

6-067-942

A Journal Devoted to Healthful Living

# HEALTH

ESTD.  
JAN.  
1923

Edited by Dr. U. Rama Rau &amp; U. Krishna Rau M.B.B.S.

Annual Subscription: Rs. 2. Foreign—Rs. 3. Post paid.

Editorial and Publishing Offices:—

323-24, Thambu Chetty Street, George Town, Madras.

Vol. XX.

OCTOBER, 1942.

No. 10.

## FAMILY DOCTORS

**"P**UBLIC Health is concerned with suppression of disease by means external to the sufferers. It attacks disease from without whereas, the practitioners of medicine attack disease from within". So says *The Medical Officer* in a recent issue, an extract of which is given elsewhere in this issue, (P. 234). But what actually takes place in Public Health is, not an attack on disease, but prevention of it. For, once disease breaks out, all that is done is to cure it. The real field of activity of the Public Health Department is not where disease has already made its appearance, but where it may. In the former case, the practitioner will take care of it, and in the latter the Public Health Department.

The success of Public Health Department depends on the extent to which the causative factors of disease or the external agents of disease are known. But, where no tangible external agents are known for chronic diseases, "The only way to success", says *The Medical Officer*, "is to

follow a community from birth to extinction and try to correlate its terminal illness with events which happened previously. This would require family doctors to study the mass". This is the state of practice in which the general physician might be in the best position to discover much of the causes of chronic diseases. And so, "practically all we believe or teach of the causes of the chronic diseases", adds the journal, "is derived from the family doctors of the past who knew considerable numbers of their patients from birth to death and so could construe present conditions in the light of the past history". Thus, the system of family doctors proves to be the best instrument to prevent chronic diseases with. The difficulty said to lie in the influence of personality does not exist as the family doctor knows the personality also of the patient, and how to take advantage of it.

But, in the modern times in India, the family doctor in villages is conspicuous by his absence. Only quacks are left free to play the

Health ]

[ Oct. '42

important role of the family doctor. This state of affairs is not, after all, difficult to mend. If we just recall how masses used to be served by selfless and competent doctors in the days of national independence, we realise how easy the problem is of solution. Doctors in those days were first tested by the King's court of experts which is called *Asthana Pandita Sabha*. If he passed the test, he was granted an *Agraharam* which means one or more villages, the revenue of which could be enjoyed by him, or landed property free of tax. The doctor, having thus been comfortably settled, would have nothing but service to humanity as his sole business, and could concentrate his attention not only on the welfare of the society but for the advancement of the science of doctoring. Such doctors were distributed all over the land serving the masses free of charge. Such a golden state of affairs can prevail only where there is a national government in the country. The only steps to be taken by any State in this direction are only two. One is to produce only doctors of highest efficiency and the second is to settle them in specified areas granting them immovable, inalienable, permanent property to lead a worryless comfortable

life. Their main business will be to prevent disease by inspection tours and medical advices, unasked and free of charge. The State may pass legislations making all those who disobey the doctors punishable. Competitive medical practice may be allowed in cities where families are not expected to be stable owing to their transferability from place to place.

These State-recognised preventive doctors will be more useful than local hospitals. For, the latter have no personality and neither moral interest nor physical capability to instruct the masses and prevent diseases. They are better as curative institutions. But as a preventive measure, they are a failure. The State established life-long doctors command respect and will be the best mediums of health propaganda. Their success should be measured not by their periodical reports. The fall in the rate of disease incidence and rise in the public health standard of the circles they reside in, should tell what they are doing. The main feature in which such preventive doctors differ from others is that they should live as the family doctors of all the families they are within the reach of. For, only as family doctors can medical men prevent disease.

#### A High Rate of Physical Fitness Among British Men Called to Service

Men in the age group between 37 and 40 years called up for the fighting services in Great Britain have been found, on medical examination, to have a surprisingly high rate of physical fitness, the regular London correspondent of *The Journal of the American Medical Association* reports in the December 27 issue. He says:

"Medical examination has revealed a high rate of fitness among the men called up for fighting services; eight out of every ten have been found fit and many more will probably 'make the grade' after a few months of army life. A surprisingly high standard has been found in the age group 37 to 40; six out of ten have been found fit. During the past six months, one-fifth of the men originally placed in grade 3, the lowest category accepted by the services, have been re-examined and found so improved physically as to be posted to fighting units. Formerly, they were serving as clerks, orderlies, batmen and storekeepers. Instructions have been given that all grade 3 men are to be examined after a few months of army life. In grade 2, comparatively few men have been regraded. This grade is composed of men not quite up to the standard needed for fighting and whose condition does not improve with army training. They are, however, capable of strenuous duties."

# Sea Bathing—Its Advantages

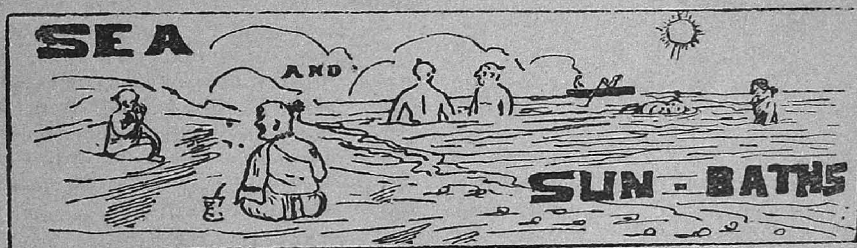
By R. S. DR. S. N. MALHOTRA, M.S., M.D., F.R.C.S.,  
*Chief Medical Officer and Sanitary Commissioner, Kerauli, Rajputana.*

**S**EA bathing is very useful as pastime, exercise and as a cure for various ills. Sea bathing affords immense benefit for diseases of tubercular nature. Many springs are reputed for their curative qualities and thousands of people visit them daily from far off places. A sea-side holiday is considered by the majority of of students as almost an essential part of vacation and sea bathing plays a large part in the programme.

Bathing in the sea not only causes exposure of body to water; but sun and air baths are being taken at the same time, with their respective

avoided, otherwise pulse pressure falls and unpleasant consequences are likely to ensue. It is imprudent even for robust individuals to remain in water for an hour or so; but frequent immersions are much more beneficial than a prolonged bath. The early morning bath on an empty stomach immediately on rising, before the body has regained its natural warmth, can only be undertaken by very robust individuals. Always have a few biscuits or warm drink before you enter water.

Sea bathing stimulates kidneys to produce more urine. Some people



Sea bathing not only causes exposure of body to water, but provides also facilities for the sun and air baths being taken at the same time, with their respective benefits combined.

benefits combined; but its whole success depends on the ability of the individual to react satisfactorily to the strong stimuli to which he is subjected.

The best time to have bath in the sea is three hours after meals and not later than 5 p.m. Children and old people should have only a few minutes bath, those of robust physique can bathe longer and more frequently, but this should be done gradually. To bathe for a long time straightway produces a great depression. Swimmers can stay in water longer as active exercise stimulates circulation, warms muscles, and increases metabolism. Muscular fatigue should be

actually void urine in swimming pools. It is thus very good for phosphaturia and acts as a sedative for neurasthenics. Immersion should be quick and complete if you want to have maximum benefit. By prolonged bathing heat regulating centre becomes fatigued and the patient gets involuntary shivering and muscular tremors. This stage should be avoided. As the result of increased metabolism, the bather feels appetite, but he should avoid excessive bathing. This will have opposite effect. Sea bathing produces resistance to infection, improves physique of the individuals, accelerates mental activity; increases the joy of life by stimulating circulation,

and at the same time augments the capacity for work. Sea bathing is very useful for surgical tuberculosis.

If you begin to show increasing lassitude, fatigue, listlessness headache and anorexia, if you begin to become peevish and irritable and if sleeplessness supervenes, or if you feel limp and tired, it is due to excessive bathing. Reduce the frequency and number of baths, and you feel fit and strong again.

**Drawbacks and Precautions.**—(1) Sudden onset of cramp due to muscular ischaemia (poor circulation):—When it occurs in the arms or legs, it is acutely painful. If you bathe too soon after a meal or in a constipated condition, you are likely to get cramp of the stomach which may have a catastrophic end. One may drown before aid reaches. Sudden death may occur from circulatory failure in a person with a fatty heart or with myocardial weakness, for bathing does exert a profound effect on the blood pressure. It quickly raises diastolic pressure and less so the systolic pressure; hence pulse pressure falls. Always see that there is not very great difference between water temperature and body temperature; lest sudden vagal inhibition may occur with attendant shock.

(2) Aural Troubles. If water enters the external ear, it can easily run out, but if there is wax, it soaks in water, swells up and causes pain; and later

on, troublesome dermatitis results. Those with eczema should not bathe as it aggravates the trouble. If there is an old perforation of the drum, it permits water to enter the middle ear and sets up otitis media with all its serious complications. Plugs should be worn. Simple plugs will not do. It should be impregnated with vaseline or collodion, or else, use moulded rubber plugs.

As a rule, it is the inexperienced bather and poor swimmer who suffers most from ear complications; correct breathing is essential in order to prevent water from entering the eustachian tubes. Those suffering from cold and sore throat should refrain from bathing.

**Conclusion.**—(1) Bathing is a healthy and invigorating pastime for the robust.

(2) It is good for invalids if special precautions are taken.

(3) Baths should be taken 3 hours after meals—not on empty stomach and not in the early morning; and it should not last very long to produce spasm and shivering.

(4) It is dangerous for those with poor circulation.

(5) Aural complications can be avoided by carefully controlled breathing.

(6) Warm sea baths are useful for rheumatics and for those with sluggish liver.

---

Most significant with the alcoholic criminal, in contrast with the general offender, is the higher incidence of assault. With the general group, crimes against property tend to have precedence. The alcoholic group is characterized by more frequent violence, which necessitates a greater social, economic, and medical emphasis," says Dr. Ralph S. Banay, Chief Psychiatrist of Sing Sing Prison in the *Quarterly Journal of Studies on Alcohol*. He continues, "Though a large majority of all types of alcoholic offenders are passing through many corrective institutions throughout the States, still little is done for the study, understanding, treatment, and prevention of this form of delinquency."—*Medical World*.

# INFECTIOUS DISEASE—HOW IT SPREADS

BY DR. BON BEHARY DAS, L.M.F., (REGD.),

"Kamala Pharmacy" Madhubati, P. O. Singur, Dist. Hooghly.

**T**HE human body is too delicate a mechanism to be trifled with. The word *disease* means simply want of ease or health and is the direct or indirect result of abuse of this delicate living machine. It is termed infectious when it is capable of being transmitted from one person to another.

All infectious diseases are transmitted by *germs*, a term sufficiently vague to cover all varieties of organisms immediately instrumental in the production of disease.

**How Germs Spread?**—The spread of disease germs takes place in a variety of ways. It may be direct or indirect.

**Direct Method.**—Infected person, convalescent, cured or contact carriers—through their own or their relations' ignorance or carelessness may help in the spread of disease.

**Indirect Method.**—Many diseases spread through food, flies, finger, filth, fomites and fluid.

Certain insects such as mosquitoes, sandflies, fleas, ticks etc. act as intermediary hosts (vectors) in the transmission of certain diseases. Besides human beings and insects, some lower animals may be the sources of a few infections—such as plague from rats, Malta fever from goat and so on.

The path of entrance and site of attack of germs into the system are of considerable importance in determining their effect on the host, as for example, virulent pneumococci when swallowed, may not produce the disease, whereas if they enter and get a foot-hold in the respiratory passages, they may cause even fatal pneumonia. Many germs, however, have their

definite use in some particular part of the body, such as the *Bacillus coli*, the germ which lives normally in colon where it helps to break up and void the unwanted waste materials of food in order that they may pass on. This bacillus is useful and normal in its proper place in the lower bowel and in appropriate numbers, but when it strays into other organs such as the upper bowel and gall-bladder, it becomes a source of ill-health.

Many of the specific germs, however, can be present in the body in quite large numbers without causing an attack of the disease for which they are specific, because other conditions such as the power of resistance in the body are too strong for them to gain the upperhand.

**The paths by which the germs leave the body of the sick person** and are conveyed to the body of the fresh subject are varied, and depend partly on the nature and situation of the disease and partly on the nature of the germs. Germs cannot penetrate through the skin when it is intact, but when there is any slight cut or wound on the body it paves the way for their entry.

The germs leave the body of the infected person either by some discharges, it may be mucus from the nose, throat or lungs, expelled by breathing, coughing or sneezing; it may be the discharge from an open wound, or it may be particles shed from a skin eruption as smallpox and chicken pox. Again, in those diseases affecting the bowels germs will be discharged from the body through the faeces and also through urine; particularly is this the case with water-borne diseases of which cholera,

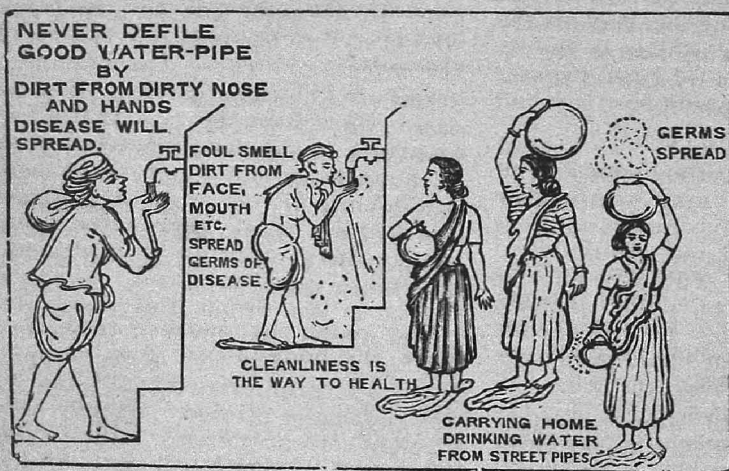
typhoid fever and dysentery may be taken as examples. Yet again, the germ may be circulating in the blood and be removed therefrom and transferred to others by the biting of insects.

The portal of entry into the new subject varies according to the species of the disease. Germs may be inspired and find lodgment in the nose, throat or air passages; they may be swallowed with food or they may be conveyed to the broken surface of the skin by soiled fingers, flies or in dust. Lastly, germs may be introduced into the circulation through insect bites.

The infection of tuberculosis is also conveyed in this as well as in other ways. If the affected person throws his or her excretions or crusts indiscriminately, or otherwise disposes off without previous disinfection, the excretions are converted into minute particles when dried up, and mix with the dust and float in the air. This air or dust with the germ particles may fall on food or drink through which they enter into the body or directly through inspiratory air.

2. *Water-borne Diseases* : — This group, especially important in the tropics where the water supply is

frequently contaminated, include such diseases as cholera, dysentery and typhoid fever. The dressing and the bleeding used by the affected person also contain the germs and if washed in river or ponds the water of that river and pond becomes polluted and may enter our



1. *Droplet Infection*.:—Most of the commoner infectious diseases are borne from the infected person to a healthy individual through the imperceptible droplets of moisture which are expelled in coughing, sneezing or even talking or breathing. The disease which are transmitted in this way are also known as air-borne diseases. It is one of the commonest methods of infection, and it is in this way that measles, scarlet fever, diphtheria, common cold, influenza or even smallpox and chickenpox are spread; though in the case of the last two named diseases, the infection may also be conveyed through particles of skin or crusts cast off by the patients.

body through drink or food washed in this water. If the excretions of the affected person be disposed off without disinfection, they may find their way into the water of the river or pond nearby, by soaking or being washed along with rain water and thus the water becomes infected. The pernicious habit of throwing dead bodies of the cholera stricken into river, has not uncommonly helped in the spread of this easily preventable disease.

3. *Food-borne Diseases*.:—The food may become infected in several ways: by handling with dirty fingers, by flies, by exposure to dust and dirt, by washing in impure water, or the food itself may be actually diseased.

Food sterilized by cooking, may become reinfected by exposure to dirt, dust and flies. Milk of the affected cow may contain the germ, and when taken may cause the disease.

4. *Insect-borne Diseases*:—The study of tropical diseases has revealed the part played by insects in the transmission of many other forms of diseases. The two insects which we regard especially as natural enemies are the fly and the mosquito. The former is, perhaps, responsible for more diseases than any other agent in that it establishes direct communication between every form of filth and disease on the one hand, and the body or food of the healthy on the other. Particularly active is the fly in the propagation of such diseases as typhoid fever, dysentery, summer diarrhoea or cholera.

Flies after taking the excretions of the affected person may convey the germs through their mouth and legs and infect our food and drink when they sit on them. The mosquito is familiar to all as conveying malaria and dengue, and may be responsible for certain forms of blood poisoning. Filaria, the disease resulting in elephantiasis, is also borne by the common brown mosquito, sandflies, fleas, ticks etc. and others act as intermediary hosts (vectors) in the transmission of certain diseases. Lower animals may also be sources of a few infections such as plague from rats, Malta fever from goats and so on.

5. *Fomites*:—The term fomites is used to describe any article of food or furniture which is capable of harbouring the living germs of the disease, while they are not in the human

body. Infectious diseases may also be carried by fomites which have been used by the sick. If an healthy individual takes food in the same plate or drinks in the same cup with the affected person, he may be infected through the medium of saliva or if he uses the dressing or bedding previously used by an infected person without subsequent disinfecting.

6. *Carriers*:—It sometimes happens that a person may have in his body harmful germs to which his blood has grown so accustomed and has developed so much of antibodies, that they do him no harm, but may be transferred to people whose resistance to them is not so strong and who therefore become easy victims of the infection. These harbourers of germs are known as 'carriers'. In some cases, they have never actually had an attack of the disease of which they harbour the germ, but more often there is a definite history of an attack from which they think themselves completely cured. Germs of diphtheria or cerebro-spinal fever may thus be carried in the throat for years and germs of typhoid fever or dysentery may be present in the stools. Sometimes, the germ carried is not one of any particular disease, but may be a virulent streptococcal or staphylococcal germ which will cause severe infection or inflammation, if it is conveyed to a delicate person or operation case as sometimes occurs in hospitals where a nurse or doctor might be an unconscious carrier. A healthy looking milk-maid or a cook thus may, for example, endanger the lives of the community to whom he or she supplies milk or cooks food.

---

Intern—"Let's get married right away, darling, and keep it a secret until I can support you."

Girl—"But suppose I have a baby?"

Intern—"Oh, we'll tell him, of course."

---

'Tis said women have a sense of rumor.—*Medical World*.



# SMALL-POX

By DR. V. R. SRIKHANDE, L.R.C.P.S.,

Medical Officer, D.I.D. Hospital, Pandarpur.

**S**mall pox is an acute, specific and highly infectious disease. The fever in this disease shows two phases—remission, being followed by re-ascension on the onset of the pustular stage.

All races, both sexes and persons of every age are susceptible, if unprotected by efficient vaccination. None is naturally immune. One attack ordinarily prevents another, but not necessarily; second or even third attacks are known.

Epidemics tend to appear every sixth year and mortality is highest during the peak of the epidemic. It is more severe in hot climates. Mortality rate decreases owing to efficient preventive vaccination which modifies the disease.

Infection of small-pox is almost through the respiratory tract,

and may be direct or indirect *i.e.* by contact, which need not be very close. With a patient suffering from the disease or through the medium of objects infected by the sick person, the usual sequence of events is that the virus is coughed out in droplets which contaminate the air and mucosa of the upper respiratory tract of the susceptible individual. From here, it spreads to the rest of the body. There is also the possibility of aerial conveyance of the virus for considerable distance perhaps exceeding a

The infectivity of small-pox is slight at the time of the onset of symptoms and greater when the eruption appears. The virus is very resistant and long persists in the dry scales and crusts shed from the body. Corpses of those recently dead from small-pox can transmit the disease.

Immunity to small-pox may be acquired by a previous attack of the disease by variolator, or by vaccination and revaccination.

The incubation period of small-pox is 12 days. Onset is sudden in majority of cases, with rigor, vomiting and convulsions in children. The most prominent symptoms are high fever, severe frontal headache and intense pain across the loins. The pain in the loins is always present and is excruciating and very severe.

The backache is a constant and diagnostic symptom in the pre-eruptive stage in small-pox. It is strictly localised in the lumbar region. The fever quickly reaches a maximum of 103 or 104° and is accompanied by severe prostration. Delirium and even suicidal tendencies may accompany the invasive stage. With these severe symptoms are coupled more ordinary febrile manifestations such as thirst, coated tongue and disturbed sleep. The breath is offensive. The bowels are constipated, the skin



Small-pox



is usually hot and dry, but sometimes, perspiring. After three or four days eruptions are noticed on the forehead and the back of the wrists; and with the appearance of the rash, the initial constitutional symptoms, such as prostration, etc., diminish, and the high temperature almost drops to normal and the patient feels very much better.

The eruption spreads to the rest of the body also, but always affects most the parts usually uncovered and exposed to pressure friction or other irritation. No matter how modified and sparse the rashes, they never miss the face.

There are 7 types of small-pox :—confluent, semi-confluent, discrete, hæmorrhagic, abortive, foetal and modified.

The first is very severe, invariably terminating in fatality. The manifestations of the disease from the very start are very severe, the eruption is rapid in development, and it is so extensive and numerous that the whole skin surface looks as if it is one continuous sheet of pus. The eruptions coalesce with one another and no healthy patch of skin is visible between the rashes. The features may become quite unrecognisable, Delirium is common, and offensive odour emanates from the skin. Circulatory failure is progressive and death occurs towards the second week. In the second type, there is healthy skin visible between the individual rashes. The mortality of this type is not so high, and the constitutional symptoms are not severe.

In the discrete type, the eruptions are numerous, but have not least tendency to coalesce with one another. The mortality is not high. The initial symptoms may be very severe, but the subsequent course of the disease is mild.

The deadliest type is the fourth. Mortality, here, is cent percent. The suffering of the patient is so very intense and torturing that it is beyond

description. The temperature rarely goes above 102° F. The whole body becomes crimson red, and there is intense burning sensation all over the body, and the patient generally expires within 48 hours. Severe back-ache is the constant and prominent symptom along with headache, vomiting etc. The patient describes this pain as if his back were being hammered by somebody else.

In abortive type the disease is ushered in by the usual constitutional symptoms, and the appearance of the rash; but the case takes a surprisingly better turn within 24 hours and the patient recovers within 2 or 3 weeks. And it is very difficult to say why the disease aborts in people who were highly susceptible before.

Foetal small-pox means small-pox in the new born. In every instance, the infection was traced to have originated from the mother. Almost all cases are fatal.

In the modified or the seventh type, the course of the disease and the subsequent development are always modified in all possible ways by partial presence of previous immunity due to vaccination and revaccination. In some cases eruption fails to appear.

Prevention of the disease is possible by efficient vaccination and revaccination. The chief measures to be taken when the disease is recognised, are as follows :—(1) prompt removal of the patient to an isolation hospital, (2) Thorough disinfection of infected rooms and clothing, (3) Immediate vaccination or revaccination of all other members of the household and of contacts, (4) Quarantining of contacts for 16 days or daily inspection of them. (5) Notification of schools or institutions attended by inmates of the same house.

Besides compulsory vaccination in endemic and epidemic areas, other methods should be adopted so as to prevent dissemination of the infected material from the sick person to those around him.

The first step towards prevention, when a case occurs, is to isolate the infected person and treat him in a hospital, specially meant for the purpose. The infected premises and the infected clothing should be thoroughly disinfected. A small-pox patient should not leave the hospital until all the scabs are fallen. Compulsory vaccination in Germany has helped in banishing this disease from that

country. The rooms infected by a small-pox patient should be white-washed after scrubbing the walls and disinfected by phenyle 1 : 120 and Pesterine. The infected cloths should be put in H.P. lotion 1 : 1000 for half an hour and then boiled in phenyle and washed with water and dried. The scabs from pocks should be collected in Carbolic lotion 1 : 40 and be destroyed by burning.—*Antiseptic*.

## THE CHIEF FUNCTIONS OF THE SKIN IN CHILDREN

BY AUSTIN FURNISS, L.R.C.P., L.R.C.S., L.D.S., D.P.H.

THE skin consists of two layers, the outer layer called the *epidermis* and the inner layer called the *dermis*. At the orifices of the body the structure of the skin is somewhat modified and is known as the mucous membrane. The superficial layer of mucous membrane is very transparent, while the deep layer is highly vascular. The epidermis consists of flat cells, several layers deep, of which the superficial cells are virtually dead cells. These are shed naturally or are removed by washing. The deep layer consists of actively growing cells. Some children have a thick skin; others, such as red-haired children have a thin one. Flushing or pallor at the onset of illness or under emotional stress has not the same significance in the same two types of child. Furthermore, the amount of pigment in the skin varies with age, environment, and race. It is most important to note that the skin of some children does not react normally to sunshine and general outdoor exposure. The normal response to ultra-violet irradiation, whether as a result of exposure to sunshine (which contains ultra-violet, infra-red, and luminous rays) or to an artificial source, is pigmentation, and children who do not develop this pigmentation or tanning must be watched to ensure that they do not suffer from sunburn.

The vessels of the skin exhibit considerable variation in the relative depth at which they lie and in the richness of distribution. In some children a flush is easily seen, because the vessels are superficial. The veins which lie superficially, as for example, on the back of the hand, enable large volumes of blood to be brought rapidly to the surface to be cooled in order to reduce the temperature of the body during or after strenuous exercise. Exposure to cold causes the vessels to contract. In most areas of the body the skin is characterized by the presence of hair. The relatively unpigmented fine hair in the baby is called 'down.' An interesting feature about this type of hair is that it often persists with undue prominence in children who are below the average in nutritional and physical development; in these children the eyelashes are often dark, long, and unusually curled. Valuable evidence of nutritional condition is also afforded by the condition of the nails. In children suffering from malnutrition the nails are brittle and longitudinally fluted; whilst after severe illnesses transverse ridges are often seen in the nails, and they register periods of acutely arrested growth.

From our point of view, we are considering the skin as a protective organ, but we also know that it has definite

excretory functions, ridding the body of sweat, carbon dioxide, and urea. The amount of carbon dioxide excreted by the skin is only about  $\frac{1}{100}$  of that expired by the lung, but the excretion of sweat is considerable—about 1 to  $1\frac{1}{2}$  pints a day. Besides the sweat glands, there are other glands in the skin, developing in relation to hair follicles, and known as sebaceous glands. They secrete the sebum, the natural lubricant of the hair. Closely related to the hair follicles are special involuntary muscles which can cause the hairs to stand up producing the condition known as 'goose-flesh' or 'goose-skin.' The erection of the hairs is an involuntary reflex response to cold or, more rarely, to fright. Gooseflesh is not usually seen in children under 2 years of age—a fact which is an important reminder that temperature control is of somewhat slow development.

Under the *dermis* is a fatty layer. The principal period of life at which there is a reduction of subcutaneous fat is the second 'springing up' period between the ages of about 5 and 7. This reduction at about the beginning of the second or permanent dentition is of great importance. The fatty layer exercises a valuable function in tending to keep the temperature of the body constant, and any considerable alteration in the thickness of this layer is associated with increased susceptibility to changes in external temperature. The child has a much larger surface area in relation to his body-weight than the adult. There are 30 sq. in. of surface area for each pound of body-weight in a child of the age of 7 as compared with 16 sq. in. in an adult. The surface area of the skin of an average adult is 15 sq. ft. The heat loss in the normal child is greater than in the adult, and the difference is still greater when children are suffering, from malnutrition.

In the second 'springing up' period between about 5 and 7 years, when the reduction of subcutaneous fat in combination with rapid increase in height is most marked, the furrows, lines, and dimples of the skin tend to become fixed and may become deeper. Increase in wrinkling of the forehead should direct attention to possible errors of refraction. In case of malnutrition the skin often becomes wrinkled and lax. Children who are hard of hearing often acquire a countenance lined with anxiety or a blank expressionless stare.

The health of the skin is of importance not only to the functions already mentioned but also because it is richly supplied with nerves. In the child the concentration of nerve-endings per square inch of skin is greater than in the adult, since no new nerves are formed after birth. On the other hand, the nerves of the skin do not function properly at birth, and it is only gradually that the special nerve-endings are brought into action for the registration of sensations. It is the stimulation of the nerve-endings by exposure to sunshine and fresh air that forms such a valuable part of the general education of the nervous system and gives the child that sense of awareness and aliveness which is so essential to purposive activity in later life.

The thin outer layer or *epidermis* in young children may be injured by too vigorous rubbing and washing, by faulty drying, by too free use of alkaline fat-solvent soaps, by exposure to cold dry winds, by too much sunshine, as well as by dirt and parasites. Children are apt to be susceptible to bacterial infections, such as *impetigo*, while some children with a tendency to asthma are peculiarly liable to certain rashes usually associated with dietetic idiosyncrasy.—*The Prescriber*.

# Nutrition in Relation to Health

BY DR. BON BEHARY DAS, L.M.F., (REGD.),  
"Kamala Pharmacy" Madhubati, P. O. Singur, Dist. Hooghly.

God's ideal for His children is higher than the highest human thought can reach. The things of Nature are His blessing, provided to give health to body, mind and soul. Nature is God's physician. The fresh air, the glad sunshine, rest or sleep, work or exercise, water, natural food, the beautiful surroundings and disease resisting force at the body are her natural health giving agencies—the elixir of life. All these are precious messengers of God's love to His afflicted family here below. These are given to the healthy to keep them well and to the sick to make them well.

Health is far more contagious than disease. We inhale it with every breath. We absorb it from the sunlight. We catch health from every normal contact with Nature. And of all things food is the source of most health infections. In every morsel of good food there is life and energy, health and satisfaction.

Whenever any part of the body sustains injury, as in a broken bone, lacerated skin, bruised or torn muscles, Nature's forces and resources are at once set in operation to rebuild the tissue, restore and repair the damage. If the damage is done within the body such as overworking and producing irritation in an organ like liver, stomach, kidneys, pancreas, thyroid and adrenal glands or damaging toxins are introduced by insect bite, the same repair forces are set in operation to meet the particular need.

This intelligent, constructive, restoring force must in some way be akin to the large operations we observe in nature and through the universe. All life giving power comes

from God. When one recovers from disease it is the power from God working according to established laws of cause and effect. *Healing like creating is the work of God through Nature's agencies.*

One conclusion is obvious and attracts our attention so far as the present article is concerned. It is certain that thousands have recovered, and other thousands are recovering from disease and various ailments without the use of drugs. Drugs or medicines never cure. The best that any such so-called remedy can do is to contribute some mineral element, vitamin, enzyme, hormone, chalon, or some other factor which Nature can utilise for the emergency. All of what we may call essential medicines are contained in our natural foods.

The human body is too delicate a mechanism to be trifled with. Sickness and disease are not accidents, but rather the direct or indirect result of abuse of fine living machine called the body. Most people do not give their bodies anything like fair treatment. Abuse in varying degrees is the usual deal and the sure consequence is invalidism and disease sooner or later. Falling sick and obtaining a measure of recovery is the lot of human kind today. Recovery of health depends largely, if not mainly, upon the natural disease resisting forces of the body, in addition to the natural healing agencies—fresh air, sunlight, sleep, work, water, food etc.

**Pure Air.**— One can live weeks without food, days without water, but only brief minutes without air. Every living thing, both plant and animal, must breathe. By the

breathing of pure air, oxygen is admitted to the blood, and this oxygen gives to the blood its red colour, and is essential for the combustion or burning food materials by which energy is released for muscular labour and also to keep the body warm. Organic waste poisons, as urea and uric acid, are prepared for excretion by a process of oxidation. The blood is the longest and strongest line of body defence against disease. An abundant supply of oxygen purifies the blood and renders it more able to resist infectious maladies. Thus, pure air is a life-giving ne-

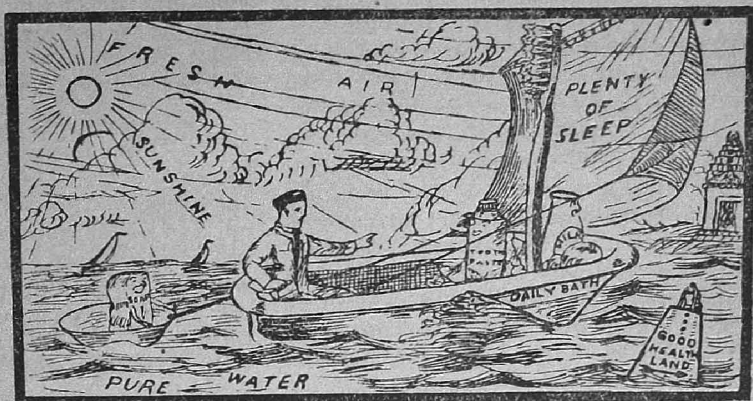
cessity. It is a potent agency both in the prevention and in the treatment of disease.

It is not only necessary to ventilate our houses and rooms, but we should see to it that our lungs also are well ventilated. This requires a little thought and effort. It is not possible to breathe well while stumped forward as if sitting upon the chest. One should by practice acquire the habit of a correct posture both for sitting and standing. This requires that the shoulders be kept back, the chest forward, the chin low, and the abdomen in.

People who live much in the open air rarely contract some diseases such as tuberculosis, pneumonia etc., and the reason is plain—they are constantly taking the *Nature's cure*. It is particularly difficult for office workers to obtain a sufficient amount of fresh air to keep them in good physical condition. A person's general resistance

to disease may be greatly improved by a walk every day in the open air.

**Sunlight.**—The sun is said to be the fundamental cause of creation and preservation of the solar system. Light and heat which are essentially necessary for development of health are derived from the sun.



Fresh Air, Sunshine, Pure Water, Plenty of Sleep and Good Food,  
—all these together constitute the safest means of conveyance  
towards the land of Good Health.

It is only in comparatively recent years that science has recognised in sunlight one of man's greatest benefactors.

Sunlight is health giving, life giving; it aids the body in building up power to resist disease. It improves the quality of the red blood cells, which are the oxygen carriers. The ultra-violet rays of the sun may increase the number of white blood cells, which are the chief body defenders against infection.

Long before man realized the value of sunlight, the plants were making use of the sun's rays to build up their structures. A plant which is shut away from light becomes pale, sickly and soon withers and dies. The same light energy which enables the plant to take up the inorganic elements of the soil and out of these to build organic food compounds, and build them into living body structure or to turn their energy into heat or work.

The beneficial effect of sunlight is derived from two different sources, the heat rays and the light rays. Both of these are contained in the sun's spectrum, but each exerts a different action. We know that the plant kingdom requires warmth in order to grow and this warmth is derived from the heat rays of the sun. In addition to the heat rays, plants require another form of energy which we term the ultra-violet rays. These are not visible to the eyes, but are contained within the sun's spectrum, and exert their effect upon both the vegetable and the animal kingdom.

In one season the farmer carries a bushel of corn to the field on his shoulder, and in another season he brings back a hundred bushels on a track. Whence came the extra ninety-nine bushels? From the sun! Green leaf is a food factory. Its chlorophyll grains entrap and transform sun's rays, converting them into food. And so food is sunshine in the form of cold storage. When burnt, the light and heat of the sunlight reappear. In the body, a flameless combustion warms and energises us by setting free the stored up sun's energy.

The ultra-violet rays of the sun are disease-preventing rays, and are essential to the life of all growing organisms, of which human body is one member. The ultra-violet rays help to prevent rickets by acting on the skin and causing the formation of vitamin D. The milk of cows which have been in the sunshine contains more vitamin D than that of cows which have been in the barn. The ultra-violet rays have germ-killing properties. In other words, the sunlight is death to germs. Few germs can withstand the sun's rays for one hour. The same invisible ultra-violet rays are responsible for cure of certain skin diseases, chronic ulcers etc.

For growing babies, five minutes' exposure to the sunlight twice daily is an excellent practice. We know that rickets can be cured by exposing the body to the action of the sun's rays. It has been found that daily exposure in this way increases the amount of phosphorus in the blood, and phosphorus is an essential element for growth. The amount of iron in the blood has been found to be increased after exposure to the sun's rays for a time. Sunlight is also of great benefit in the treatment of tuberculosis.

# SEX-HYGIENE

*Adopted from National Health Publication No. 25.*

**I**n the past years, the discussion of sex hygiene and venereal diseases has been avoided, with the result that most girls have grown up ignorant as to conditions which are of vital importance to them.

Every normal woman dreams of the day when she will have a home of her own. A home to her is one in which she has happy, healthy children and in which she herself is happy and healthy.

If such is to be the case it is necessary that the future mother should have a general knowledge about sex

matters. Knowledge is power. For her to know the truth about her maternal

organs and the diseases which may affect them, is giving her power to guard not only her own future health but also that of her children.

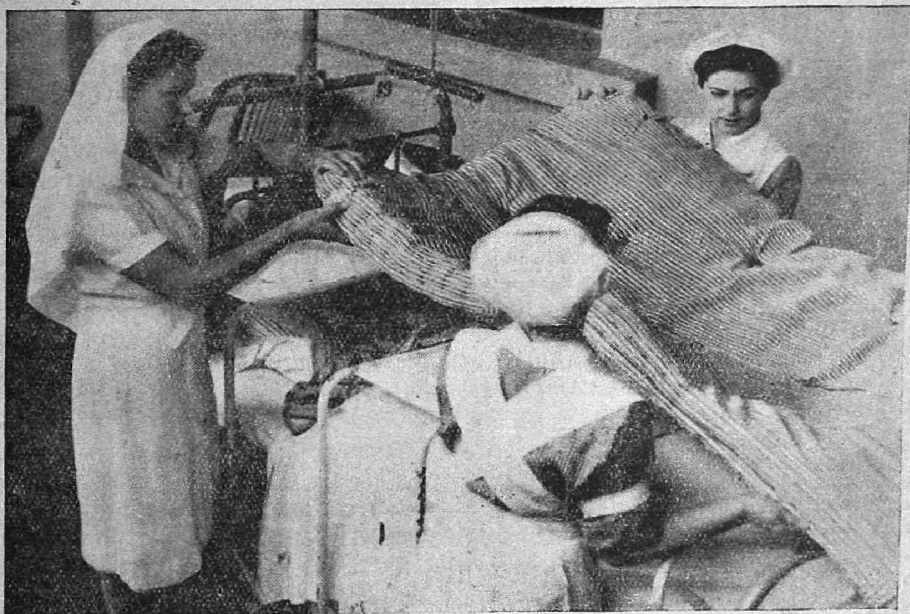
**The Female Organs of Generation.**—Situating internally in the centre of the lower part of the abdomen is the womb (uterus), an organ the size of a small pear. From either side of the uterus stretch out two fine tubes (fallopian tubes), which connect the uterus with the ovaries, of which there are two, one on either side. It is from the ovaries that the eggs or



ova come passing through the fallopian tubes into the uterus. The lower end of the uterus leads to the outer opening (vulva). The male of sperm cells are made up in the male organs of reproduction, and in marital intercourse are placed in the vagina from which they quickly move up to the uterus and there meet the ova. The union of the two forms the embryo or beginning of the child which remains and develops in the uterus for nine months, when it passes down through the vagina a fully developed baby.

the menstrual flow. This continues until about the 45th year of age. To insure her own good health and that of her future children, a woman should take particular care of herself at this time. Rest, avoidance of cold and wet, plenty of sleep, bowels regulated such care will all make for the future health and comfort of the women and mothers.

**General Hygiene.**—*Bathing*:—The external parts should at all times be kept scrupulously clean; particularly is this so during the time of men-



Preparing for Japs "Down Under".

Sydney, Aus.—Reversing the usual purpose of a mattress, nurses at St. Vincent's Hospital hoist one over a patient who cannot be moved to safer quarters as they rehearse for the air raids that may come to the "Down Under" continent.

At about her thirteenth year, a girl begins what is known as menstruation. This occurs regularly, except during pregnancy, every four weeks, and at about the same time as the ova leave the ovaries. The uterus at this time receives a large amount of blood to help nourish the new life that may have been formed; if it is not needed for this purpose it is expelled, forming

struation, when they should be cleaned daily with warm water and soap. Cold baths are not to be taken during menstruation.

*Clothing*:—Tight bands compress the organs of reproduction and may displace them, and dirty or improper clothing irritates the external parts.

*Exercise*:—Exercise in moderation,

such as walking, improves the general health. This with regular sleep and proper food will make the women healthy and keep them so.

*The Sex Instinct*.—The desire to marry and have children is normal in woman. There is a natural attraction between the sexes, and as applied to two individuals, one of either sex, it is the basis of what we speak of as love. Like any other natural instinct, such as hunger, it may be abused with serious results to the individual. Marriage is the accepted standard as a means to carry on life. A woman must develop self-control. She should be careful not to rouse the sexual desire of men by words or acts or suggestive clothing, for the sexual desire is easily aroused.

Abuse of the sex instinct may face the woman with the possibility of bringing into the world an illegitimate child, with what results not only to herself, but to her family and child, she is aware of by the examples she has seen. A woman who sacrifices herself for physical pleasures or mercenary gain leads herself to disaster and sacrifices the opportunity of the greatest love in life. Then there are the diseases which follow so frequently from sexual intercourse outside of marriage.

**Syphilis—Gonorrhœa.**—(*Venereal Diseases*).—Gonorrhœa is a disease due to a germ (gonococcus). It is contracted in sexual intercourse with a diseased man; one act will suffice; it does not need a series. It may be spread by infected towels or toilets. Young children may be infected from the fingers of their mothers, from infected towels, or infected bed linen. A child should not occupy the same bed as the infected parent.

The symptoms may be very mild at first, so mild as to escape notice. There is usually considerable pain and swelling around the vulva and a profuse yellow discharge from the parts, also a frequent desire to urinate, which is painful.

The inflammation may be spread to the uterus, fallopian tubes and ovaries, causing conditions which frequently require operation. At least 25 per cent of the operations on women's sexual organs are due to gonorrhœa. Even if an operation is not necessary, the woman may be made sterile on account of the damage done by inflammation of the fallopian tubes—she is for ever unable to have children—one-half of the sterility in women is due to gonorrhœa. If she has a child, the baby's eyes may be infected at birth, and unless they are properly treated, inflammation and blindness result. At least 25 per cent of blindness in children is due to gonorrhœa.

**Syphilis.**—Syphilis is due to a germ (*Spirochaeta pallida*). It is usually spread by irregular sexual intercourse. Many a woman, however, has been infected on the lips by a kiss from an infected person. This is first a sore, hard chancre, at a point where the germs find entrance, following which there is a train of symptoms, some of which do not appear for years. It attacks all parts of the body. Some of its late results are locomotor ataxia, apoplexy, softening of the brain, blindness, diseases of the blood vessels, general paralysis of the insane.

This disease is transmitted to the unborn child, and if it does not cause miscarriage, which it frequently does—causing about half of all miscarriages—the child will likely die, or if it lives, may be physically or mentally defective, as well as having syphilis which may go on to any of the above mentioned results.

*Treatment*.—These diseases, if properly treated early and for a continued period, may be cured. Treatment should be secured from a reputable doctor, and his advice followed, or at a Health Department Clinic which may be found in the larger centres for this purpose. It will take a long time to cure in many cases. If the disease is of some duration, proper treatment, while it may not cure,

will at least likely prevent any further damage. Avoid the quacks and advertised remedies; not only is money wasted, but the time during which proper treatment should be received is lost.

#### **A Woman's Duty to Herself.—**

1. Self-control. Understanding the value of her body and realizing the results of one misuse of it.

2. Avoid too great intimacy. A man does not value the woman who gives way to him. Remember an engagement is not a marriage. Permit no intimacies to any man.

3. Unfortunately, many a woman is innocently infected by her husband, who has considered himself cured. There is no necessity for men to sow their "wild oats," but the fact remains that a large percentage of men do. and contract disease. A woman owes

it to herself and her unborn children to demand herself, or her parents for her, a certificate of freedom from venereal disease, from her future husband.

4. If a woman does become infected she should go to a reputable doctor at once. Cure depends on treatment being started early, and continuing as long as the doctor says it is necessary.

5. Remember at the stage of syphilis when the mouth is affected, it is spread by kissing and such things as common drinking cups and eating utensils improperly cleansed.

**A Woman's Duty to Others.**—"He that is without sin amongst you, let him first cast a stone at her."

Do not judge. Have sympathy and charity for the weak one.—*N. H. P., Canada, Ottawa.*

---

## **CYCLE IF YOU WISH TO KEEP WELL**

*Adopted from 'Indian Medical Record'.*

**T**HERE is no more healthy form of exercise than cycling so long as one is guided by ordinary common sense. Cycling, as will be seen, being a great contributor to good health, well deserves to be encouraged. Both young and old are certain to benefit. Indeed, there would be fewer sick people if more resorted to pedal-cycling which symbolises fitness. Cycling should never be abused by men or women boys and girls, as then the exercise ceases to be beneficial and becomes injurious to health. The advantages derived from common-sense cycling are very numerous; no wonder this form of exercise is so strongly recommended, or prescribed by doctors, the majority of whom are cyclists as well as motorists. Cycling is of special value in cases of flat-feet in growing children, where weight must not be put on the weak arches; at the same time, the natural energy of the child must be allowed an

outlet. Cycling enables thousands of men and women, young and old, to benefit by fresh air which is so essential. The writer will not be exaggerating when he describes cycling as one of the finest of tonics which one could wish for. Riding in trams, buses, trains or motor-cars is injurious compared with cycling. Young people will be well advised to use their legs more either by cycling or walking than sitting still on a motor-cycle or in a motor car. A pedal cycle is the thing to maintain a person in good health. Needless to add that the benefits derived from pedal cycling are not limited to the young. Aged people who indulge in cycling protect themselves against the onset of such conditions as obesity, dyspepsia and constipation, with their attendant evils of high blood pressure and arterial degeneration. Is cycling injurious to the heart? According to some people cycling has a tendency to

impose an undue strain upon the heart. Providing there is no strenuous riding, that the machine is perfect in every detail, you need have no fear. In cases of heart disease, where it is of the utmost importance that exercise be taken in determined medicinal doses, cycling will be found of very great value indeed. Would-be purchasers are strongly advised not to buy a pedal cycling at random: some are much more suitable than others. It is not at all a bad idea to either consult a doctor beforehand, or bring a reliable cycling friend, and to act

develop wonderful physical and mental vigour. Cycling is further suitable for all ages after infancy: it not only promotes good digestion and good appetite but keeps the whole body thoroughly toned up. Cycling is very suitable for elderly people who like to take things quietly, nor does the exercise need be given up in middle age. Experience has proved that cycling stimulates the respiratory organs also the heart and blood vessels. Dyspeptic and gastric subjects will derive great benefit from cycling. These remarks apply to women as



**Concluding Sessions of the Bratachari Society**

A view of the females in Shield and Sword Dance with suitable Bratachari songs.

on their advice. Cheap makes, as a rule, are best severely left alone as a cheap bicycle is more likely to do harm than good.

Cycling is a great shaker up to the liver, and by so doing, promotes a feeling of well-being. What is more, cycling is extremely useful for people who have a tendency to varicose veins as it retards their progress. Those who make it a practice to cycle (pedal cycling)—tens of thousands of doctors and nurses do so—

well as to men, of course provided neither overdo it. You cannot wish for a finer exercise for developing the muscles symmetrically and for strengthening the ankles.

More pedal cycling and less motor-cycling would mean better physique for the cyclist and less work for the hospitals. Cyclists of both sexes should carefully note this. The health of the community would improve considerably by resorting to cycling is the opinion of the medical

profession who maintain that this particular exercise is of very great value and benefit to health, especially in these days of so much sitting in motor-cars or motor-cycle driving. Men and women will never feel so fit for work, play, etc., as when cycling regularly—certainly one, if not the, best form of exercise. Everyone may not entirely agree to this statement; the fact nevertheless remains that cycling has one advantage over most other forms of exercise and that is that it can be indulged in to an advanced age. Why should cycling be encouraged so much? Apart from what has already been said, because doctors and others have discovered from actual experience that cycling tends to delay the tendency to that middle aged spread among the middle aged which is so conducive to hardening the arteries, varix, etc. You will not only look much more handsome if you cycle but also look the picture of health. What could be better as an antidote to care and worry than the constantly changing scenery and the stimulating exercise one experiences on a cycling tour? Who are the healthiest men, women and children? Not only those who strictly follow hygienic rules, but those who make a regular practice of using the pedal cycle. That is precisely why cycling is so strongly recommended to all those who wish to retain and improve their physical fitness. You will have no cause to regret cycling daily, judiciously and regularly.

Were it not for the pedal cycle, tens of thousands of artisans would probably never be able to get to the country or sea-side. It is not everybody who can afford train or motor-coach fares in these days though cycles are almost within the means of all classes and will become cheaper still. The growing generation—young men and women—prefer the motor cycle because speed is every thing in these days. But motor-cycling, however exciting and popular, will not

provide flexibility of body, beauty of figure and grace of deportment—which will stand a man or woman in good stead to 80 years of age and over in many cases—which pedal cycling ensures. Physically, mentally and morally speaking, this slower form of exercise is second to none. Pedal cycling is in itself a tonic to the nervous system and makes a welcome change from travelling by motor car, train, tram, bus or even aeroplane or flying, to which might be added, sea travel. There is no end to the benefits derived from pedal cycling. Instead of young (and elderly) people spending so much time in cinemas or indoors, they would be better “on wheel”. The advantages of cycling which teaches self-reliance—over walking cannot be overlooked. The legs do not have to support the body; this is specially valuable for very stout persons. The more rapid movement of the pedal cycle promotes that stimulating and drying effect on the skin whose importance is great. Again the more rapid change of scene gives greater pleasure and mental stimulus. All doctors who have made a special study of cycling—and their name is legion—will not hesitate to remark that ridden in a proper attitude cycling stimulates not only the action, but of the lungs and abdominal organs as well. In the case of the young, cycling not only strengthens their muscles but gives them “road-sense” and confidence when they grow older. Circulation is vastly improved by this form of exercise. Stooping over the bars of machines should be deprecated; it is harmful because causing arching of the dorsal spine. Low handle bars—so common on “racing” machines contribute to spinal curvature and compression of the abdominal and thoracic organs. Those who make cycle racing a hobby or profession are indifferent to these dangers. Some doctors do not agree that low handle bars are as bad as they are reported to be. We are told that many hump

backed, hollow chested men live to 80 and 90, and are less likely to get pneumonia than big chested athletes. So much for argument. Still it is difficult to believe that a cramped position does not lead to digestion troubles. What sense is there in cramping one's breathing, cracking one's neck, straining one's eyes, and almost touching the ground with one's face? These are sights witnessed almost daily by so-called "mad cyclists". High handle bars are preferable to low ones because more beneficial to the chest. Some cyclists (men as well as women) "will not be told". Good advice is only wasted on them. When their heart and lungs are more or less seriously affected they become alarmed and see medical assistance. Sometimes it is too late, nothing can be done for them. In a short time they will have paid the terrible penalty.

This latter remark need not

discourage cycling; far from it. Doctors almost in all civilised countries are realising more and more the advantages of the exercise—a gentle and true healthy one in every sense of the word—as a corrective of ailments and a stimulant to the whole system. No wonder the medical profession takes such a keen interest in the cycle industry in its progress, in its laudable efforts to achieve perfection. The latest models are ever welcome by doctors and nurses, if they do not purchase one of these for their own personal use make it their business to examine all parts thoroughly so as to be able to recommend such a make to their patients according to their individual requirements. Be wise and resort to cycling all you can in the interest of your health which cannot be too highly valued. Good health is the greatest of blessings beyond doubt. — *Indian Medical Record*.

## BETEL—ITS USE AND ABUSES

**B**ETEL leaves are used by almost all the people of India and Ceylon. From time immemorial, people both rich and poor, young and old, male and female have been chewing betel along with arecanut, lime and some spices. In religious ceremonies and on festive occasions, they are offered to guests as a token of warm reception. But modern tea is trying to replace this custom now. Few will realise the ill-effect of this terrible monster. All have become mere imitators of the Westerners. To add to this, an extensive and intensive propaganda is being launched by the planters for the propagation of the use of this evil. This, like the devil, is sure to drag many people along with it to oblivion.

A twining creeper as it is, this plant requires some support for its growth and spreading. There are two types of plants—the one having small leaves

and the other with large leaves. It is said that the leaves of the plant which supports itself around the trees is better. From betel, an antiseptic possessing a good and pleasant aroma is prepared which is stronger than carbolic acid.

The betel leaf can be said to be a good family physician. Young children who are suffering from constipation can be treated with this leaf. The petiole of the leaf dipped in glycerine, if placed in the anus, will produce good motion. Young children who are suffering from stomach troubles are given a small dose of the extract of betel which relieves the ailments. Some cases of vomiting also stop when betel is chewed with some spice. It is used as a household measure of relief for enlarged and painful groins and other lymph glands. For this, the leaves are heated a little and tied round the affected part by a



tight bandage. This method is also useful in bronchial troubles. A poultice made of hot betel leaves has done good in some cases of retention of milk in the breasts of women. As already mentioned, it is a good anti-septic and disinfectant, and can be used in dressing ulcers and wounds.

Betel destroys the foul smell of the mouth. As it produces a large quantity of saliva due to irritation of the glands, it aids digestion. A small quantity of lime taken along with it is not of much harm. It rather helps in the formation and strengthening of

bones. Old Ayurvedic authors prescribed "Pan" in cases of Elephantiasis of the leg. It was said that the germs of the disease were destroyed by a paste made of betel leaves and warm water.

Even though it is so useful, an extravagant and excessive use of it is harmful to the body. Frequent spitting brings about indigestion and loss of appetite. It also produces some diseases in the mouth and teeth. It destroys taste, and sometimes produces giddiness. So, moderation should be our watchword in the use of 'Pan'.

## Topics from Medical and Health Periodicals

### Seventy Years Young

They said she grew old gracefully  
Because she was always wealthy,  
But mother knew at seventy  
'Twas because her mind was healthy!  
They thought her lovely soft gray hair  
A permanent—they should try it.  
But mother chuckled, brushed with care  
And secretly watched her diet.  
They called her young in heart and mind  
And her sons all loved to joke her  
And on occasions you would find  
Dear old mother playing poker.  
She may have had to compromise.  
What price convictions.....she knew her  
Old heart must see through younger eyes  
If she held them closely to her.

—Vera Blood Fletcher.—Hygeia.

### The Effect of a Salt Poor Diet During Pregnancy Upon the Duration of Labor

THERE is a definite reduction in the length of labor with a salt poor diet during the last months of pregnancy. The authors present 78 cases from their private practice: 51 primiparas with an average length of labor of 9.9 hours and 27 multiparas with an average length of labor of 5.8; in the control series with a conventional diet, the average duration of labor in the primiparas was 22.9 hours and in the multiparas 9.0 hours. The striking difference, therefore, between the duration of labor of primiparas and multiparas in the salt poor diet series and the control series are 130 hours and 3.2 hours respectively.—WILLIAM POMPERANCE, M.D. and ISIDORE DAICHMAN, M.D., A. J., Obs. and Gynec., 40:3:463.—U. S. T. Jour., Mar. 41.

### Synthetic Vitamins

DISCUSSING planned wartime nutrition, Prof. J. C. Drummand, scientific adviser to the Ministry of Food (U.S.A.) comes to the conclusion (J. A. M. A.) that however well a mixture of synthetic vitamins was combined, there was always the fear that some essential factors, as yet unidentified might be left out. It seemed therefore, that the major problem of feeding the nation in wartime has to be solved as far as possible by providing natural food stuffs. To this, it may be added that not only in wartime, but at all times, it is better to eat natural foods for "fear that some essential factors as yet unidentified might be left out." The best balanced diet is: cereals, pulses, vegetables, green leaves, fruit juice, milk and milk products and some raw things, taken all at the time of meals, but in moderate quantities lest the meal should become too heavy to be digested. Meals must be taken with intervals of at least four hours duration each. To add to this, regular and industrial habits, both of mind and body, must be maintained to complement and complete the work of the balanced diet.—ED.

### Food Values and Costs in Infant Feeding

THE Committee on Nutritional Problems of the American Public Health Association conducted a survey and study of the situation, as reported in the 1941-42 Year-Book of the Association (p. 105), coming to the conclusion that the daily essential nutrient requirements of infants can be met adequately through low cost foods and vitamin D preparations. Further, increased expenditure will not procure a superior dietary, but will purchase foods requiring less labor and fuel for preparation in the home.—Medical Times.

## Sugar Rationing

THE National Emergency has forced us to give up some of our weaknesses, e.g., sugar. According to leading dentists and doctors, the sugar rationing will harm no one, and people will benefit from it by substituting calories from other sources (those preferably which contain vitamins and minerals not found in sugar). Newburgh, an authority on diet, points out in the *Sci. News Letter* (41:164, 1942) that we use sugar only as a fuel in our diets and that due to the present conservation programme this could well be replaced with milk and or whole cereals.

Low sugar diets help keep teeth free from dental caries especially in children.—*Med. Times*, June, 1942.

## The Electric Blanket

ONE of the coldest jobs in these United States is that of weather observing on the top of Mt. Washington, New Hampshire. Snow and ice-locked, a crew of five men spends the winter on this loftiest peak in the east, at an altitude of 6,293 feet. Least enviable of all the duties is that of peeling out of bed after midnight to record temperatures frequently far below zero and winds which seem capable of blowing off the mountain top itself.

This outpost of human living was selected by the General Electric Company for the supreme test of the automatic electric blanket. Five blankets reached the Mt. Washington Observatory last December in time to be hailed by the crew, who seem to enjoy sleeping with the windows open, as "a real Christmas present."—*Med. Times*, June '42.

## Adulteration of Food Stuffs in Madras

THE Government Analyst, in his report to the Government, giving details regarding the samples taken under the Prevention of Adulteration Act, percentage of adulteration, number of convictions and the amount of fines imposed, observes:

"The outstanding conclusion to be drawn from the figures is that adulteration of food in the Madras Province continues on a very large scale; a scale that in my opinion should not be tolerated. There has been a trivial fall in the percentage of samples found to be adulterated, but of every three samples taken by the inspectors, on an average, one is found to be adulterated. I think this can be directly connected with the fact that the average fine imposed on convicted vendors instead of increasing steadily to a deterrent figure—as it should do—has actually decreased. To my mind, the continuance of the high proportion of adulterated samples shows conclusively that many vendors think that, on balance, it is more remunerative to take the risk of being caught and having to pay a small fine than to mend their ways and sell genuine unadulterated food. I feel strongly that a few maximum fines (Rs. 500) with the alternative of a substantial term of imprisonment might make a great difference. As it is, it is only on rare occasions that convicted vendors chose imprisonment as an alternative to the fines which are paid, presumably, out of the illegal profits made by food adulteration."—*I.M.G.*

## The Power that Keeps Us Breathing

THERE is a power that keeps people breathing without conscious effort, but it is not in the lungs, *Hygeia*, *The Health Magazine* says in answer to a question as to what makes a person breathe. The lungs are composed of elastic tissue with a few small muscles, and function because they are set in a vacuum inside the chest. The expansion of the chest wall causes air to rush into the lungs from the outside through the nose, throat and wind pipe and its contraction forces the air out. When the diaphragm, a muscular partition horizontally across the body, is pulled downward the chest cavity is enlarged. The chest and the diaphragm work by muscular action which is controlled by nerves which arise from a center in the lower rear part of the brain. This center works automatically and without conscious effort, although it can be influenced by excitement, drugs and other factors.—*Texas State Journal*, Sept. '41.

## Control of Chronic Diseases

PUBLIC Health is concerned with the suppression of disease by means external to the sufferers. It attacks disease from without whereas the practitioners of medicine attack disease from within. All diseases which are dependent in whole or part on agents extrinsic to the personality admit of some public health action if any of their agents is known, but not otherwise. So though on the surface it is somewhat ridiculous that we in the public health service should make such a fuss about small-pox or typhoid, which are really of no great consequence at present, and ignore such diseases as Bright's disease and arteriosclerosis, which kill the majority of us, it is unreasonable as we can do nothing for these chronic distresses while we know nothing in their causation controllable by communal action. The discovery that certain external agents, such as shale oils, are instrumental in causing some forms of cancer is a valid excuse for fostering the control of cancer. For though the suppression of cancers due to known causes is at present but an infinitesimal part of the whole problem it can be done by public health measures; and it is not unreasonable to hope that in the process of suppression we may alight upon other agents, equally controllable by public health action, concerned with cancer in more common sites.

In the majority of chronic diseases we are ignorant of any external causes which we might control, so we can do nothing. The question arises, however, whether this unsatisfactory state will continue for ever, unless we attempt to discover what external causes, if any, are concerned with the genesis of these diseases and whether such discoveries are likely to come from the hospitals and laboratories, or from the epidemiological field. Generally the means of prevention which we possess started in epidemiology defining the conditions in which causes should be found and laboratories exploring them: so it would seem that our best chance is for the epidemiologists to get to work on the chronic diseases. As field epidemiology can be practised only

by the public health service, there are grounds for health medical officers exploring the differential distribution of chronic disease even if we must admit that at present we can do nothing more than explore them. In medical practice as it is to-day the general physician is not likely to discover much of the causes of chronic diseases, but we can conceive a state of practice in which he might be in the best position to do so. Practically all we believe or teach of the causes of chronic disease is derived from the *Family Doctors* of the past who knew considerable numbers of their patients from birth to death and so could construe present conditions in the light of past history. As chronic diseases are insidious, histories as recorded by patients are not of great value in eliciting causes, and are usually, if not invariably, misleading. The only way to success is to follow a community from birth to extinction and try to correlate its terminal illnesses with events which happened previously. This would require *family doctors* to study individuals, and public health officers to study the mass. The difficulty appears to lie in the influence of personality. If we turn up any textbook of medicine and consider the etiology of any chronic disease we are immediately struck by the fact that all the alleged causes operate in vast numbers of the community who escape the disease in question, and that of those who succumb many have never been subjected to any of the alleged causes. Doubtless a personal factor is present in all diseases, but in those in which a known external agent is essential to all who succumb—such as parasites in infections—suppression is possible without taking account of the personality. But in most chronic diseases where no *essential* causal factors are known, and it is highly probable that there are none to know, we can only achieve prevention through individual study.—[ED. *The Medical Officer*.

## Home Defense—Against Accidents

### Is your home accident proof?

SINCE many home accidents are caused by defective furnishings and poor household management, the following check list is suggested for detecting the most common causes of home accidents. Place a check (V) on the line next to the question when the answer is "YES" and a circle (O) when the answer is "NO."

Are stairs well lighted (lighting unit controlled from a point reached before the light is needed)?

Are handrails provided on stairs (especially cellar and attic)?

Are stair rugs fastened and free from wrinkles and curled edges?

Are gates placed at the top of all open stairways and porch steps if babies are allowed to crawl around?

Are stairs kept clear of toys, marbles, pencils, mops or other objects?

Are attic, basement and garage kept clear of rubbish?

Is a stand provided for the electric iron?

Health, Oct. '42]

Is outdoor radio antenna equipped with a lightning arrester?

Is First Aid equipment kept in accessible places?

Is medicine cabinet above reach of all children and all poisons segregated and carefully marked?

Are separate metal cans provided for ashes and rubbish?

Are fire resisting guards in front of all woodwork close to heat?

Are oily mops and rags kept in a metal container?

Are inflammable liquids such as kerosene kept in tightly closed metal containers and away from heating systems and hot pipes?

Are steps and walks kept free of ice?

Is there a fire extinguisher in the house?

\* \* \*

## Kitchen

ARE sharp tools kept in separate compartments and out of reach of children?

Are matches kept in tin boxes and out of reach of children?

Are gas cocks adjusted to turn smoothly but not too easily?

Are gas connections made with solid piping?

Are stoves equipped with pipes to chimneys?

Is stove (especially oven) kept free of food grease which may catch fire?

Are electrical fixtures in good repair (including wires)?

\* \* \*

## Living Room

ARE incombustible ash trays provided for smokers?

Is there a screen for the open fire place?

Are scatter rugs equipped with pads to prevent slipping?

\* \* \*

## Bath Room

IS handrail provided for help in getting out of bath tub?

Is rubber mat provided to prevent slipping in bath tub or shower?

Is hot water faucet controlled to prevent scalding?

Are electric lights controlled by wall switch to prevent shock?

\* \* \*

## Nursery

IS baby crib provided with high sides and the railing sufficiently close to prevent baby pushing head through partitions?

Are a small table and chair provided for baby to prevent using a regular chair?

Is furniture steady and made with round corners?

Are toys of tested and safe nature?

Is nursery carefully lighted with attachments which cannot be handled by the child?

Is provision made for sanitary use of baby's effects?—*Hygeia*.

## Human Personality: Its Difficulties and Adjustments

THE dynamic factors in human personality are the eight *basic desires* or motivations:-

1. Satisfaction of the *essential* physical needs (food, water, shelter, warmth, clothing, rest, sleep, elimination, etc.)
2. Satisfaction of the sex appetite.
3. Recreation.
4. Security (*all kinds*—physical, emotional, mental, economic etc.)
5. Recognition and approval by others.
6. Change, variety, growth.
7. Affection (love response).
8. Achievement, accomplishment, 'success'.

The degree of happiness in any individual life is relative to the completeness of the satisfaction of all these basic desires, by overcoming the individual *limitations*, which may be *internal* (physical, emotional, intellectual) or *external* (national, local, occupational, racial, financial, etc.)

The problems arising in any life may be:—  
1. Familial. 2. Sexual. 3. Occupational. 4. Recreational. 5. Spiritual or religious.

*Personality* may be defined as one's *individual persistent* and *habitual* method of adjusting one's desires and limitations, so that the result will be more or less tolerable.

The various methods of attaining this adjustment are:—

1. Aggression.
2. Withdrawal from objective reality (phantasy, negativism, etc., culminating in schizophrenia).
3. Fear and repression (trying to forget the unsatisfied desires).
4. Bodily ailments (hysteria, hypochondria, malingering, etc.)
5. Persistent, non-adjusted struggle.

The last-named condition is the cause of most cases of psychic illness.

The essential factors in *mental health* are:—

1. Self-knowledge and self-direction.
2. Good physical health and *habits*, including sufficient *sleep*.
3. An objective attitude toward life.
4. Facing one's own conduct, and its results.
5. "Psychic purgation," with the aid of someone (physician, priest, or friend) who will not ridicule or preach.
6. Attention to one's *present* situation, by *planned activities*.
7. A true *sense of humour*.
8. *Work*, especially that suited to the individual.
9. Adequate rest and recreation.
10. One or more hobbies.
11. Normal social participation.
12. Marriage and family life.
13. A *philosophy of life*, which includes keeping one's desires within one's possibilities: intellectual honesty; and frequent, unbiased *inventories* of one's personal assets and liabilities.
14. Mental and emotional *maturity*; moderation; self-control.
15. Religion (including belief and prayer) suited to one's individual needs.

16. The solution of one's problems by the *scientific method*—plan, try, consider, and repeat the process, if necessary, until a solution is reached.—MEYER SOLOMON, M. D.—*Medical World*.

## Inter-relation of Man and Fungus In Health and Disease

A CHADWICK Lecture on this subject was given on June 19 at the Chelsea Physic Garden, S.W., by Mr. J. Ramsbottom, D.Sc., with Sir William J. Collins, M.D., in the chair. The lecturer began by recalling that the outstanding characteristic of fungi was that they had no green colouring matter—chlorophyll—and were unable to form their own carbohydrates from the carbon dioxide of the air and water as did green plants. They must therefore have organic food already elaborated and thus must live a parasitic or a saprophytic existence. Apart from the use of some of the larger fungi as food and the poisonous properties of a few of them there were many ways in which fungi affected the welfare of man. He himself might be parasitized by ringworm fungi of various kinds or by more obscure but more virulent forms; his ox and his ass might likewise suffer from similar diseases. Fungi levied a constant and sometimes disastrous toll on his crops, and the fruit he grew was rarely without spot or blemish unless precaution was taken against attack. The larger fungi often killed forest trees, or produced a "wet rot" which would cause structural defects if the timber was used haphazard. Moreover, all fallen logs, leaves, herbs, grasses, and other organic material were gradually removed by fungi. Without saprophytic organisms acting in this way the surface of the earth would soon become so covered with remains that seedlings would be unable to take root or obtain food, and vegetation—and life as we knew it—would end. But if man wished to preserve anything organic for his own use he must wage constant war against fungi. If his buildings were not kept dry and well ventilated, the woodwork was almost invariably attacked by the dreaded dry-rot fungus, *Merulius lacrimans*. His stored food must be dry, or sterilized, or kept at a low temperature, otherwise it would rot and putrefy. But all fungal action was not to man's disadvantage. Every nation had its fermented liquors; yeasts raised the dough in breadmaking; moulds ripened cheese. Modern practice was to control the age-long methods, for otherwise there might result products other than those traditionally anticipated. Man, moreover, was beginning to harness fungi to carry out processes according to his wish. Taka diastase, used so much in medicine, was produced by the same fungus which fermented soy sauce, the basis of all table sauces. In spite of Italy's being at war there was abundant citric acid, for it was easier to produce this by mould fermentation than to extract it from lemons. Just as man depends on green plants for his existence and developed them for his enjoyment so he depends equally on saprophytic fungi and was using them in increasing measure for his benefit.—B. M. J.