

of these are passed over or crushed out by a too high standard in professionalism the loss will be great. Indian girls are becoming more independent and less eager for early marriage, which is all to the good. I take it that this latter change in India is not due to the same cause as the present day English girls desire for self-expression but is the same thing we felt 30 years ago and herein is our opportunity as missionaries and surely we are all missionaries as members of the T. N. A. in India.

Since 1915 there has been in our beloved profession such a marked improvement that one feels with present day love of advancement, need for forward movement and heaps of new equipment and new recruits—"the best is still to be"—and I cannot refrain from sending this message in the hope that some of the younger and enthusiastic sisters in their still uphill climb to professional perfection which must be our aim, for nothing less will do for Him Who has said "Be ye perfect."

Lecture given to the Sister Tutor Section of the College of Nursing—England

BY DR. MURRAY LEVICK

At Humanity House, Tufton Street, S.W.

LIGHT THERAPY

LIGHT rays are employed with two objects:—

1. to produce an action on the skin resulting in the production of certain substances which are absorbed into the blood and thus affect the nutrition of the body.
2. to stimulate the body to produce immune substances.

1. *The skin.*

This is an extremely important organ which until late years has been much neglected. Besides acting as a protection and regulating the heat of the body, it is capable of producing an internal secretion, which is only brought about by the action of ultra violet rays. For example, take a child suffering from rickets resulting apparently from a deficiency of Vitamine A, and showing mal-nutrition of the bone with a lack of lime salts—following a course of light treatment these same bones under the X-rays are found to be dense with lime salts.

In order to cure rickets the diet need not contain vitamins, exposure to ultra violet rays is all that is necessary. We can make up for lack of light by taking rich Vitamine food.

2. *Production of immune substances.*

The credit for the discovery of the power of light to create immunity is due to Rollier who has been instrumental in curing tuberculosis of the bones and joints simply by exposing the patient to light. The cure is due to an increase in the patient's own bacteriacidal powers in response to the light stimulus.

Unfortunately England is much behind other European countries in the therapeutic use of light. We are indebted to Sir Henry Gauvain at Hayling Island for the pioneer work on Tuberculosis in this country.

It is only lately that light rays have been employed for the cure of diseases other than Tuberculosis.

Another discovery of recent years is the penetration of certain rays through the deeper tissues, particularly the red rays; these pass through bone and scarcely any shadow is left; muscles however tend to absorb the rays, resulting in greatly improved nutrition. This has been proved by exposing to light a wasted tuberculous limb, fixed on a splint; in time this limb recovered and became as sound and healthy as its fellow, with shapely resilient muscles.

It has been found that shorter and more numerous red rays can be produced by an incandescent carbon filament lamp. These lamps are employed with red screens in order to cut out the infra red and heating rays, and prevent the skin becoming too hot or burnt. This permits of concentrating the red light and obtaining shorter treatment. In a cold room these screens may be dispensed with.

It is now proved that animals as well as plants absorb energy from sunlight, the red rays being the most useful, though in all probability other visible rays will in time be found to convey beneficial properties.

The great danger of the present day as regards light treatment is that it should fall into lay hands. During the war this is what occurred in the matter of physical treatment, and though great work has been done by the masseuse in a national emergency, we are now faced by a country flooded with untrained and often unsupervised persons, for few doctors know anything of the subject.

Osteopaths come in much the same category, for though they can show some remarkable cures yet they have had sad failures merely due to their lack of understanding of pathology.

At present anyone can buy a lamp and give treatment, as there is no recognised qualification and no public examination in the subject. It is absolutely essential that the trained nurse should take up the work and not the masseuse as expert observation is required, and the constitutional effect must be noted. It is very important not to inflame the skin, as an inflamed area ceases to function, while severe shock may be produced. Therefore the utmost precaution must be taken to work up

the patient's tolerance and resistance, and very gradually to increase the area of skin treated. In the case of patients acutely ill the treatment must be done by the trained nurse, and surgical dressings require the same skilled hands.

Light Treatment at Humanity House

SUPERVISED BY DR. LEVICK AND DR. BOWENS.

Staff.

Sister and Charge Nurse, and six trained nurses taking the course. These nurses can be obtained for Welfare Clinics, etc.

Hours.

8 A.M. to 8 P.M. Nurses do six-hourly shifts daily.

Patients.

These are interviewed by the Lady Almoner and free arranged. Minimum charge 1—per treatment.

Procedure.

Child is undressed in separate dressing room and triangular slip bearing his own name adjusted.

Light treatment given.

Douche given at suitable temperature according to case and time of year, the object being to stimulate the skin.

Child rubbed down with Japanese paper towel on which he was lying during treatment.

Dressed.

Breathing exercise given.

Danger of Light Treatment.

The danger is not so much the risk of over inflammation of the skin, but an effect which may come on after immunisation has taken place, and which is due either to too prolonged treatment or to too large a dose, and causes an over production of anti-bactericidal substances. Neuritic and toxic patients are extremely susceptible to harm, and the treatment must be given in very small doses at first and with the utmost precaution, otherwise sleeplessness, excitability and increase of pain may result.

Future of Welfare Clinics.

It is hoped that many debilitated children who now attend the Out-Patient Department of all hospitals weekly, with so little result, will be permanently benefited by the light treatment. Those who have undergone the treatment are found to sleep and eat better and to be more contented.