were those who had carers who were happy about their general health. When carers had anxieties they had usually mobilised appropriate services. Although many medical problems were found in people who were profoundly disabled, this group perhaps benefited least from screening as many of their problems were chronic and not remediable—for example, orthopaedic deformities due to longstanding cerebral palsy.

People with mental handicap fit badly into a system of health care delivery in which no care is received unless it is asked for. General practitioners should also be encouraged through in service training and incentive payments to have more contact with mentally handicapped patients on their list in line with other vulnerable groups like elderly people. Our findings support the regular screening of vision and hearing together with more general health screening. Whether this could be done by a suitably trained nurse needs further research.

This study was supported by the trust funds of the University of Nottingham Medical School. We thank the students and staff of Barncroft Day Centre for all their help in completing the study and members of the department of mental handicap, Nottingham University, for advice and encouragement.

- 1 Thomas A, Bax M, Smyth D. The provision of support services for young adults with physical and mental handicaps. *Mental Handicap* 1988;16:92-6.
- 2 Thomas A, Bax M, Coombes K, Goldstone E, Smyth D, Whitmore K. The health and social needs of physically handicapped young adults: Are they being met by statutory services? *Dev Med Child Neurol* 1985;27(suppl 50):1-20.
- 3 Ineichen B, Russell O. Mental handicap: the general practitioner's contribution to community care. *Update* 1987;Sep15:507-14.
- 4 Ineichen B, Russell O. *Mental handicap and community care*. The view point of the general practitioners. Bristol: Bristol University Department of Mental Health, 1980. (Mental Handicap Studies Research Report 4.)
- 5 Howells G. Are the medical needs of mentally handicapped adults being met? *J R Coll Gen Pract* 1986;36:449-53.
- 6 Cole O. Medical screening of adults at social education centres: Whose responsibility? *Mental Handicap* 1988;14:54-6.
- 7 Pinney S. Breaking down the barriers. *Speech Therapy in Practice* 1989;Aug:4-6.
- 8 Yeates S. Hearing in people with mental handicap. A review of 100 adults. *Mental Handicap* 1989;17:33-7.
- 9 Jacobson L. Ophthalmology in mentally retarded adults; a clinical survey. *Acta Ophthalmologica* 1988;66:457-62.
- 10 Baden D, Woodruff M. Effects of corrective lenses on various behaviours in mentally retarded persons. *Am J Optom Physiol Opt* 1980;57:447-59.
- 11 Social Services Inspectorate. *Inspection of day services for people with mental handicap*. London: Department of Health, 1989.
- 12 Office of Population Censuses and Surveys. *The General Household Survey 1985*. London: HMSO, 1987.
- 13 Gowdrey CW, Zarfas DE, Phipps S. Audit of psychoactive drug prescriptions in group homes. *Mental Retardation* 1987;25:331-4.
- 14 Pinney S, Ferris-Taylor R. A structured approach to hearing aid use. *Speech Therapy in Practice* 1990;Jan:4-5.

Accepted 8 August 1990

ANY QUESTIONS

How common is liver fluke in Scotland? Is there a risk to hill walkers from this or other pathogens—for example, Giardia, nematodes, cestodes—from drinking from burns in the highlands?

The liver fluke *Fasciola hepatica* is a common parasite of sheep and to a less extent cattle. Human infection is unusual and there have been no reported cases in Scotland for at least the past 10 years. There is no risk of human infection being acquired by drinking water from burns and mountain streams. The infective stage of the parasite, for the definitive mammalian hosts (including man), is the metacercariae which adhere to the grass of wet pastureland following the emergence of cercariae from the intermediate snail host *Lymnaea truncatula*. Human infection, which in the United Kingdom has been documented from west England and Wales, is usually attributed to the consumption of wild water cress harbouring

metacercariae. Commercial water cress beds are inspected for the presence of *L. truncatula* in order to exclude the possibility of metacercarial contamination.

The only human parasitic infections which could be acquired from drinking from hill streams in Scotland are giardiasis and cryptosporidiosis. Evidence has been increasing that there is an important zoonotic component in the epidemiology of these infections. Organisms morphologically identical with the *Giardia lamblia* and *Cryptosporidium* sp of human origin are found in sheep, cattle, and wild rodents. Cysts of *G lamblia* and oocysts of *Cryptosporidium* sp shed in animal faeces can contaminate hill streams and produce a potential human infection hazard. The biology and epidemiology of *G lamblia* and *Cryptosporidium* sp are currently the subject of much research in Scotland. —R W A GIRDWOOD, director, Scottish Parasite Diagnostic Laboratory, Glasgow