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Panel Discussion on Postgraduate Education and Social Medicine

Openers

Postgraduate Training in Social Medicine: Manchester 1951–1967.
D. H. Vaughan.

Training in Epidemiology for Clinicians.
J. H. Kellgren.

Training in Epidemiology for Medical Administrators.
R. F. L. Logan.

Future Developments in the Context of the New General Medical Council Recommendations.
A. Smith.

Anaemia and Pregnancy

(Chairman: *E. D. Acheson*)

Oral Contraceptives and Venous Thromboembolic Disease. R. Doll and M. P. Vessey (*M.R.C. Statistical Research Unit, London*)

Married women admitted to nineteen large general hospitals in the North-West Metropolitan Regional Hospital Board Area with a diagnosis of deep venous thrombosis or pulmonary embolism without evident medical cause, were identified by means of the hospital discharge diagnosis indexes and subsequently interviewed in their homes by an experienced interviewer. Inquiries were made about the past medical and obstetric history and the use of oral contraceptives at the onset of the episode of disease which led to admission to hospital.

For comparison, married control patients admitted to the same hospitals with certain acute surgical or medical conditions, or for routine elective surgery, and matched with the patients affected by venous thromboembolic disease for age, parity, and time of admission, were identified and similarly interviewed.

At the time of writing, the study was incomplete, but of the first 38 affected patients to be interviewed, seventeen (45 per cent.) had been using oral contraceptives within one month of the onset of their disease while for the corresponding 76 control patients, only seven (9 per cent.) had been doing so.

The various sources of bias which might contribute to this marked difference were considered and it was concluded that this study provided strong evidence in favour of a causal association between the use of oral contraceptives and venous thromboembolic disease.

An Unexpected Association between Haemoglobin Concentrations and Hypertensive Complications during Pregnancy. A. M. Thomson (*M.R.C. Reproduction and Growth Research Unit, Princess Mary Maternity Hospital, Newcastle upon Tyne*)

During an analysis of Aberdeen Maternity Hospital clinical records, an unexpected association was found between the haemoglobin concentration at the first antenatal examination and the incidence of hypertensive complications (defined as diastolic blood pressure 90 mm. Hg or over) during late pregnancy. Irrespective of the stage of gestation at the first visit, and in multiparae as well as primiparae, higher haemoglobin concentrations were associated with an increased incidence of hypertensive complications. A similar association was found between the haemoglobin level at about 30 weeks of gestation and the incidence of hypertension in women who had not been treated with iron. There was no evidence that treatment with iron during pregnancy influenced the incidence of hypertension.

The possibility was examined that the association might be due to women who developed hypertension having a relatively low increase of plasma volume and hence less "physiological haemodilution". If so, women with hypertension should, in the absence of iron treatment, have a relatively small decrease in haemoglobin level between the first examination and that at about 30 weeks of gestation. The data did not support this hypothesis.

Hypertensive complications of pregnancy are known to occur with increased frequency in overweight women. The records were therefore divided into three approximately equal weight-for-height groups, giving "underweight", "average", and

"overweight" categories. In each category, the association between haemoglobin level and hypertension remained apparent, and there was no obvious trend of haemoglobin levels between categories.

No explanation could therefore be given for the association.

Importance and Prevention of Iron Deficiency. W. J. GREENE AND P. C. ELWOOD (*M.R.C. Epidemiological Research Unit, Cardiff*)

The results of a large community screening survey covering just over 1,000 women gave little support to the view that anaemia is often the sign of serious underlying pathology, especially in the gastrointestinal tract.

Two community studies of the symptomatology of iron deficiency anaemia failed to show any significant association between the haemoglobin level and the severity of a variety of symptoms. Both of these studies were followed by randomized controlled trials of the effect of oral iron therapy on symptoms. In neither was there any convincing evidence of a beneficial effect of iron on symptoms.

A study which is not yet complete suggests that conventional iron therapy has little lasting effect on many women, but that a community may be adequately protected from iron deficiency by relatively small daily supplements of iron. A clinical trial is being carried out on a group of iron deficient subjects in order to compare the effect on the haemoglobin level of bread containing iron and of ordinary bread. Further community studies are necessary in order to assess the long-term effects of the addition of iron to flour.

PAEDIATRICS

(Chairman: *E. A. Cheeseman*)

A Family Study of Respiratory Disease. J. R. T. COLLEY AND W. W. HOLLAND (*Department of Clinical Epidemiology and Social Medicine, St. Thomas' Hospital Medical School, London*)

The prevalence of two respiratory symptoms, "winter morning cough" and "winter morning phlegm", in a group of 2,184 families having a newborn infant between July 1, 1963, and June 30, 1965, was studied for any relation to social class, smoking habit, and area of residence. A one-in-three sample of the families had the peak expiratory flow rate measured with the Wright peak flow meter. In mothers and fathers, present smokers had higher prevalence of these two symptoms than non-smokers and ex-smokers. Irrespective of smoking habit, fathers had an inconsistent, and mothers an absent, social class gradient for both symptoms. No significant difference was found in mean standardized peak expiratory flow rate between social classes, or between present smokers and non-smokers and ex-smokers. The youth of the population was suggested as an explanation for this finding. Mothers and children living in the poorer study area had a higher symptom prevalence than those living in the better area. This was thought to be due to the higher levels of air pollution in the poorer area in the past.

Ethnic Differences in the Incidence of Malformations. IAN LECK (*Department of Social Medicine, University of Birmingham, and the Medical Unit, University College Hospital Medical School, London*)

The ethnic origins of 98 per cent. of 133,539 Birmingham children (including stillbirths) born in 1960–65 were recorded by Health Visitors and maternity services personnel. The children of European, West Indian, and Indian or Pakistani parents were compared in respect of the incidence of substantial malformations of types readily apparent at birth (ascertained from the same sources and from hospital admission records). In children with Indian or Pakistani parents, incidence was almost the same as in Europeans. In those of West Indian origin, the incidence of anencephalus, spina bifida, and defects of the lip and palate was much lower than in Europeans but similar to published estimates for American and South African Negroes. The incidence of these defects in children with European mothers and West Indian fathers was much closer to the European than to the West Indian figures. These findings do not support Neel's suggestion that homozygosity at a high proportion of gene loci may favour the development of the defects studied, but suggest that incidence may be influenced less by the child's own genotype than by that of the mother.

Detection of Epidemicity with Applications to Burkitt's Lymphoma and Acute Leukaemia. M. C. PIKE (*M.R.C. Statistical Research Unit, London*)

Burkitt's lymphoma is of great theoretical interest for four reasons:

(1) It has a peculiar epidemiology—a children's disease restricted to a portion of the tropics with adult cases tending to be immigrants from non-tumour areas.
(2) Reo 3 virus has been isolated from tumour tissue.
(3) Patients display an immune response.
(4) About 20 per cent. of cases are curable by chemotherapy alone.

These observations suggest that the disease may also display the further epidemic characteristic of space–time clustering.

Knox's method for detecting space–time clustering gave highly significant results when applied to places and dates of onset of Burkitt's lymphoma in the West Nile District of Uganda.

The known facts about Burkitt's lymphoma are not easy to build into a consistent theory; in particular the role of Reo 3 is compromised since if it be the causative agent one must postulate that immunity to Reo 3 differs according to the route of infection.

Studies on the epidemiology of childhood leukaemia in the London area have led us to develop Knox's original method of detecting space–time clustering—we envisage a more general infective-susceptible type of model. An example of the situation we may now consider is as follows: the disease is childhood acute lymphoblastic leukaemia and it is supposed that the child catches the disease during the first trimester of intrauterine life from another patient who is infective from birth to his date of diagnosis.

MEDICAL CARE

(Chairman: *J. Pemberton*)

Attachment of Local Health Authority Staff to General Practices. J. A. D. ANDERSON AND P. A. DRAPER (*Social Medicine Unit, Guy's Hospital Medical School, London*)

The traditional method of deploying Public Health nursing and related staff has been on a district basis. For a little over 10 years an alternative method has been tried in which staff are attached to general practices. On January 1, 1967, 11 per cent. of all nursing staff (Health Visitors, District Nurses, and Domiciliary Midwives) were reported to be working in general practice attachments.

In addition to studying the distribution of attachment schemes in England and Wales, this Unit is conducting a detailed evaluation of the functioning of these schemes. The preliminary results of a study of health visiting in three County Boroughs, one with all its staff attached, one with none attached, and the other with some intermediate schemes, were as follows. Health Visitors in the town with attachments were found to be spending 7·7 per cent. of their time in meetings with G.P.s or in child welfare and similar G.P. clinics. The figures for the intermediate and no-attachment towns were 0·8 and 0·1 per cent. respectively. Further analysis of the Health Visitors' communication and their work is in progress. Interviews with all the Health Visitors and G.P.s in the towns are being arranged.

Refusal of Cervical Cytology Tests. J. B. LANDSMAN (*M.R.C. Epidemiological Research Unit, Cardiff*)

The Cardiff survey, begun in 1965, is expected to include 80,000 married women residents aged 25 to 69 years, and to clarify the position of cervical cytology testing on a community scale. "Eligible" women are identified during enumeration by a team of field workers visiting every house and are asked to provide dates of birth, marriage, etc. Results from the first low social class area visited show significant differences ($P<0·001$) between women tested and not tested in regard to marital status (more widows, divorced, and separated among the refusals), age at first marriage or pregnancy (percentage of refusals increases with age at these events) and total pregnancies (more refusals than expected among nulliparous).

The overall acceptance rate in this area was 51 per cent., which compares favourably with results of cytology testing elsewhere, but is poor in comparison with rates for previous surveys initiated by the Unit and carried out in the Rhondda (*e.g.* chest radiography and dentistry). In an area in Cardiff of higher social class the acceptance rate was 65 per cent. Both areas showed decreasing rates with increasing age (74 and 90 per cent. at ages 25 to 34, falling to 19 and 24 per cent. at ages 65 to 69).

Stated reasons for non-acceptance included: not interested (17 per cent.), ill health or family illness (10 per cent.), previous hysterectomy (14 per cent.), one-third failed to give a reason. Provision of transport and the introduction of testing at home have improved the attendance rates among older women and those with household problems. Extension of services along these lines might therefore be worthwhile.

Hospital Factors influencing Speed of Return of Orthopaedic Patients to the Community. S. A. SKLAROFF (*Department of Social Medicine, University of Edinburgh*). No abstract supplied.

International Comparisons of In-patient Caseload. R. J. C. PEARSON and R. F. L. LOGAN (*Medical Care Research Unit, Manchester*), B. SMEDBY and R. BERFENSTRAM (*Department of Social Medicine, Uppsala University, Sweden*), and A. BURGESS AND O. L. PETERSON (*Department of Preventive Medicine, Harvard Medical School, U.S.A.*)

The U.S.A. spends the most money on medical care. Sweden has the most hospital beds. Britain has the least admissions of the three and the longest in-patient stays. Which country gets the best value for money?

The first step was to compare the in-patient caseload. Data standardized to H.I.P.E. was collected for the Liverpool hospital region, the Uppsala hospital region, and New England, excluding Connecticut; results were presented for short-stay hospitals only and excluded psychiatry, obstetrics, and special care units.

The Liverpool region had markedly longer hospital stays for almost every disease and condition, standardized by age and sex.

Uppsala and New England had similar discharge rates by sex and age. Liverpool admitted less men aged 45 and over, and less women aged 15 and over. The deficit in Liverpool admissions was mainly for gallbladder disease, hernias, upper respiratory infections, coronary thrombosis, and diagnostic dilatation and curette.

The concept of operation expectancy was introduced (modelled on life expectancy), and it was shown that Liverpool and Uppsala men could expect by the age of 65 to have had half the number of operations than were performed on New England men.

Similarly, one in three New England boys aged 15 might expect to have lost his tonsils, compared with one in seven Liverpool boys and one in 25 Uppsala boys.

PSYCHIATRY

(Chairman: *A. M. Adelstein*)

Outcome of Neurotic Illness in the Community. H. B. KEDWARD (*Institute of Psychiatry, The Mandsley Hospital, London*)

The outcome of new cases of psychiatric illness identified by general practitioners in a prevalence survey in 46 practices in London was studied over a period of 3 years. Information on 400 patients was obtained by examination of the National Health Service medical records, interviews with general practitioners, and postal questionnaires. Conclusions about outcome based on these data were validated by applying a number of screening tests and by clinical interview of a one-in-four sample of patients.

Three years after the index consultation, 73 per cent. of all new cases were regarded as free from psychiatric symptoms and the progress made by these patients after one year provided a good indication of the probable outcome after 3 years. Duration of illness was demonstrated to be an important prognostic factor when comparisons were made with chronic patients.

The possibility that effective intervention in the management of psychiatric patients in general practice should be social more often than medical was suggested by the social factors noted in patients who had not recovered after 3 years. Social agencies had rarely been used and general practitioners were often not aware of important social factors in their patient's circumstances. The implications are that a great deal of suffering could perhaps be alleviated by social measures. How this could best be done offers an opportunity for studies in medical care in general practice.

Epidemiology of Migraine. W. E. WATERS (*M.R.C. Epidemiological Research Unit, Cardiff*)

Migraine is frequently defined as a syndrome consisting of some or all of the following features: a severe periodic headache, a unilateral distribution, a preceding sensory aura, and accompanying nausea and/or vomiting. For any syndrome to be regarded as a distinct clinical entity, and not a random concurrence of unrelated features, its prevalence must be shown to be greater than could be expected on the hypothesis that the concurrence of the separate features is simply due to chance alone.

This paper describes community studies of headaches in general and the features of migraine in particular. Unilateral headaches, warning before headaches, and nausea accompanying headaches, were all found to be fairly frequent in the general population and to increase in prevalence with more severe headaches. The observed numbers with various combinations of these features are compared with the numbers expected on the hypothesis that their concurrence is simply due to chance. For all combinations of two features the expected and observed numbers are similar and for subjects with all three features over half can be explained as chance concurrences. This data gives little support to the concept of migraine as a true syndrome and it is suggested that headaches may be regarded as a continuous distribution in which one extreme is represented by mild headaches usually unaccompanied by other features, while the other extreme is represented by severe headaches frequently accompanied by such features.

Epidemiological Study of Boys repeatedly before the Magistrates' Courts. M. R. ALDERSON AND M. J. POWER (*M.R.C. Social Medicine Research Unit, London*)

Mathematical treatment of the distribution of court appearances made by three cohorts of children suggested that the children differed among themselves in their liability to come to court. Those with relatively high liability formed a small proportion of all the children; however, the association between liability and observed appearance was not very close.

Chance (as well as liability) appeared to play a part in court appearance—and, as might be expected in the field of human behaviour prediction is difficult. Examination of the routine data suggested that we could distinguish between the single offender and the repeater; further work is in progress on this problem.

CARDIOVASCULAR DISEASE

(Chairman: *J. Knowelden*)

Ischaemic Heart Disease in Great Britain—Geographical Analysis of Mortality Statistics. M. FULTON (*Department of Social Medicine, University of Edinburgh*)

The difference in death rate from Ischaemic Heart Disease was examined in Great Britain as a whole and in various regions. An attempt was made to define the extent of the problem and to see if the variations were greater than might be expected by random fluctuation. Published mortality data were used to calculate age-specific death rates from Ischaemic Heart Disease and other causes of death for men in 10-year age groups from 35 to 64 years at the national and regional level. The period covered was from 1931 to 1964—special attention being paid to the more recent years from 1950 onwards.

Bearing in mind the possible effect of changes in coding and diagnostic practice and the revision of the International Classification of Diseases and Causes of Death, it was shown that at all ages the Scottish death rate exceeded that of England and Wales for both Ischaemic Heart Disease and all causes of death, once Ischaemic Heart Disease has been excluded. At the same time the trends found in both countries appeared to be parallel. This difference was also demonstrated for the regions. The varying pattern with age was also examined.

The results demonstrated that differences exist which are real and are greater than might be expected by chance. They cannot be explained by differences in coding practice or certification. The limitations imposed by the method of study made it impossible to pin-point specific factors, and though raising interesting epidemiological points the results were largely descriptive.

Survival Times in 998 Fatal Cases of Coronary Artery Disease. J. PEMBERTON, R. H. MCNEILLY, AND P. FROGGATT (*Department of Social and Preventive Medicine, Queen's University, Belfast*)

All the deaths attributed to coronary artery disease (I.C.D. 420·0 and 420·1) occurring in Belfast during one year were studied to determine the time intervals from onset of last attack till death.

The study was undertaken to assess the possible value of a cardiac ambulance in resuscitating patients developing ventricular fibrillation outside hospital. Of the 998 patients, 9·8 per cent. were found dead, 39 per cent. died before the ordinary ambulance was sent for or arrived, 10·2 per cent. were found to be dead on arrival at hospital in the ambulance, 31·2 per cent. died in hospital after admission, and 9·7 per cent. were already in hospital for some other condition when their fatal attack of coronary artery disease occurred.

Of the 311 males and 162 females not admitted to hospital for whom information was available, approximately 50 per cent. lived for longer than 30 minutes after the onset of the attack.

The duration of the interval between onset and death was found to be positively associated with age in men but not in women, after standardizing for civil state, social class, and rank of attack. It was also positively associated with rank of attack in men but not in women, after standardization for the other variables. It was not associated with sex, civil state, or social class.

Three components of the survival time were studied: onset of attack to sending for doctor, sending for doctor to sending for ambulance, and sending for ambulance to admission to hospital ward.

The median times for these three time-intervals were for males, 1 hr 17 min., 59 min., and 1 hr 17 min., and for females, 1 hr 6 min., 1 hr 26 min., and 1 hr 27 min., respectively.

Pantridge and Geddes (1967) reported that 78 per cent. of patients could be reached by the cardiac ambulance in Belfast within 15 minutes of receiving a call, and that five out of ten patients who developed ventricular fibrillation outside hospital and were resuscitated were alive at the time of reporting.

Our data and the results of Pantridge and Geddes suggest that, if patients who develop severe chest pain send for the doctor at once and if he sends for the cardiac ambulance promptly, an appreciable number developing an otherwise fatal ventricular fibrillation might recover after successful resuscitation.

REFERENCE
Pantridge, J. F., and Geddes, J. S. (1967) *Lancet* 2, 272.

Coronary Disease Follow-up. G. S. KILPATRICK.

A study was carried out from the Medical Unit of the Royal Infirmary, Cardiff, in association with the M.R.C. Epidemiological Research Unit, Cardiff.

158 patients who had clinical, electrocardiographic, and enzyme evidence of myocardial infarction were studied. 42 (27 per cent.) died while in hospital, a further 32 died after leaving hospital, and seven had

left the area. The remaining 77 (60 men and 17 women) were interviewed at home.

On the whole this survivor population had fared well and there was little evidence of chronic invalidism or of social isolation. There was some evidence that cigarette consumption had diminished after the attack of coronary thrombosis, but it was not clear whether this was due to advice given or to diminished income.

As far as could be determined rehabilitation was on the whole satisfactory, and it was best where the patients could go back to the jobs that they had previously been able to do. In the majority, this was possible, though some jobs had had to be modified a little and some patients were at a slight financial disadvantage. Of the sixty men, ten had reached retirement age at time of interview, and of the remaining fifty only eight (16 per cent.) were not in employment.

Peripheral Arterial Disease. T. W. MEADE AND M. J. GARDNER (*M.R.C. Social Medicine Research Unit, London*)

Little attention has hitherto been paid to the epidemiology of peripheral arterial disease. Before field studies on this subject can be undertaken, repeatability in recording peripheral pulses must be assessed. A previously published study on this topic concluded that observer variability was so great that examining peripheral pulses might be of limited value only.

A similar study has therefore been carried out at the London Hospital. Three observers palpated the femoral posterior tibial and dorsalis pedis pulses of a sample of 96 male patients. Agreement *between* observers on the presence or absence of individual pulses was excellent for the femorals and satisfactory for those in the foot. Agreement increases with practice. A limited assessment suggested that *intra*-observer variability was also at an acceptable level. It was therefore concluded that examination of pedal pulses was an adequately reproducible method for assessment of the peripheral circulation in clinical and epidemiological work. As well as those with peripheral arterial disease, men with ischaemic heart and cerebrovascular disease had fewer pulses in the feet than men without known degenerative arterial disease.