The law and medical fitness to drive – a study of doctors' knowledge

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Summary: We assessed doctors' knowledge on laws and recommendations regarding fitness to drive in certain medical conditions by a questionnaire survey. A total of 646 doctors consisting of 400 general practitioners and 246 hospital doctors of all grades were circulated with the questionnaire. The survey was anonymous so non-responders could not be re-circulated. The response rate was 26% general practitioners and 32% (hospital doctors). The results show the poor knowledge of doctors on several aspects of fitness to drive.

It is necessary for all doctors to have a basic knowledge on the laws and recommendations on fitness to drive so that they can advise their patients correctly. Our survey clearly shows that doctors' knowledge is poor. Many drivers may therefore be placing themselves and others at risk. It is mandatory that this subject receives more attention in undergraduate and postgraduate education and that doctors should be regularly updated on new recommendations from the Driver and Vehicle Licensing Agency.

Introduction

There are approximately 25 million licence holders in the United Kingdom. Medical conditions are a major cause of road accidents in less than 1% of cases¹ but this should not be grounds for complacency. The Road Traffic Acts² require notification by an applicant or licence holder to the Driver and Vehicle Licensing Agency (DVLA: formerly the Driver and Vehicle Licensing Centre, DVLC) immediately on diagnosis of a disability likely to affect safe driving except in the case of disabilities such as fractures which will be completely cured in 3 months. The licence holder in many instances depends upon the doctors' advice to prompt him or her to inform the DVLA, and therefore all doctors need to be in a position of giving informed advice to patients regarding their fitness to drive.

*Medical Aspects of Fitness to Drive. A Guide for Medical Practitioners*³ details the laws and recommendations regarding driving and disabilities. A licence holder must not drive for 4 weeks after a myocardial infarction or after a permanent pacemaker implantation. Complete heart block is a bar to driving as are arrhythmias which may cause giddiness or fainting. A person suffering from epilepsy must not have had an attack for 2 years

before the licence is to take effect or if the attacks have been confined to sleep for at least 3 years. After a transient ischaemic attack, driving should be stopped for 3 months and 6 months if these are multiple. Patients with diabetes mellitus and Parkinson's disease have to report these disabilities to the DVLA and licences will be issued for a certain period (1–3 years) subject to a medical report. The medical adviser at the DVLA is available to discuss individual cases.

In a recent case, a general practitioner (GP) failed to advise his patient, who had recently suffered a transient ischaemic attack, to stop driving, inform the DVLA and his insurance company. The patient had a major accident involving several vehicles, and the insurance company refused to compensate on the grounds that his insurance was null and void because of his transient ischaemic attack. The general practitioner was therefore 'responsible' as he had failed to give his patient the necessary advice and he is currently being prosecuted (personal communication from the DVLA).

In this survey we quantify doctors' knowledge on driving and certain medical conditions.

Method

A total of 646 doctors in the Mersey Region were randomly circulated with a questionnaire (avail-

able from authors). The survey was anonymous and therefore non-responders could not be reminded. Four hundred general practitioners received a questionnaire and 246 hospital doctors of all grades working in the specialities of general, geriatric, and accident and emergency medicine. Results were analysed using the chi-squared test with Yates correction and one degree of freedom.

Results

The response rates were 26% (GPs), 35% (consultants), 64% (senior registrars and registrars), 24% (senior and junior house officers), and 32% for all hospital doctors. There was no difference in the knowledge of different grades of hospital doctors, so the knowledge of GPs was compared with that of hospital doctors as a group.

Doctors were asked if they asked patients with diabetes mellitus, epilepsy, cerebrovascular disease, or following a myocardial infarction if they drive. General practitioners were more likely to ask

patients in all these groups compared with all grades of hospital doctors and hospital doctors as a whole (Table I). The difference between the two groups of doctors were significant in patients with cerebrovascular disease ($P < 0.001$). Doctors, particularly hospital doctors, were least likely to ask patients with diabetes whether they drive and most likely to ask patients with epilepsy.

When given a situation where the doctor had told the patient not to drive and inform the DVLA because of his or her medical condition and the patient refused, 41% of hospital doctors (cf. 28% GPs), replied that they would do nothing because to do so would be a breach of confidentiality (Table II). General practitioners (25%) were more likely to inform the DVLA medical adviser of the patient, although only a relatively small percentage in all groups of doctors would do this. General practitioners were more likely than other doctors to consult their medical defence organization ($P < 0.05$).

When doctors were asked regarding the advice they would give to a patient following a myocardial

Table I Percentage of doctors in each group who said they always (Yes) or never (No) ask patients with diabetes mellitus (DM), epilepsy (EP), or cerebrovascular disease (CVD), or following a myocardial infarction (MI), whether they drive

		GP <i>n</i> = 104	Consultant <i>n</i> = 17	Senior registrar/ registrar <i>n</i> = 23	Senior house officer/ house officer <i>n</i> = 39	All hospital doctors <i>n</i> = 79
MI	Yes (%)	75	65	57	49	54
	No (%)	14	6	9	33	20
DM	Yes (%)	46	41	48	18	32
	No (%)	25	18	35	51	39
EP	Yes (%)	94	88	91	90	90
	No (%)	3	0	4	8	5
CVD	Yes (%)	64*	59	35	26	35*
	No (%)	10	6	3	33	25

* $P < 0.001$ ($\chi^2 = 15.7$).

Table II Percentage of doctors in each group responding to a patient declaring he/she will refute his advice to stop driving

	GP <i>n</i> = 99	Consultant <i>n</i> = 17	Senior registrar/ registrar <i>n</i> = 23	Senior house officer/ house officer <i>n</i> = 36	All hospital doctors <i>n</i> = 79
Do nothing (breach of confidentiality)	28	47	35	42	41
Inform medical adviser DVLA	25	29	30	17	24
Consult defence organization	47*	18	26	42	32*

* $P < 0.05$ ($\chi^2 = 4.76$).

infarction only 59% of general practitioners and 30% of hospital doctors answered correctly ($P < 0.001$). Alarminglly, five general practitioners and two junior hospital doctors said they would advise the patient to continue driving if he/she felt able to do so.

Regarding asymptomatic complete heart block, 70% of general practitioners and 64% of hospital doctors would not advise the patient against driving, which they should do. However, 30% of all doctors did not know what to do. Immediately after the insertion of a permanent pacemaker 45% of all doctors would give the correct advice, telling the patient to cease driving for 4 weeks. The remainder would allow the patient to drive immediately (28% GPs, 18% hospital doctors) or advise him/her to stop driving altogether. Thirty per cent of all doctors did not know what advice to give.

Doctors' knowledge on the driving laws regarding patients with diabetes mellitus was poor overall, although general practitioners were superior (Table III). Seventy-two per cent of general practitioners and 81% of hospital doctors advise patients with insulin-dependent diabetes and those taking

oral hypoglycaemic agents to carry a source of sugar (sweets) in the car.

Regarding epilepsy (Table IV), over 70% of all doctors knew that a patient may drive if he/she has been fit-free for 2 years on or off medication. Alarminglly, 37% of general practitioners and 34% of hospital doctors would allow a patient to drive who suffered from focal epilepsy with no loss of consciousness, and 40% of doctors would incorrectly allow a patient to drive if he/she had a fit during the night whilst awake.

Knowledge on driving and transient ischaemic attacks was poor. Less than 50% in all groups knew the recommendations to stop driving for 3 months after a single attack and 6 months if recurrent. Forty per cent of doctors dangerously believed that a patient could drive if the ischaemic attack was confined to the vertebrobasilar artery territory.

A minority believed that patients with deafness, monocular vision from birth with normal acuity, colour blindness or an artificial limb could not obtain a licence (Table V). More GPs were aware that a deaf person (73%) and a person with monocular vision (85%) could have a driving

Table III Percentage of doctors in each group responding correctly on certain aspects of diabetes mellitus

	<i>GP</i> <i>n</i> = 104	<i>Consultant</i> <i>n</i> = 17	<i>Senior registrar/</i> <i>registrar</i> <i>n</i> = 23	<i>Senior house officer/</i> <i>house officer</i> <i>n</i> = 39	<i>All hospital doctors</i> <i>n</i> = 79
i)	81	71	87	56	71
ii)	53	41	52	31	39
iii)	44	35	82	28	39
iv)	43*	59	26	15	28*

* $P < 0.05$ ($\chi^2 = 7.3$). Key: (i) The patient should inform the DVLA; (ii) the patient is not issued a 'till 70 years' licence; (iii) insulin-dependent diabetics do not necessarily have their licence renewed annually; (iv) an insulin-dependent diabetic having a hypoglycaemic attack at the wheel may be charged with driving whilst under the influence of drugs.

Table IV Percentage of doctors in each group responding correctly on certain aspects of epilepsy

	<i>GP</i> <i>n</i> = 104	<i>Consultant</i> <i>n</i> = 17	<i>Senior registrar/</i> <i>registrar</i> <i>n</i> = 23	<i>Senior house officer/</i> <i>house officer</i> <i>n</i> = 39	<i>All hospital doctors</i> <i>n</i> = 79
i)	44	53	52	28	53
ii)	59	47	70	59	60
iii)	75	65	83	69	72
iv)	63	47	88	74	66

Key: (i) A 'till 70 years' licence is not granted if the patient is fit free for 3 years; (ii) the patient may drive if he/she has only had fits whilst asleep for 3 years; (iii) the patient may drive if he/she is on long-term medication and has been fit free for 2 years; (iv) the patient may *not* drive if he/she *only* suffers from focal epilepsy with no loss of consciousness.

Table V Percentage of doctors in each group who know a patient could drive if: (i) deaf; (ii) monocular vision from birth with normal acuity; (iii) colour blind; (iv) wearing of an artificial limb

	<i>GP</i> <i>n</i> = 104	<i>Consultant</i> <i>n</i> = 16	<i>Senior registrar/</i> <i>registrar</i> <i>n</i> = 23	<i>Senior house officer/</i> <i>house officer</i> <i>n</i> = 39	<i>All hospital doctors</i> <i>n</i> = 78
i)	73*	69	57	51	56*
ii)	85†	94	83	51	69†
iii)	76	100	83	85	87
iv)	90	100	83	85	87

**P* < 0.05 (χ^2 = 5.5); †*P* < 0.05 (χ^2 = 6.2).

licence compared with hospital doctors (56% and 69%, respectively) (*P* < 0.05).

The majority of doctors (88% GPs and 94% hospital doctors) knew it was not necessary to inform the DVLA after a Colles fracture. However, only 50% of GPs and 36% of hospital doctors knew that a patient should inform the DVLA when Parkinson's disease was diagnosed.

Fifty-six per cent of GPs and 72% of hospital workers thought that driving licences were renewed yearly after the age of 70 as opposed to every 3 years (*P* < 0.05).

Discussion

The response rate to this survey was poor although more hospital doctors than general practitioners returned the questionnaire (32% vs 26%). Those who failed to respond could not be reminded because the survey was anonymous. This was highlighted to all doctors. There are of course many reasons why doctors do not return questionnaires. However, as knowledge of the correct responses probably increases incentive to respond then this poor return may indicate that the knowledge of the non-responders was even poorer than those who returned the questionnaires.

The literature on chronic illness and road traffic accidents is conflicting. Waller⁴ concludes that drivers with diabetes, epilepsy, cardiovascular disease, alcoholism and mental disorders averaged twice as many accidents per 1,000,000 miles of driving as a control group. However, Ysander⁵ in a study of drivers with chronic disease (mainly diabetes, cerebrovascular disease and renal disorders) found that the percentage of accidents in the disease group was half that of a control group. However, the proportion of diseases covered in the two studies was not similar, Waller's group having significantly more epileptics. Others have found that 1.5 minor or serious injury accidents per 1,000 were due to sudden illness of a driver or rider.¹ The

most common medical conditions named as causative factors are: coronary thrombosis, epilepsy, cerebral haemorrhage, hypoglycaemia in diabetics, vertigo and vasovagal attacks. Although the incidence of accidents related to chronic medical conditions would not appear to be high, patients with these conditions need to be given informed advice for both their safety and that of the public. It is therefore essential that medical practitioners are aware of the laws and recommendations on driving in patients with disabilities.^{3,6}

Many subjects with relevant medical conditions requiring notification to the DVLA fail to do so often because of lack of medical advice. In a survey of 15 patients with Parkinson's disease,⁷ only six had notified the DVLA of their disease and only three had notified their insurance companies. Significantly, 13 recalled either no or only a brief mention of driving by their medical practitioners. Four out of 15 patients in this survey admitted that Parkinson's disease had been a contributory factor in accidents with other vehicles. In our survey, less than 50% of doctors knew that a patient with Parkinson's disease should inform the DVLA and so the majority of doctors could not give appropriate advice to these patients.

In some cases a patient may ignore his medical practitioner's advice to inform the DVLA of his medical condition, and he may state this or it may be obvious from his behaviour. In these circumstances, the doctor involved has a duty in the interest of the general public to inform the patients' general practitioner (if the adviser is another doctor, e.g. consultant) who should then inform the medical adviser at the DVLA. The general practitioner may breach the rule of professional secrecy in certain instances as recommended by the General Medical Council⁸ and this is one such instance. It is of concern that in our study 28% of GPs and 41% of hospital doctors said they would do nothing if the patient refused to take advice not to drive as they thought it would be a breach of confidentiality.

Collapse from ischaemic heart disease accounts for 1/6 to 1/7 of sudden illness accidents. At the time of this survey it was recommended³ that patients should stop driving for 8 weeks and inform the DVLA after a myocardial infarction with no complications. However, more recently,⁹ the recommendations have changed, and the patient need only stop driving for 4 weeks and does not need to inform the DVLA. Only 46% of all doctors knew the recommended advice at the time of our survey and 36% of doctors admitted to never asking a patient if he/she drives after having a myocardial infarction in any case.

Californian drivers with diabetes have been shown to have twice as many accidents per million miles of driving as drivers in age-matched comparison groups.⁴ However, a more recent report¹⁰ has shown the risk of traffic accidents in diabetics is only slightly increased (standardized mishap ratio = 1.32). The World Health Organization and the British Diabetic Association recommend that licences should be issued only when diabetic control is good and the level of understanding by the patient of diabetes management is adequate. Licences are usually valid for 1–3 years. Our survey shows that doctors' knowledge on driving and diabetes is poor although that of GPs was essentially better than that of hospital doctors.

Epileptics may have a licence granted for 1–3 years provided he/she has been fit free for 2 years or has only had fits whilst asleep at night for 3 years. The accident rate in epileptics is twice that of age-matched controls.⁴ Recently,¹⁰ the risk has been shown to be minor (standardized mishap ratio = 1.33). Seventy-four per cent of doctors in this survey knew the basic laws on epilepsy and driving. However, 34% of doctors were prepared to allow a person with focal epilepsy to drive.

After a single transient ischaemic attack a patient should stop driving for 3 months and 6

months if attacks are recurrent. It is of concern that 40% of doctors would allow a patient to drive after suffering a vertebrobasilar ischaemic attack which may in fact lead to vertigo and clouding of consciousness.

Doctors' knowledge of fitness to drive was overall inadequate, although general practitioners were superior overall. This has obvious implications for the drivers with relevant medical conditions and for the public at large. We suggest this lack of knowledge should be remedied by giving the subject more attention in undergraduate and postgraduate education from which it is almost completely omitted. One would expect teaching on the management of diabetes, epilepsy and cardiology to include the question of fitness to drive, but perhaps this subject should also be covered in the teaching of occupational medicine. If a question on fitness to drive was set in the final medicine multiple choice question paper, which is now used in many medical schools, perhaps learning this topic would be consolidated. Similarly, postgraduate examinations (MRCP, MRCGP) could include a question on fitness to drive. The guide to doctors on these matters *Medical Aspects of Fitness to Drive*,³ was last circulated to doctors in the National Health Service by the Department of Transport in 1978. Perhaps the time has come to re-circulate this valuable document.

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