

who wants "special tuition in preventive medicine, the health of the community, social conditions, and the maintenance of health".

It is not for us to suggest a syllabus, even were we able to, but trust to our training schools.

By admitting our failings we learn and progress.

The nurse of the future should be better equipped for the battle against ignorance and disease, and so help forward the great cause of preventive medicine.

After a very long and interesting discussion, it was unanimously agreed that the present training leaves much to be desired on all points raised, and the entire lack of experience in nursing children in some general hospitals was deplored. It was also unanimously agreed to send the following rider to the Central Public Health Section: "We think that six months' practical and social training given in the training of Queen's Nurses would be a valuable adjunct to general training".

Only fully trained nurses with their Midwifery Certificates are enrolled as 'Queen's' Nurses' and have to undergo a special course in district and domiciliary nursing before becoming fully qualified. The service is splendidly organised and well supervised and there is much we could learn from its work.

Toll of Diseases in India

Judged by the recorded statistics, imperfect though these are, the year 1934 was a moderately healthy one. The death-rate, though in excess of that for 1933, was the second lowest during the past decade.

This is what the Public Health Commissioner with the Government of India says, discussing the chief causes of mortality during the year 1934.

Of a total of 6,900,000 deaths, or 24.9 *per mille*, in British India, nearly 200,000 or 0.7 p.m., were from cholera; 84,000 or 0.3 p.m. from small-pox; 80,000 or 0.3 p.m. from plague; 4,000,000 or 14.4 p.m. from fevers; 300,000 or 1.0 p.m. from dysentery and diarrhoea; 500,000 or 1.8 p.m. from respiratory diseases; and 1½ million or 6.4 p.m. from other causes.

As before, the fevers group contributed to the largest number of deaths, that is 58 per cent. of the total, 'other causes' following with 26 per cent. The major epidemic diseases—cholera, plague, and small-pox—together accounted for 4 per cent and for a combined death-rate of 1.3 p.m. Deaths from 'other causes' include 23,000 from snake bite or wild beasts, and 13,000 from suicide of which a little over 6,000 are amongst males and over 7,000 amongst females.

Details of the incidence of some of the main diseases are given below.

Cholera. The spread of cholera in India is closely associated with pilgrimages which draw large numbers from the rural areas. A comparison between festival and non-festival years in the U.P. and the Punjab shows that the mean cholera incidence is higher in festival years than in non-festival. A marked increase of cholera occurred in its endemic form in Northern India, that is in the Provinces of U.P., B. & O., and Bengal, which together reported 140,000 deaths or 70 per cent of the total, as against nearly 50,000 in 1933. The mortality reached a high level in the C.P. and Berar too, where the death-rate was 17 times higher than the mean. In C. P. and Berar, infection was imported from Puri, a festival centre in Orissa, and spread rapidly. In the United Provinces where the epidemic was severe, three out of every 100 deaths registered were ascribed to this cause. The rural death-rate during the year was .8 p.m., which was double of that in urban areas, namely .4.

Anti-Cholera measures. Routine sanitary measures such as the improvement and disinfection of water supplies in villages and at fairs, etc.,

improvement of conservancy, medical inspection at railway stations of pilgrims, the enforcement of temporary regulations under the Epidemic Diseases Act, the employment of epidemic staffs and propaganda, were adopted in various centres as and when necessary. Inoculation with cholera vaccine remains the most effective method of personal prophylaxis. Unfortunately, however, many still prefer to run the risk of infection, otherwise the figures of death from cholera would be far lower than they are. The total anti-cholera inoculations performed during the year were nearly 5½ millions.

Plague. Whilst increased mortality was reported in all Provinces except Madras, C. P. and Coorg, the death-rate for British India as a whole, namely 0.3 p.m. was still well below the decennial mean of 0.5 p.m. The most noteworthy feature of the epidemic was that the disease again remained confined to its important haunts in Northern India which suffered heavily. The increase was particularly important in the United Provinces, where nearly 50,000 deaths (60 per cent. of the total plague deaths) as against 10,000 in 1933 were recorded. In other parts of Northern India, 8,000 deaths were reported in the Punjab, 5,500 in B. & O. The N.-W.F.P. remained free for the seventh year in succession, while Delhi reported two deaths and Bengal one. The position in the Deccan Plateau comprising the Central Provinces, Bombay and Madras was not so bad, the recorded death-rates being more than in 1933.

Anti-Plague measures. Anti-plague inoculations performed in the various Provinces totalled nearly 13 lakhs. Rat flea surveys were continued in Madras and various interesting experiments conducted. The figures available show that nearly 800,000 rats were destroyed in Delhi Province, 900,000 in the United Provinces, 600,000 in the Central Provinces, 800,000 in Burma, while nearly 200,000 rat holes in 25 different localities in Madras, comprising 15½ thousand houses were fumigated.

Small-pox. Small-pox was moderately prevalent this year. Governments or local authorities maintain adequate staffs of vaccinators throughout the country, and vaccination and re-vaccination are free. The disease, however, still remains endemic and is responsible for 1.2 per cent. of all deaths, its continued prevalence being apparently a measure of the passive resistance to public health improvement.

The mean death-rate *per mille* was 0.3. The rural death-rate was 0.3 p.m. and the urban 0.4 p.m. Of the total number of deaths, 46 per cent. were of children, 19 per cent. being of those under 1 year and 27 per cent. being of those between 1 and 10 years. These figures are an indication of the deficiencies in infant and child vaccination throughout the Provinces.

Except for a small increase in the United Provinces and the Central Provinces, Madras and Coorg, all Provinces recorded low death-rates. Madras had a fairly severe epidemic and the mortality was the highest since 1926.

The peak of the mortality during 1934 occurred in April and May, and the minimum in September and October.

Case mortality was low this year, being 32 per cent. as against 41 per cent. in 1933, but the rate is higher than in Siam, Egypt, Ceylon, Norway, Japan and England and Wales, where it was 20%, 19%, 18%, 11% and 3% respectively.

The number of vaccinations performed has increased by over 1½ million to a total of 23½ millions. This increase is spread over both primary vaccinations and re-vaccinations, the number of operations having increased by 200,000 and a little less than 1 million respectively. Increases in the number of operations performed were recorded in most of the Provinces, particularly in Madras and Bombay Presidencies.

Out of 9½ million registered infants, only 44 per cent. were successfully protected. Until this exceedingly low percentage is at least doubled, there can be little hope of preventing epidemic smallpox in the country. Nearly 96 per cent. of the primary and 46 per cent. of the re-vaccinations were successful, and the cost for successful case was As. 3 11 Ps.

Glycerinated lymph, manufactured at provincial vaccine institutes, continued to be used. Nearly 33 million doses of vaccine were produced during the year, and 31 million issued.

Of the 947 municipal towns and notified areas in British India, compulsory vaccination was enforced in 797. In rural districts, however, compulsory vaccination is in force but in comparatively few parts of India. That compulsory vaccination should not have been extended long ago to all settled districts is much to be regretted. One of the most easily preventable diseases as smallpox is, there is no reason beyond inertia and lack of administrative vigour why it should not be prevented.

Fevers: Fevers constitute a heterogenous group, in which little detailed information can be obtained. Of a total of 4 million deaths ascribed to this cause, nearly 3 million or 74 per cent. were recorded in Northern India, comprising the N.W.F.P., Punjab, Delhi, U.P., B. & O. and Bengal. As usual, Madras, Bombay and Burma recorded low mortality. But 65 per cent. of the total mortality in Bengal and 65.4 per cent. of the total mortality in Assam was due to fevers. In rural areas, 3½ million deaths were registered, and nearly 200,000 in urban areas. As usual, rural deaths much exceeded the urban in all Provinces.

Malaria: Apart from deaths in hospitals and dispensaries, information as to mortality from malaria is scanty and unreliable. The general belief that approximately one-third of all deaths recorded as due to fevers are in fact due to malaria does not appear to be an over-statement of the position.

The total estimated deaths from malaria during the year were 1,300,000. This figure, however, excludes the mortality caused by malaria indirectly. This mortality is believed to be fairly high, for the debilitating effects of malaria are partly responsible for the large number of deaths recorded as due to influenza, pneumonia, dysentery, etc.

Lt. Colonel Sinton, Director of the Malaria Survey of India, summarizes the position in regard to mortality from malaria in the following conclusions:—

(1) 'In ordinary years, malaria is responsible directly for at least 1,000,000 deaths each year, and, in years when severe regional epidemics occur, this figure may be increased by another quarter to half a million. The fatal effects of the disease fall chiefly on children and infants. The local distribution of the mortality may be markedly increased by conditions of economic stress.

(2) 'Apart from direct mortality due to malaria, it has also a marked indirect action by lowering the general vitality of its victims, whereby many of them become more liable to contract other diseases, from the effects of which many of them die at a later date.

(3) There seems little doubt that malaria, by its combined direct and indirect actions, is responsible for at least 2,000,000 deaths each year in India.'

There is some reason to believe that not more than 1/10th of the persons suffering from malaria in India actually receive treatment in hospitals and dispensaries. If this be so, then the total cases of malaria must have been over 110 millions in 1934. The Director of the Malaria Survey of India considers 'there is very considerable evidence to show that, at least 100,000,000 individuals suffer yearly from malaria in British India alone, and

that this is probably a moderate estimate. In addition to these, there is an indirect morbidity pre-disposed to by this disease which may be between 25 and 75 million cases.'

Major-General Sir John Megaw, late Director-General, I.M.S., on the basis of an enquiry made by him in 1933 from medical officers stated 'the number of persons who suffer every year from malaria in India is not less than 50 millions and may easily exceed 100 millions in some years'.

Of over 11½ million cases treated in hospital during the year, 15 per cent. were from malaria, and it appears that of all diseases this is the most general cause of human distress and economic loss in India.

Whilst large parts of India are malarious, all are not equally so. The plains of Central and Western Bengal, most of Assam, the Dooars, the Terai of the United Provinces, the hilly submontane slopes of the Eastern and Western Ghats are all very malarious places, but the plains of the United Provinces and the Punjab, though they may be at times extremely malarious, are not always so. Malaria rarely occurs in the hills above 5,000 feet but several of the most malarious parts of India are in the valleys running into the hills at a level of 1,500 to 2,000 feet.

The effects produced by the operation of the Lloyd Barrage scheme on the incidence of malaria in Sind have recently been considered, and the principal factors which have produced an adverse effect are stated to be a rise in the subsoil water level in many areas, actual or threatened water-logging of the soil in certain areas, seepage from some of the new canals, the cutting off of sections of certain of the old canals, thus forming prolific anopheline breeding grounds, the formation of a 'lake' above the Barrage, with a corresponding rise of the subsoil water level along the course of the Indus, and an extension in rice cultivation in areas outside the Barrage Command in Northern Sind.

Anti-malarial measures. The sums spent on anti-malarial measures in 9 Provinces for which figures are available, are approximately as follows:—

	Rs.		Rs.
Delhi ...	31,000	Bengal ...	3,00,000
C. P. ...	42,000	Bombay ...	55,000
Madras ...	57,000	Coorg ...	7,000
Assam ...	67,000	Burma ...	47,000

Most of this expenditure was on quinine.

Under present arrangements, the quinine and cinchona febrifuge requirements of Bengal, B. & O. and Assam, as well as the Indian States within their geographical limits, are met from the Bengal Government Quinine Factory at Mungpoo. The Punjab and the United Provinces also obtain a part of their supplies from this factory. The main supplies for the Punjab, including its States, and for the United Provinces, Rajputana, N.-W.F.P., Baluchistan, Delhi and Gwalior comes from the Government of India stock under the control of the Director, Botanical Survey of India, Calcutta. For the rest of British India and the remaining Indian States, supplies are obtained from the Madras Government Factory at Naduvattam.

During the year 1934, 26,244 lbs. of quinine, 18,886 lbs. of cinchona febrifuge, and 20 lbs. of totaquina were issued free and 11,202 lbs. of quinine, 3,656 lbs. of cinchona febrifuge and 2,415 lbs. of totaquina were sold.

Public Health Commissioner with the
Government of India.

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(To be continued.)



THE MIDWIVES' UNION SECTION

Hon. Secretary:—Miss S. M. Round (Sister Sallie), All Saints' Dispensary Panvel, Dt. Colaba, Bombay.

Members are asked to send any helpful notes of cases, and articles for this Section to the Secretary.

All Saints Dispensary
Panvel
District Kolaba.

DEAR FELLOW MIDWIVES,

As there is so much talk about Ante-natal work and Infant Welfare Centres. I thought you might like to hear what Panvel has been doing.

Ten students and Dr. Vakil (lady) came out for 3 weeks from Bombay. They were housed in Dr. Patwardhan's Maternity Home and we co-operated. Lectures on Tuberculosis, Malaria, Infant Welfare and Maternity work were given with the help of a lantern and slides. Various villages in a radius of 20 miles have been visited.

During the time the students were here; we had a Placenta Praevia. Mother did well. Baby dead. Face presentation, both did well. Breech presentation, baby very asphyxiated, artificial respiration given for 45 minutes and it lived. Footling presentation, baby born dead, 4th pregnancy, and all the babies had died. Transverse in which decapitation had to be performed, premature mother and baby, doing well and last but not least triplets mother did well, but unfortunately all 3 babies died. So I think we gave the students quite an interesting time. Besides this there was a threatened abortion, and another case, primipara passed pure blood instead of urine for 24 hours. No pain and foetal heart sounds good, 8th month. She was treated with diuretics and barley water. So you see Panvel can produce a few unusual things. We are only hoping that when the students have passed their Health Visitors' examination it will inspire them to go into the smaller towns and villages and help these poor, and in many cases, ignorant mothers. Do please send me some accounts of your doings.

I am yours sincerely,
SISTER SALLIE.

The Toxaemias of Pregnancy

In his lecture at the Surrey County Council Post-Certificate course, F. V. O'Sullivan, F.R.C.S., dealt most ably with this important subject. We publish a summary of his remarks.

The Minor Toxaemias. Morning sickness is a condition which occurs in about 50 per cent. of pregnant women, and in the old days used to be looked upon as a normal condition. In fact, every pregnant woman was expected to suffer from morning sickness. In these enlightened days it is looked upon more seriously, and it is wisest to start treatment at once. There may, of course, be only a slight nausea or there may be actual vomiting. It has even been thought by some that pregnant women who suffer from this complaint are really only suffering from an attack of nerves. The modern theory is that all cases of morning sickness in pregnant women are due to toxæmia and need careful treatment.

It should be remembered that the liver is the organ which is attacked first, and that glycogen is stored in the liver cells. Now often a biscuit, dry toast or some form of glucose will arrest the vomiting. The diet must be regulated, with a reduction in fats and proteins. All such cases should be reported to a doctor.