This month • blood pressure measurements • social science • diabetes • patient characteristics

Blood pressure readings and recordings

A SINGLE blood pressure reading, or even several taken within a short space of time may give an inaccurate impression of hypertension and lead to inappropriate treatment. The level of blood pressure which is termed hypertension varies between different authorities. An appraisal of papers by the World Health Organization suggests that pressures of 160/95 mmHg, or over, are called hypertension (*Lancet* 1988; **2:** 1028-1029). Others have suggested that a distinction should be made between diastolic hypertension (90 mmHg or over — phase V — independently of the systolic pressure), systolic hypertension (160 mmHg or over) or combined hypertension (160/90 mmHg or over), but it is emphasized that a diagnosis of hypertension does not necessarily mean that treatment is needed (*J Hypertens* 1988; **6:** 367-374). It has also been advised that treatment should not normally be commenced unless the diastolic pressure is over 100 mmHg (*Lancet* 1988; **2:** 1138). The importance of obtaining a reliable base reading before treating a patient is obvious.

In a recent study published in the *Journal of Human Hypertension,* a group of 36 doctors took eight blood pressure recordings from each other over a period of three quarters of an hour in order to assess the reliability of blood pressure readings. Readings were taken from each person on either arm, supported or hanging down, using both a conventional mercury sphygmomanometer, and a Hawksley random zero instrument. Thus 288 readings were obtained for analysis. It was found that the mean blood pressure with the arm supported was 127/79 mmHg compared with 131/83 mmHg when the arm was hanging down. The mean systolic blood pressure was greater for the right arm than the left (131/81 versus 128/81 mmHg). The readings also varied with time.

The doctors were asked to record the readings to the nearest 2 mmHg, but a digit preference was noted. Out of 280 readings the most commonly recorded final figure was 0, and only about half as many of the recordings ended in 2, 4, 6 or 8. The use of the random zero instrument requires some training and measurement takes longer than with the standard sphygmomanometer, but it eliminates observer bias.

Blood pressure should be taken after the patient has rested and is sitting comfortably. The cuff should be placed on the right arm at the level of the heart. If the forearm is supported the upper arm tends to be flexed at the shoulder, and if the cuff is in the middle of the upper arm, it will be higher than if the arm is hanging down. This may make a difference of 4 mmHg or even more. Several readings should be taken. For research purposes a random zero sphygmomanometer (or similar instrument) should be used.

(G.P.)

Source: Parr GD, Poole PH. Effects of sphygmomanometer type and position of the arm on blood pressure measurements. *Journal of Human Hypertension* 1988; **2:** 153-156.

Social science and medicine

THE recent reviews of the place of social science in medicine have highlighted common problems in very different settings. Medical sociology emerged in Finland in the 1950s with research focused mainly on employment and the behaviour of health professionals. Since then many studies have looked at topics such as health behaviour, morbidity, and access to health care, with a large number of active research workers. But the discipline has few institutions or career prospects. A similar picture emerges from Nigeria where social science research is seen as important, but social scientists have low status in medical schools.

In this country the General Medical Council requires a greater input of social science in undergraduate training, and there is an increasing demand for social science research in medicine, but there is little provision for postgraduate training in medical sociology and still less for career posts for the discipline in medical schools.

(D.H.)

Sources: Lahelma E, Riska E. The development of medical sociology in Finland. *Soc Sci Med* 1988; **27:** 223-229. Obot IS. Social science and medical education in Nigeria. *Soc Sci Med* 1988; **26:** 1191-1196.

'Brittle' diabetes

A RECENT paper in the *New England Journal of Medicine* provides data which may help in the understanding of the cause of 'brittle' diabetes despite the fact that only 10 patients were investigated. The authors found that asymptomatic hypoglycaemia during sleep was associated with rebound hyperglycaemia as measured by morning fasting blood glucose measurements. The rise in blood glucose correlated with the rise in plasma growth hormone, cortisol and adrenaline levels found in subjects made hypoglycaemic.

There are, therefore, problems in attempting to maintain normoglycaemia by use of intensive insulin regimens in diabetic patients if this results in periods of asymptomatic hypoglycaemia. In 1938 Somogyi postulated that anti-insulin hormones rose as a result of induced hypoglycaemia and that this could cause rebound fasting and post-prandial hyperglycaemia. This study supports this view and indicates that the occurrence of nocturnal hypoglycaemia should be considered in diabetic patients who have unexpected morning hyperglycaemia.

(G.B.)

Source: Perriello G, De Feo P, Torlone E, *et al.* The effect of asymptomatic nocturnal hypoglycaemia control in diabetes mellitus. *N Engl J Med* 1988; **319:** 1233-1239.

What makes a patient?

THERE is much current interest in the determinants of consultation in general practice. The idea of a 'symptom iceberg' is well-accepted and our understanding of some of the factors which lead to illness declaration is also leading to re-examination of the associations between psychosocial factors and disease. Two important papers from the USA have looked at this in some detail, using people with irritable bowel symptoms.

Drossman's group from North Carolina evaluated 72 patients with irritable bowel syndrome seen in medical outpatient departments, 82 people identified in the community who had symptoms but who had not sought medical attention and 84 normal subjects. As well as being given a full medical evaluation, everyone in the study kept diary cards of abdominal and bowel symptoms and was submitted to a battery of psychological tests. After controlling for the two cardinal symptoms associated with consultation, pain and diarrhoea, it was found that irritable bowel syndrome patients had a higher proportion of abnormal personality patterns, but a surprisingly lower experience of stressful life events than people in the

community with irritable bowel symptoms, and that people in the community with symptoms were not significantly different from normal subjects. People with irritable bowel syndrome who did not consult doctors were more able to cope and experienced their illness as less disruptive to their lives; in other words they exhibited more protective factors than the patients. The conclusion from this study was that the psychological factors previously attributed to the irritable bowel syndrome are, in fact, associated with health-seeking behaviour or illness declaration rather than the disorder itself. These factors are likely to interact with physiological disturbances in the bowel, determining how the illness is experienced and subsequently acted upon.

In a similar study from Johns Hopkins, Maryland, women with symptoms of irritable bowel syndrome who had not consulted a physician were compared with female patients seen in a gastroenterology clinic. When the strict criteria for diagnosing irritable bowel syndrome, introduced by Manning, were used, it was found that women meeting these criteria who had not consulted a physician had no more abnormal psychological symptoms, using the Hopkins symptom checklist, than asymptomatic controls. However, patients seen in medical outpatient departments with irritable bowel syndrome had significantly more psychological symptoms than control patients or those who had irritable bowel symptoms but who did not consult. The authors conclude that although symptoms of psychological distress are unrelated to irritable bowel syndrome they do influence which patients consult a doctor.

Irritable bowel syndrome is only one of a number of disorders where symptoms are widely experienced in the community but often do not lead to consultation. In the past, it has been tempting to bracket psychological abnormalities with the irritable bowel syndrome itself and these results suggest that we should be cautious about doing so; they also must make us think twice before we make similar judgements about other conditions. Work of this kind emphasizes how important it is for general practitioners to try to find out the reasons for their patients' consultations. (R.J.)

Sources: Drossman DA, McKee DC, Sandler RS, *et al.* Psychosocial factors in the irritable bowel syndrome. *Gastroenterology* 1988; **95:** 701-708. Whitehead WE, Bosmajian L, Zonderman AB, *et al.* Symptoms of psychologic distress associated with irritable bowel syndrome. *Gastroenterology* 1988; **95:** 709-714.

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FILL THIS SPACE

Contributions to the Digest pages are welcome from all readers. These should be from recent papers in research journals which general practitioners might not normally read. Send to: The Editor, Journal of the Royal College of General Practitioners, 8 Queen Street, Edinburgh EH2 1JE. Please quote the full reference to the article (authors, title, journal, year, volume, page range).

INFECTIOUS DISEASES UPDATE: AIDS

Vertical transmission of HIV infection

The risk of mother to child transmission of human immunodeficiency virus (HIV) infection has been evaluated recently in the European collaborative study[1] and the Italian multicentre study.[2] In both studies the definition of infection in children included those in whom antibody was present after 15 months of follow-up. In the European study 100 children born to HIV infected mothers were followed up from birth for more than 15 months. Nineteen had persistent antibody and five were antibody negative but presumed to be infected because of virus isolation or antigen detection. Although these results gave an overall transmission rate of perinatally acquired infection of 24%, the authors considered this figure to be an underestimate because of the insensitivity of the virus and antigen tests used. A further finding of interest from the European study is the observation that four antibody negative HIV infected children followed up for between five and 12 months since becoming seronegative were all immunologically normal and without clinical symptoms; this challenges the view that antibody is lost as the patient becomes ill. Although no evidence was found that the mother's clinical status at the time of delivery influenced transmission rates, it was felt that accurate risk estimates were impossible because of the small sample size and other confounding variables.

In the Italian multicentre study 89 infants born to HIV infected mothers were followed up from birth for over 15 months; 29 were considered to be infected. The transmission rate of 33% is not significantly different from that found in the European study but because virological data from the two studies has not been compared it is impossible to draw further conclusions.

Heterosexual transmission of HIV

A recent report[3] of a three year follow up study of 13 HIV infected haemophiliacs and their spouses, suggests that in the absence of other risk factors transmission of HIV from men to women by vaginal intercourse is infrequent. None of the patients' partners became positive for HIV in spite of estimates of unprotected vaginal intercourse occurring between 1563 and 2520 times in the 11 couples, and seven of the 13 patients having progressive disease according to the Walter Reid classification. One must remember, however, that the sample size of this study was small and that other studies of heterosexual transmission have shown a greater risk of infection.

Mobility of injecting drug users

Twenty seven per cent of 379 Edinburgh drug users seen at the City Hospital in Edinburgh admitted to sharing needles both in Edinburgh and at other sites.[4] Forty five of the 94 for whom the HIV status was known were seropositive. Apart from sharing in sites throughout Scotland, 45 had shared in London, nine in Holland, three in Spain/Italy and two in the USA. These findings demonstrate the potential for unlimited spread of HIV and stress the importance of taking measures to encourage less sharing of equipment.

References

1. The European collaborative study. Mother-to-child transmission of HIV infection. *Lancet* 1988; **2:** 1039-1042.
2. The Italian multicentre study. Epidemiology, clinical features and prognostic factors of paediatric HIV infection. *Lancet* 1988; **2:** 1043-1045.
3. van der Ende ME, Rothbarth P, Stibbe J. Heterosexual transmission of HIV by haemophiliacs. *Br Med J* 1988; **297:** 1102-1103.
4. Jones J, Davidson J, Bisset C, *et al.* Mobility of injection drug users as a means of spread for HIV. *CDS Weekly Report* 88/42 (A76).

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