Potential Recruits in Medical Outpatients – An Audit

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SUMMARY: A retrospective study was made of 309 randomly selected potential service recruits seen over five years by different consultant physicians in an Army hospital. Only nine of 133 referred with a history of asthma were turned down because of an abnormality in their exercise lung function test. Only four of 92 referred for a systolic heart murmur were rejected. Only one was turned down because of a headache or migraine out of 30 referred with that diagnosis. None of nine with supposed high blood pressure nor of five with a past history of pneumothorax was rejected. Of seven referred because of epilepsy, all five with definite evidence of this were turned down. The predictability of the specialist decision in these conditions suggests that more than 80% of all potential recruits referred to hospital with medical problems (at least 800 people yearly in UK) do not need to attend.

Introduction

People who apply to join the Armed Forces and who have had previous illnesses or disabilities are often referred to a service hospital specialist for an opinion on whether they are fit enough to be enlisted. The Joint Service Publication (JSP 346¹) dealing with medical examination of recruits gives guidelines on referral for some conditions.

Fifty-two such consecutive referrals were made to one consultant physician at the Duchess of Kent's Military Hospital (DKMH) between 18/1/89 and 26/4/89 and it was noted that 35 of these were for asthma and that 11 were for either headache, pneumothorax, systolic heart murmur, or convulsions; only two (both asthmatic) were found unfit for service (unpublished personal observation). Assuming this to be a reasonably typical sample, most potential recruits are referred to medical departments of service hospitals for opinion on only a small number of common conditions and most are passed fit for service. Extrapolation of the figures suggests that about 200 potential recruit referrals are made to each of the consultant physicians at DKMH each year and a minimum of 1000 such referrals can be assumed for all the service hospitals.

Hospital attendance necessarily involves delay, expense, and inconvenience, and if a proportion of referrals could be avoided, time and money would be saved, resources could be employed more usefully, and periods of worry and uncertainty might be reduced for some young people and their families.

The study reported below was therefore carried out to try to identify any groups of potential recruits whose medical outpatient attendance seemed unnecessary, either because referral was inappropriate or because the specialist decision followed a pattern which might reasonably be anticipated.

Subjects and Methods

Three hundred and nine potential recruits (290 males, 19 females) who were referred to different consultant

physicians at DKMH between 1984 and 1989 were retrospectively identified by random selection from the hospital 'Potential Recruit' files (which are arranged alphabetically rather than by dates) and from the electrocardiographic records of the Physiological Measurement Department. The reasons for referral were identified and the commonest conditions examined separately to find out how many in each category had been rejected, and why.

Results

Reasons for referral were: asthma – 133; systolic heart murmur – 92; migraine or headache – 30; high blood pressure – 9; epilepsy – 7; pneumothorax – 5; miscellaneous (made up of single instances of different conditions) – 40. Seven subjects had two diagnoses.

Twenty four (18%) of the 'asthma' referrals were rejected, nine because of abnormal exercise spirometry and 15 solely because of a recent attack of asthma or because of abnormal physical signs in the chest.

Eight (8.7%) referred because of 'systolic heart murmur' were rejected. Two were suspected of having an atrial septal defect, one a ventricular septal defect, one had aortic stenosis, two had aortic incompetence (one of whom was also found to have haematuria), one had anaemia, and one had bilateral hilar gland enlargement on chest X-ray.

Two (6.7%) of those referred with a history of 'migraine or headache' were rejected: one because he was currently taking prophylactic medication and one who was fortuitously found to have haematuria.

All referred because of 'high blood pressure' were considered to have normal cardiovascular systems and to be fit for service.

All five who gave a definite history of 'epilepsy' were rejected; the two who were considered acceptable had only had febrile fits in infancy.

No one with a history of 'pneumothorax' was turned down for service.

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Ten (25%) of the 'miscellaneous' group were turned down. Reasons for rejection were (one each): hypothyroidism; impaired glucose tolerance; Ebstein's anomaly; membrano-proliferative glomerulo-nephritis; keloid scarring of the chest; pectus excavatum; duodenal ulceration; recurrent abdominal pain; myocarditis; pulmonary stenosis (inadequately repaired).

Discussion

The study would have been statistically more valid if an adequate number of consecutive referrals could have been identified, but this was not possible and the method chosen seemed the best alternative. The inclusion of physiological measurement records may have introduced some bias in favour of those referred because of a heart murmur or hypertension but there is a strong clinical impression that these are common reasons for attending the medical clinic and it is likely that an unusually small number of such cases was found in the prospective series described in the introduction. Both series were otherwise in broad agreement about the types of conditions seen and it is confirmed that most referrals are for only a few disorders.

Asthma is numerically by far the most important illness represented and this is a reflection of its increasing prevalence² and its more frequent recognition in childhood³. The childhood disorder often remits in due course but adults with even mild symptomatic asthma do not cope well in service life⁴ and the JSP¹ reasonably recommends that those who have had symptoms in the previous four years should be rejected at the initial medical examination, only those who have been symptom-free for that period needing referral for exercise spirometry. A review of asthmatics medically discharged from the Army has been published recently⁵; analysis of the figures from that series⁶ has shown that very few of those who have been properly tested by the standard Army methods⁷ (used in DKMH in all cases) have subsequently been discharged, and it seems that the current instructions are very effective, if properly applied. Of those asthmatics rejected in the present study, however, two thirds were found unfit because they had recently suffered from asthmatic symptoms or actually had audible respiratory wheezes. Most of these people, 11.3% of the total asthma referrals, should have been turned down at the initial medical examination. Only 6.8% of those undergoing exercise tests were rejected because of abnormal bronchial lability. Dickinson⁸, at the Queen Elizabeth Military Hospital, Woolwich, found that only two of 188 former asthmatics were unacceptable solely because of an abnormal exercise test. Since exercise testing usually involves overnight hospital admission the cost-effectiveness of the procedure is low. It would not be difficult to train initial examining doctors and recruiters to carry out simple exercise tests in the recruiting office, using perhaps an inexpensive exercise bicycle and a peak-flow

meter; this alone would result in large economies in money, time and convenience, and would be unlikely to miss significant numbers of recruits who would later develop asthma. Specialist referral would not then be needed.

Heart Murmurs. Of the people referred because of a systolic heart murmur, only half of the small number rejected had a disorder related to such a murmur; two had diastolic murmurs (which should have been detected at an earlier stage) and two were found by chance to have non-cardiac problems. The JSP¹ is unequivocal in recommending that those with systolic heart murmurs be referred for consultant opinion. Such murmurs however have long been known to occur in a large number of healthy young people as a 'physiological' finding⁹. It is noteworthy that 26 of 92 (28%) potential recruits referred because of asthma were found to have systolic heart murmurs (unpublished personal observation). Medical discharge because of rheumatic or congenital heart disease is a rare occurrence in the Army (fewer than five a year on average between 1978 and 1987¹⁰) and it is unlikely that significant numbers with serious disease are being allowed into the service. Hospital referral seems unnecessary for most young people who have heart murmurs.

Migraine or Headache. Only one of those referred with a past history of headache was turned down because of this and he should not, under the regulations, have been referred. Epidemiological studies of large numbers of young people in Wales¹¹ and in the United States¹² have shown that recurrent headaches are the rule rather than the exception and those who admit to this symptom at the recruiting office are likely to be distinguished more by exceptional truthfulness than by disease. Only four people are invalidated from the Army each year because of migraine¹⁰ and it seems to be an unimportant problem even though most potential recruits admitting they have had it are allowed to serve. There seems no need for those who have had headaches to be referred to hospital if they say that they no longer have symptoms.

Hypertension. Mild elevation of the blood pressure may be unwelcome from an actuarial aspect¹³, but was accepted as a physiological reaction to anxiety in all those referred for this reason. Such subjects need not be referred to hospital.

Epilepsy is not compatible with military service, even if there have been no recent fits, according to the JSP¹. There is no need for a consultant referral to confirm this; those with a history of epilepsy may feel that they are cured and demand a 'second opinion' but should be told firmly that there is no chance of their being accepted under the present regulations.

Pneumothorax is not an uncommon problem in young, thin men¹⁴. It is distressing to the individual when it occurs and may be recurrent, but is seldom life-threatening and can be treated by relatively simple surgery. From the data presented here it seems that those who have had this condition will always be accepted for service. Their attendance seems therefore to be unnecessary.

Miscellaneous. This group was made up of single instances of mainly relatively obscure diseases and had the highest rejection rate apart from those with epilepsy. Many of the conditions were outside the experience of the average general practitioner and required some expertise before a decision could be made. Most of these referrals were justified.

Conclusions

Those who have had asthma, headaches, epilepsy, hypertension, or pneumothorax, or who have been found to have a systolic heart murmur, comprise at least 80% of potential service recruits referred to medical outpatient departments for a specialist opinion on their suitability for service. The necessity for their attendance is questioned by the data presented in this paper; if these people could be dealt with by the initial examining medical officers a minimum of 800 annual referrals nationwide would be prevented, with consequent large financial savings and avoidance of considerable inconvenience to the recruits and the recruiting staff. Medical facilities could then be diverted to more appropriate tasks.

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