

Claimants for mobility allowance: causes of disability and the scope for prevention

GRAHAM M. ROBERTSON, *BM, MRCP*
General Practitioner, Bournemouth

SUMMARY. Six hundred and twenty-one claimants for Mobility Allowance were examined by the author, who recorded the patient's statement of his or her history and current disability, carried out a full physical examination and observed the gait and limitation of walking. Four hundred and seventy-five appeared to satisfy the medical conditions to qualify for the allowance. They were analysed by age, sex and body system involved and were compared with the corresponding total figure for Mobility Allowance in England, Scotland and Wales.

The more common diagnoses are listed and are considered from the point of view of prevention. The implications for general practice are discussed. They concern the detection of hypertension and health education for antenatal care, smoking and the wearing of seat belts.

Introduction

MOBILITY Allowance, introduced on 1 January 1976, was paid to 171,492 people in England, Scotland and Wales in August 1980 (DHSS, personal communication). This total represents an enormous burden of suffering, as the medical conditions to qualify for the allowance are very severe—so severe that they can be described as “walking failure” (see Appendix 2). The allowance was £14.50 per week at the time of the present study, and recipients are exempted from vehicle licence duty (£70.00 per annum). The total annual cost to the Exchequer was about £141 million in 1980. As I had been examining claimants continuously since the start of the allowance, I felt that an analysis of my experience could identify the commoner causes of chronic walking failure and that, once these were known, a more accurate assessment of the scope for preventive measures would be possible. This in turn could suggest implications for general practice.

© *Journal of the Royal College of General Practitioners*, 1982, 32, 422-428.

Methods

Claimants for Mobility Allowance were referred to me by the Department of Health and Social Security Mobility Allowance Unit for an opinion on whether they fulfilled medical requirements (Appendix 2). They came mainly from Bournemouth, but the area has never been exactly defined and has varied. They were seen continually from the start of the scheme before January 1976 until 1 January 1981. The examination procedure is described in Appendix 1. A separate numbered register was kept by hand with the following details recorded: name, sex, age, diagnosis, body system involved, whether the allowance was recommended and, if so, for how long. In the case of injury due to road accident, the fact was recorded. At the end of the period the figures were analysed manually. Statistical details of the current allowance holders in England, Scotland and Wales were supplied by the Mobility Allowance Unit of the DHSS (personal communication) and are referred to as the national figures. In making comparisons it must be stressed that I made recommendations, but that the final decision on each case was made by officers of the DHSS and is not known to me.

I expressed the proportion of claimants I examined and who appeared to satisfy the medical conditions (the ‘successful’) as a pass rate, and compared this result with the national pass rate. In an attempt to detect any prejudice for or against any group of patients, I compared the incidence of the five commonest diagnoses among my failed claimants with the incidence of these diagnoses among the successful.

The successful were analysed as follows: the age and sex distributions were calculated and compared with those of the national figures; the diagnoses were classified by body systems following the divisions adopted in the national figures (the class “congenital malformations” was not, however, used because it seemed too vague); these results were compared with the national figures. The diagnoses were further sub-divided according to general causes: congenital; traumatic (including

birth trauma and with a sub-heading of road accident); infections, acute or chronic; and degenerative conditions, either primary, for example rheumatoid arthritis, or secondary, for example low back pain. Those diseases in which smoking is known to play a part, details of injuries from road accidents and finally those cases where medical treatment led to disability were also recorded.

Claimants about whom data had not been fully recorded were excluded (nine cases). Twenty-four claimants who were examined more than once are recorded once only in the data.

Prevention

The scope for prevention among the more frequent diagnoses in this series was considered from the point of view of reducing incidence and severity of disability.

Limitations of the data

Details of management or hereditary or environmental factors, apart from road traffic accidents, were not recorded. In particular the smoking history of cases in Table 2 is not known, nor is it known whether those injured in road accidents (RTA) were wearing seat belts at the time. In cases of low back pain (LBP) the history of spinal operations was recorded, but this record may not be complete.

Results

The pass rate

Six hundred and twenty-one people were examined, of whom 475 were successful, a pass rate of 71.5 per cent compared with a national rate of 70.8 per cent.

Rejected claimants

The frequency of the five commonest diagnoses among the rejected is as follows, with the corresponding figures for the successful in brackets: multiple sclerosis 7 per cent (10 per cent); birth brain injury 7 per cent (9 per cent); rheumatoid arthritis 4 per cent (8 per cent); low back pain 11 per cent (8 per cent); ischaemic heart disease 5 per cent (6 per cent). These results suggest a slight bias in favour of claimants with multiple sclerosis and rheumatoid arthritis and against those with low back pain.

Successful claimants

The age and sex distributions of the two series were generally similar, but in the author's series there was an excess in the 30-49 age group (32 per cent) compared with 23.8 per cent nationally, and a deficit in the over 60 age group (16.4 per cent) compared with 20.8 per cent nationally.

Table 1. Diagnosis by body system. Comparison of author's cases of walking failure with national figures.

System	Cases	Percentage	National percentage
Central nervous	193	40.6	44.1
Locomotor	174	36.6	25.4
Cardiovascular	50	10.5	9.7
Respiratory	30	6.3	5.7
Malignancies	9	1.9	1.5
Amputations	6	1.3	2.4
Endocrine	8	1.7	0.6
Nutritional	1	0.2	
Blood and blood-forming organs	2	0.4	0.2
Others			
Skin	1	0.4	3.2
GU	1		
Congenital malformations			6.8

Table 1 shows how the diagnoses were divided among the body systems. The two sets of figures are reasonably similar, apart from the higher proportion of locomotor disease in the study series, which in fact represents an excess of 52 cases in this class. This discrepancy is partly accounted for by muscular dystrophy. There were 19 cases in this group, 17 of whom were residents at a Shaftesbury Society Home for young men of 16 and over suffering from the Duchenne type of the disease. The reason for the rest of this excess is not known. Table 2 gives the diagnoses in more detail.

Smoking

It is now generally accepted that smoking plays a part in the development of a number of diseases, and cases in this category are listed in Table 3. Diabetics with ischaemic legs have been excluded.

Road accidents

The site of injury due to RTA is listed in Table 4. Of 26 cases, 16 involved the lower limbs.

Hypertension

Hypertension is a risk factor in ischaemic heart disease (27 cases) and cerebrovascular accidents (25 cases).

Back complaints

The surgical history of 30 consecutive cases of LBP was recorded: 14 of the 30 had undergone surgery. Between them they had had 11 laminectomies, six spinal fusions and three unidentified spinal operations. In all there were 37 cases of LBP.

Table 2. Diagnosis and classification of cases of walking failure.

Type	Diagnosis	Number	
<i>Central nervous system</i>			
Congenital	Neural tube defects	14	
	Down's syndrome	6	
	Other	7	
Trauma	BBI	41	
	Other	5	
Infection	Poliomyelitis	18	
	Other	9	
Neoplasm		7	
Primary degeneration	MS	48	
	Parkinson's disease	4	
	Other	6	
Secondary degeneration	CVA	25	
	Other	2	
Psychological	Hysteria	1	
<i>Locomotor system</i>			
Congenital	Muscular dystrophy	19	
	CHD	3	
	Other	3	
Trauma	RTA	23	
	Other accidents	13	
	Operations	5	
		4	
Infections		4	
	Primary degeneration	Rheumatoid arthritis	37
		Ankylosing spondylosis	4
Secondary degeneration	Other	4	
	LBP	37	
Other degeneration	Osteoarthritis	17	
	Other	5	
<i>Cardiovascular system</i>			
Congenital		3	
Infection		2	
Primary degeneration		1	
Secondary degeneration	IHD	27	
	Ischaemic legs	15	
	Other	2	
<i>Respiratory system</i>			
Congenital	Asthma	9	
	Other	1	
Infection		1	
Degeneration	Emphysema	19	
<i>Nutritional system</i>			
Congenital		1	
<i>Endocrine system</i>			
Trauma		1	
Primary degeneration	Diabetes	5	
	Other	1	
Secondary degeneration		1	
<i>Genito-urinary system</i>			
Congenital		1	
<i>Blood</i>			
Congenital		1	
Neoplasm		1	
<i>Skin</i>			
Congenital		1	

Note: BBI = Birth brain injury; MS = Multiple sclerosis; CDH = Congenital dislocation of hip. Emphysema embraces chronic obstructive airways disease.

Table 3. Smoking-related disorders.

Diagnosis	Cases
Ischaemic heart disease	27
Ischaemic legs	15
Malignant hypertension	1
Emphysema	19
Total	62

Medical treatment

The cases of iatrogenic disorder are listed in Table 5. Perhaps one of these, a case of anaesthetic anoxia, could have been avoided.

Discussion

The national figure of 170,000 people with walking failure (DHSS, personal communication) represents a challenge to the medical profession and leads one to ask how much of this disability is avoidable—in the first instance by preventing the illness, in the second by limiting the resulting loss of function.

In this connection one must consider the causes (if known), any possible preventive measures and whether these are being applied.

Causes of disability

The causes may be divided into inborn, prenatal, intrapartum and environmental.

Inborn

A small reduction in the incidence of Down's syndrome (six cases in the present series) can be expected as a result of selective screening for chromosome abnormalities. The incidence fell by 5 per cent between 1974 and the first half of 1980 (OPCS, 1981). Other inborn diseases, for example Huntington's chorea, are very few in this series.

Prenatal influences

Recent work (Laurence *et al.*, 1980; Smithells *et al.*, 1980) has suggested that the incidence of neural tube defects (14 cases) can be reduced by adequate intake of folic acid before the time of conception. Where the defect is present *in utero* the evidence "suggests that a screening programme would be likely to avert . . . about 60 per cent . . . of handicapped infants surviving the neonatal period" (Standing Medical Advisory Committee, 1979). In fact the incidence fell by 37 per cent between 1974 and the first half of 1980 (OPCS, 1981).

Intrapartum influences

The incidence of birth brain injury (41 cases) could be affected by a number of complex factors, including nutritional and social status and non-attendance by the

Table 4. Locomotor system. Accident and surgical trauma.

Site of injury	Following RTA	All, including RTA
Head and brain	2	2
Spine and spinal cord	8	13
Femur	6	9
Leg	5	6
Knee	1	4
Ankle	2	3
Leg amputations	3	3
Operations		
Knee	1	4
Ankle	0	1
Total	28	45

Table 5. Iatrogenic disorders.

Diagnosis	Cases
Knee operations	4
Ankle operations	1
Gentamicin ototoxicity	1
Vaccine brain damage	1
Pituitary radiotherapy	1
Anaesthetic anoxia	1
Total	9

patient at clinics, in addition to the standard of obstetric care available. Macfarlane (1980), accepting as an estimate that 50 per cent of cases of cerebral palsy were due to abnormal perinatal events, concluded that "probably considerably less than 50 per cent of these could be prevented by better perinatal care". Stanley (1979) estimated that improvement in the birth weight distribution of all births had been responsible for more than 50 per cent of the fall in incidence of cerebral palsy. There is evidence in the Short report (House of Commons, 1980) and the Minister's reply (1980) that attention is being concentrated on these factors, but that opinions differ on what can be achieved thereby.

Environmental factors

The two modern epidemics of smoking-related disorders and road traffic accidents have played a part in creating mobility handicaps. There is clear evidence linking smoking with ischaemic heart disease (IHD) (27 cases) and leg ischaemia (15 cases) and that stopping smoking reduces the risk of IHD and may slow the progress of peripheral arterial disease (Beeson *et al.*, 1979).

RTAs were responsible for 24 accidental injuries, all of the amputations following trauma and one of the four knee operations, a total of 28 of the cases of trauma of the locomotor system. Extrapolation to the national figures suggests that as a result of road accidents at least 10,000 people are disabled enough to be

drawing Mobility Allowance at an annual cost of £8.25 million. It is established that wearing seat belts can reduce serious injury by 20 per cent (McDermott, 1978), although it has less effect on preventing injuries to the lower limbs (16 cases) than other injuries (10 cases).

There is evidence (Beeson *et al.*, 1979) that detecting and treating hypertension can reduce the severity of IHD and the incidence of cerebrovascular accident.

Prevention

Although scientific proof is lacking, there is a strong clinical impression that correct handling, including postural advice, appliances where needed and, above all, remedial therapy, can prevent a proportion of loss of function in disabled people. For example, most of the cases of Duchenne type of muscular dystrophy examined had been carefully managed with the result that they had stiff, straight backs and their heads, unsupported, could come to rest in an upright position. A few cases had been managed less effectively and had grossly distorted spines, which added a great deal to their troubles.

I was struck by the limited range of movement in the legs of many wheelchair cases, who could flex their hips and knees to 90° but no further. Perhaps if they had been encouraged to retain as full a range as possible in every joint they could have been less disabled. In rheumatoid arthritis, when foot deformities are present with considerable loss of subcutaneous tissue, special attention may be needed. In some cases I examined, the foot had completely collapsed, resulting in severe pain. Most of these patients show such remarkable determination to overcome their disabilities that every effort should be made to help them. In examining the chronic cases of LBP it was notable how tense some of them were—when they were lying on the couch to be examined virtually any movement of either leg would produce pain up the leg and in the spine, with muscle spasm. In many cases this certainly appeared to be psychological and perhaps again this could be related to lack of encouragement to maintain a range of movements in the legs.

These patients have often been employed in heavy types of work and suffer greatly from loss of the companionship they formerly enjoyed at work and in their spare time. Perhaps a definite attempt to create for them a long-term workshop of some kind could partly rehabilitate them. It is possible that better liaison between the orthopaedic and the rehabilitation services would be beneficial to patients who have undergone spinal operations.

Conclusions

It would appear that the major preventive measures possible are:

1. Improvements in antenatal and perinatal care.

2. Screening for neural tube defects.
3. Reduction in smoking.
4. Improved road safety.
5. Wearing seat belts.
6. Detection and treatment of hypertension.
7. Improved whole patient management after spinal surgery.
8. Remedial therapy for the severely physically disabled.

Implications for general practice

Having worked for 25 years in general practice, I believe that general practitioners can have a great influence on their patients' attitudes to their own health. They can encourage and help them to give up smoking and to wear seat belts both by precept and example. Working with the other members of the primary care team the general practitioner can provide a high standard of antenatal care and may well need to counsel patients about the antenatal screening tests discussed above.

The detection and treatment of hypertension is a part of general practice, though the place of screening is a matter for debate. Finally, the general practitioner has an important role to play in the long-term management of the physically disabled by promoting remedial therapy as a means of preventing unnecessary handicap.

Appendix 1: The examination

This involved:

1. Recording in the patient's own words a brief history of the condition and a more detailed account of the current disability, including pain, unsteadiness or distress on walking; the estimated limit on walking and the reason for it; the performance on stairs and slopes; whether the condition is changing with time; and any medication or appliances being used. This is signed by the claimant.
2. A detailed clinical examination, including vision and hearing; the function of each limb and details of any appliances worn are recorded.
3. Observation of the claimant's gait, performance on stairs and slopes and a short walk outdoors to assess the range of comfortable walking and the physical condition when the limit is reached.
4. Finally, deciding whether the claimant appears to satisfy the conditions laid down (see Appendix 2).

Appendix 2: The Mobility Allowance

The allowance was £14.50 per week at the time of the study, and was increased to £16.50 per week in November 1981, with exemption from car licensing fees. In addition, an independent organization called Motability has been formed specifically to help these disabled people to use their allowance to lease a car; currently about 7,000 people do this. Mobility

Allowance replaces earlier arrangements for issuing invalid cars and is an advance in that it benefits those who are too disabled to drive as well as those who have not learnt to drive or do not own a car. To qualify the claimant must satisfy the following medical conditions: he is unable to walk; *or* his ability to walk out of doors is so limited as regards the distance over which, or the speed at which, or the length of time for which, or the manner in which he can make progress on foot without severe discomfort, that he is virtually unable to walk; *or* he is regarded as unable to walk because the exertion required to do so would constitute a danger to his life or would be likely to lead to a serious deterioration in his health; *and* his condition is likely to persist for at least 12 months; *and* during most of the period covered by the award, his condition will permit him, from time to time, to benefit from the opportunities for mobility provided by the allowance (DHSS, 1979).

References

- Beeson, B., McDermott, W. & Wyngaarden, J. (Eds). (1979). *Cecil's Textbook of Medicine*. 15th edition. pp.1062, 1217-1220. London: Saunders.
- Department of Health and Social Security (1979). *Mobility Allowance. Notes for Medical Practitioners*. NI213. London: HMSO.
- Department of Health and Social Security Standing Medical Advisory Committee (1979). *Screening for Neural Tube Defects. Report by the Working Party*. p.17. London: HMSO.
- House of Commons Social Services Committee (Sessions 1979-1980) (1980). *Second Report on Perinatal and Neonatal Mortality*. London: HMSO.
- House of Commons Social Services Committee (1980). *Reply to the Second Report on Perinatal and Neonatal Mortality*. London: HMSO.
- Laurence, K.M., James, N., Miller, M. *et al.* (1980). Increased risk of recurrence of pregnancies complicated by fetal neural tube defects in mothers receiving poor diets, and possible benefit of dietary counselling. *British Medical Journal*, **281**, 1592-1594.
- McDermott, F. (1978). Control of road trauma epidemic in Australia. *Annals of the Royal College of Surgeons of England*, **60**, 437-450.
- Macfarlane, J.A. (1980). Studies of cerebral palsy. In *Perinatal Audit and Surveillance*. Ed. Chalmers, I. & McIlwaine, G. pp. 173-187. London: Royal College of Obstetricians and Gynaecologists.
- Office of Population Censuses and Surveys (1981). *OPCS Monitor MB3 81/1*.
- Smithells, R.W., Sheppard, S., Schorah, C.J. *et al.* (1980). Possible prevention of neural tube defects by periconceptual vitamin supplementation. *Lancet*, **1**, 339-340.
- Stanley, F.J. (1979). An epidemiological study of cerebral palsy in Western Australia, 1956-1975. Changes in total incidence of cerebral palsy and associated factors. *Developmental Medicine and Child Neurology*, **21**, 701-713.

Acknowledgements

I thank the Mobility Allowance Unit, Department of Health and Social Security, for supplying detailed statistics. I wish to thank Mrs B. Elsworth for preparing the typescript and my wife for invaluable help throughout.

Address for reprints

Graham M. Robertson, 85 Castle Lane West, Bournemouth, BH9 3LQ.