Outside Europe

Integration of Family Medicine into University Teaching Hospital in Israel: A Pilot Project

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Summary

In accordance with the recommendation of the Mann Committee established by the Israel Medical Association a centre for family medicine serving 11 villages was established at Beit Shemesh, Israel, in 1970; this was affiliated with the department of internal medicine at Hadassah University Hospital. The centre's doctors have become fully-fledged members of the department, and have full access to its resources and participate actively in its service, teaching, and research activities. They teach family medicine to students at the Hebrew University-Hadassah Medical School and have the same academic responsibilities and privileges as all other faculty members. This affiliation has raised the standard of the health service provided.

Introduction

Primary medical care in Israel is provided by health insurance organizations, the largest of which is the Sick Fund of the Labour Union (Kupat Holim). Private doctors not affiliated to insurance organizations constitute only an insignificant fraction of the total number of general practitioners. Kupat Holim provides medical care for 75% of the population of Israel. It has established a network of urban and rural clinics and several major hospitals throughout the country. The clinics are served by one to 20 doctors, and the larger ones have laboratory and x-ray facilities. Insured members pay their fee monthly and are thereby entitled to complete medical (excluding dental) care and drugs free of charge. Thus the average number of patients seen by general practitioners in Israel is unusually high—60 to 80 daily, excluding home visits. The motivation for many of these visits is often not strictly medical, and this leads to superficial examination of patients, undiagnosed disease, a high hospital referral rate, and dissatisfaction.

The 1,800 general practitioners employed by Kupat Holim are officially deprived of the right to practise privately. Their contact with hospital medicine is small and the gap between primary and hospital care is large and increasing. To counter-

act this Kupat Holim allows the general practitioners to spend 24 days a year in postgraduate hospital training.

Hospital services are also provided by Government hospitals and, to a less degree, by municipal and private institutions. Preventive medical care is free of charge and totally under the supervision of the Government. This has created a considerable degree of duplication of authority, waste of manpower and resources, and dissatisfaction among general practitioners.

The unwillingness of Israel's medical graduates to select family medicine as their specialty has intensified the country's primary care crisis. In view of this growing problem the Israel Medical Association in 1969 established a special committee under the chairmanship of Professor K. J. Mann, director-general of Hadassah University Hospital, to investigate the problem of primary health care delivery in Israel and to submit recommendations for its improvement.

One of the committee's major recommendations¹⁻³ to ensure the future of family medicine in Israel was to divide the country into districts and establish centres for primary health care in each district. These centres would then be affiliated to the various regional hospitals and their doctors integrated in the departments of internal medicine. Family medicine would thus become a separate subspecialty of internal medicine, like cardiology, nephrology, etc.

Family Health Centre

A family health centre was therefore established by Kupat Holim at Beit Shemesh, 30 km from Jerusalem. The centre and its doctors were then affiliated to the department of internal medicine A at Hadassah University Hospital. The centre's staff of two doctors, a head nurse, and a medical secretary are responsible for the delivery of comprehensive health care to 11 villages with an ethnically diversified population of about 4,000. Seven nurses who live in the villages serve as the local population's point of entry into the health care system. These nurses screen all applicants for medical aid. They also treat minor complaints and help with socioeconomic problems. Transport to the centre is provided daily for patients who are referred by the nurses or for those who wish to be examined by one of the doctors. Both doctors examine patients at the centre on three days of the week and one doctor only on the other days. Emergency cases from the villages are taken immediately to the centre, where they are seen by one of the doctors. Simple procedures such as urine analysis, blood counts, and electrocardiography are performed in the centre. Blood for biochemical testing is taken by the nurse and examined at Hadassah University Hospital. X-ray studies are done at Hadassah University Hospital or in the health service's x-ray institute in Jerusalem. Drugs not available in the villages are supplied in the centre.

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When the centre was affiliated to the hospital new files, similar to those used in the hospital, were introduced for the entire population. Files of all family members are clipped together and presented to the doctor whenever any member of the family is seen. Questionnaires providing basic demographic data (age, sex, ethnic group, income, education, family illnesses, etc.) were completed for each individual. The data were then processed by the hospital computer. Likewise, information derived from contacts with each patient is sent to the computer for storage and future evaluation. The structural interrelationships as seen from the centre are given in fig. 1.

FIG. 1—Relation between family health centre and hospital.

Hospital

Hadassah University Hospital is part of the Hadassah Hebrew University Medical Centre, which is a complex structure containing preclinical and clinical facilities for service, teaching of medical, dental, nursing, and other paramedical personnel, and research. Clinical facilities embrace a large outpatient service which takes care of about 1,000 patients a day, and a 700-bed hospital (the Hadassah University Hospital) staffed by more than 300 consultants and trainees in every branch of the profession. There are two departments of internal medicine, A and B, each with 50 beds and a medical staff of 13 fulltime consultants and trainees. The rural health centre was affiliated to the department of internal medicine A, chaired by Professor M. Eliakim. This department, which also has a

large outpatient consultative service, takes care of general medical patients. It also provides facilities for research in laboratories attached to it. A major part of the work of the staff is the teaching of clinical medicine. The relation between the hospital and the family health centre as seen from the former is shown in fig. 2.

Principles of Affiliation

USE OF PARAMEDICAL PERSONNEL FOR MINOR PROBLEMS

The nurse who sees the patient first usually lives in the village and is always available for consultation by the villagers. She or he has undergone either two years of "practical-nurse" training in a nursing school or standard army training for orderlies and physician's assistants. Analysis of the data for 1971-2 shows that 66% of all patient-staff contacts (excluding injections and bandaging) were handled by village nurses, the average yearly patient-nurse contacts being 6.4 in 1971 and 7.6 in 1972. The average patient-physician contact rate was 2.3 in 1971 and 2.4 in 1972, which is about a quarter of the national average of 9.0. The extensive use of the nurse therefore allowed the doctors to use more of their time for investigation of difficult cases as well as for teaching and research in the centre and at the hospital.

AVAILABILITY OF MEDICAL CARE

The usual system of health care delivery in most small villages in Israel consists of regular, twice-weekly visits by doctors from near-by cities. The doctor spends a few hours in the village and the patient is then left to the competence and jurisdiction of the village nurse. By contrast the present arrangement enables the patient to consult either the head nurse or the doctor in the centre or both every day. A regional night duty service is also provided. The patient is therefore assured of continuous health care.

ACTIVE SEARCH FOR DISEASE

The family doctors at the centre are not satisfied with the patient initiating the consultation, but also carry out an active search for disease. The whole population is examined, special problems—for example, glucose-6-phosphate dehydrogenase deficiency, rheumatic heart disease, etc.—are investigated in depth, and patients are actively encouraged to have treatment. For example, all hernia patients were detected and operated on in 1972. Patients with chronic diseases are looked for and followed up actively.

AVAILABILITY OF HOSPITAL FACILITIES TO PATIENTS

The usual system of emergency admission to hospital in Israel consists in various hospitals being "on duty" on certain days of the week. An emergency case may therefore be admitted to a different hospital each time, depending on the day of the week. In contrast all patients from the centre are admitted to the Hadassah University Hospital, irrespective of whether the hospital is on duty or not.

Consultation is provided by the specialty outpatient clinics and departments of Hadassah University Hospital. Each department has nominated one of its members to serve as a consultant to the centre. This includes the departments of surgery, paediatrics, dermatology, neurology, and E.N.T. The consultants see the patients in the outpatient clinics of the hospital. Only 3.7% of all visits to the doctors in the centre resulted in referral to a consultant. Basic information on demographic characteristics, prevalence of chronic diseases,

FIG. 2—Relation between hospital department of medicine and family health centre.

and incidence of acute and chronic diseases is stored in and processed by the hospital computer.

AVAILABILITY OF HOSPITAL FACILITIES TO G.P.s

Service

Under the terms of the affiliation agreement with the department of internal medicine A at Hadassah University Hospital each of the centre's doctors spends two or three days a week in the department as fully integrated members of the department the doctors participate in all of its activities—grand rounds, clinicopathological conferences, staff meetings, seminars, etc. Fortunately Hadassah University Hospital is conveniently placed for our practice, so that all patients requiring hospital treatment go to this one hospital. This facilitates their follow-up and guarantees continuity of care by the family doctor. This has resulted in a very low admission rate (5.2%) and a halving of the average stay. Once a week the centre's doctors treat patients in the hospital outpatient clinics (in their individual fields of interest, clinical virology, and diabetes). In addition to his weekly work in the hospital each of the centre's doctors spends one and one half months every year on active duty in the department of internal medicine A, where his responsibilities match his professional status and grade. During this period, as well as during annual vacations and military reserve duty, the centre's doctors are replaced by personnel from the department. This exchange of functions provides the hospital doctor with direct exposure to family medicine, while enabling the centre's doctors to undertake a longer period of uninterrupted professional work in hospital. The exchange is seen as a substantial contribution to narrowing the gap between the hospital doctor and the family doctor.

Teaching of Family Medicine

Teaching of family medicine is a major problem in most medical schools. General practitioners or community health centres unassociated with a hospital have been used for this purpose. In many schools, however, family medicine has failed to compete with the other specialties and in many cases has been a total failure. We therefore surmised that to succeed the teaching of family medicine should be done via the department of internal medicine. Therefore, every student who rotates through the department of internal medicine A spends some time in the centre and attends seminars on family medicine, both there and at the hospital. Students who register for elective courses in internal medicine spend one day a week at the centre. Here they are exposed to various community and family facets of medicine, such as infectious diseases, family problems, epidemiological analyses, etc., which are not available or cannot be taught at the hospital. The family doctor thus becomes a teacher at the medical school and, as such, is entitled to the same academic status and promotion as other faculty members. This system has made a positive impression on students, and many have said that if family medicine is implemented elsewhere as it is at the centre they would be interested in it as their future career.

Research

Research grants and the laboratory facilities of the department of internal medicine A are available to the centre's doctors in the same way as they are to all of its other members. Examples of research programmes carried out at the centre or in association with the hospital staff are: features of patients-

doctor/nurse contacts, relation of morbidity to various demographic and socioeconomic factors, epidemiology of viral disease, a study of serum and secretory immunoglobulins in various ethnic groups and their relation to disease, etc. These studies have resulted in many scientific publications by the family doctors in local and foreign journals.

Problems

EDUCATION OF VILLAGE NURSE

The village nurse in addition to her normal nursing duties actually diagnoses and treats a number of minor diseases. It therefore seems desirable if not imperative to train such nurses especially for their job. Since no schools for assistant physicians exist in Israel, however, we have so far used residents of the villages who have a reasonable degree of common sense and the usual degree of "practical nurse" education. It seems that this is in most cases sufficient for the performance of a good job, though objective evidence for this will have to be shown in the future.

INTEGRATION OF PREVENTIVE AND CURATIVE SERVICES

The preventive medical services to the centre's population are under the jurisdiction of the Ministry of Health. Though there is co-operation between the Ministry and the centre complete incorporation of the preventive service in the centre will certainly facilitate and improve the quality of the health care as well as save personnel. This problem may be specific for Israel, where the splitting of medical administration between different institutions causes many difficulties.

SPECIALIST AS FAMILY DOCTOR

Trainees or specialists in internal medicine from the department of medicine are called on to replace the family doctor whenever he is absent from the centre. The internist will then have to treat children's disorders as well as skin, eye, and other diseases. Often this leads to embarrassment on the part of the internist, who has to consult the family doctor for, for example, minor dermatological or ophthalmological problems.

FROM PILOT PROJECT TO NATIONAL SCHEME

The project at Beit Shemesh has now entered its third year. The main problem is whether it will remain a local, small-scale project or be enlarged to include other centres and, possibly, large sections of Jerusalem and the country. If each of the 40 departments of medicine in the country absorbs 20 general practitioners at least 800 of the 1,800 general practitioners in Israel will be integrated. This, however, depends on many factors, among which the most important seem to be: (a) willingness of the sponsoring institutions to reorganize the medical services; (b) co-operation and willingness of family practitioners to participate in this venture; and (c) willingness of heads of departments to take general practitioners in their wards.

At present the obstacles are enormous. Obviously a top-level decision to implement the affiliation scheme is a prerequisite. Obviously also many general practitioners will not be interested in full integration because of the radical change which it involves and because of the wide gap already existing between them and hospital practice. Heads of departments

are likely to be least unco-operative, though the number of general practitioners to be relied on in a medical ward will probably be quite small. The whole scheme is therefore to be seen as a long-term project, to be implemented over many years. Gradually more and more centres may be affiliated to internal medical wards. Another hospital in Jerusalem has already taken on itself to run an additional district in the city, and the Beit Shemesh centre is going to expand during 1973.

Other solutions not dealt with here have been tried by many general practitioners in Jerusalem.

References

- ¹ Mann, K. J., *Israel Journal of Medical Sciences*, 1970, 6, 168.
- ² Mann, K. J., *World Medical Journal*, 1971, 1, 2.
- ³ Mann, K. J., *World Hospitals*, 1971, 7, 137.

Medicine in Old Age

Disturbances of the Special Senses and Other Functions

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Sensory deprivation is now known to be a powerful weapon in causing perceptual disturbances.¹ Maintenance of contact with reality demands stimulation from the environment, and hence it is not surprising that old people who are deaf or blind or both appear to be confused—the links of communication to a sensorium with diminishing reserve have been severed. Social isolation and loss of independence are associated with loss of the special senses. These are compelling reasons to ensure that every old person can see and hear to his or her maximum capacity.

Impairment of hearing is often due to hard plugs of wax; removal by syringing after several days softening with Cerumol ear drops is a simple procedure. If deafness persists after removing the wax it is most likely to be due to either middle ear deafness or nerve deafness. A vibrating tuning fork is applied to the vertex of the skull in the midline and the patient is asked (in writing if necessary) to indicate whether the sound is heard in midline or in either ear (Weber's test); in middle ear deafness the sound is localized in the affected ear but in nerve deafness it is localized in the normal ear. In Rinne's test the vibrating tuning fork is applied to the mastoid process, the ipsilateral ear being closed. The patient is asked to indicate when the sound ceases and the vibrating tuning fork is then placed over the ipsilateral ear. In middle ear deafness nothing can be heard, but in nerve deafness the sound can still be heard. Most patients with middle ear deafness benefit from a hearing aid but in nerve deafness do not.

Otosclerosis is the commonest cause of middle ear deafness; rarer causes are Menière's disease, acute labyrinthitis, trauma, and therapy with streptomycin or ethacrynic acid. If the ipsilateral corneal reflex is absent then a full investigation for acoustic neuroma must be made.²

Efforts to preserve the sight must be no less vigorous, and mere chronological age is never a contraindication to cataract extraction. Sudden loss of vision in either eye demands sudden specialist attention lest the treatable go untreated.

Acute glaucoma, arteritis, internal carotid artery occlusion, and detached retina all cause sudden deterioration in vision and are treatable. Detached retina is recognized when a well-demarcated area of the retina is seen moving like a sail with a well-defined margin; often there is associated haemorrhage into the vitreous. A pale optic disc with unfilled blood vessels is seen in carotid occlusion. A profuse haemorrhagic area indicates a venous thrombosis—usually limited to one venous segment. Primary optic atrophy is recognized by the appearance of a well-defined pale disc with the attenuation of all blood vessels; treatment of the cause such as syphilis can arrest the deterioration in vision. Unilateral or asymmetrical primary optic atrophy may result from a pituitary tumour or a sphenoidal wing meningioma.

Paget's disease of the skull may compress both optic nerves, with complete blindness, and the eighth nerve, with deafness. The value of thyrocalcitonin has so far not been proved in this condition, but when the sight and hearing are threatened it may offer the possibility of preserving them.³ Elderly people may have primary optic atrophy from toxic exposure in earlier life such as tobacco, quinine, methyl alcohol, or inorganic arsenic about which nothing can be done. Chronic glaucoma may progress to give little more than tunnel vision, so that the patient may present with a history of bumping into objects. A hemianopia is invariably associated with a hemiplegia or some other evidence of a stroke.

Headache

Headache is not a feature of hypertension or space-occupying lesions in the elderly.

The headache of temporal arteritis represents an emergency because of the danger of sudden blindness⁴ due to occlusion of the ophthalmic branch of the internal carotid artery. The patient with temporal arteritis may be vaguely unwell with limb pains and pyrexia; alternatively, the condition may present with sudden headache and vomiting. The E.S.R. is always raised. Examination of the temporal or occipital arteries will show a tender swollen artery which does not pulsate. The pathological process is one of gradual arterial occlusion and therefore warrants immediate therapy with steroids (60 mg, prednisolone daily). To avoid the dangers of long-term steroid therapy the affected artery