
CONTRIBUTED ARTICLES.**IMPERIAL BABY WEEK.****BRITISH EMPIRE EXHIBITION, WEMBLEY, JULY 10TH, 1925.****BABY IN INDIA.**

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"THE first year is indeed a time of great importance. If fewer mistakes were made in it, failure at university examinations would be less common. If Indian babies were given a better start in life, men doing arduous brain work would less often be cut off in their prime."—Dr. Gertrude J. Campbell, Principal, Lady Hardinge Medical School for Women, Delhi.

In talking about babies during this week, the other speakers have had an advantage of me as they have had only babies of one nationality in their minds. They have been speaking and thinking about babies of European parentage wherever born, but in speaking to you to-day about Baby in India, my thoughts must be directed not merely to the few thousands of babies whose parents are serving this country in our Great Dependency, but to the many millions of babies who are the children of our Indian fellow subjects and who share with us citizenship of the wonderful Commonwealth of Nations brought together under the British Flag.

May I remind you that in speaking of India, I am addressing you with regard to a Continent rather than a country. Last Wednesday the *Times* aptly described it as "the great sub-Continent which the British people hold in trust." India is so vast that it is only possible to grasp its extent by contrasts. It may help you if I point out that the Indian Empire is equal in size to the whole of Europe excluding Russia. Bombay Presidency is comparable in point of area with Spain; Madras, the Punjab, and Rajputana are all larger than the British Islands; the United Provinces of Agra and Oudh are larger than Italy, whilst the semi-independent State of Hyderabad is larger than Great Britain excluding Yorkshire. India is therefore a federation of Provinces and States rather than a single country. Its spoken tongues include a hundred and thirty dialects belonging to six families of speech. The great bulk of its people are Hindus but living more or less happily amongst them are millions of Moslems, Buddhists, Sikhs, Christians and Animists.

All stages of civilisation are still to be found in India. At one extreme are the landholders, merchants and professional classes, many—or most—of whom are highly educated and refined, whilst at the other are various primitive aboriginal tribes such as the head hunting Nagas of Assam and the leaf-clad savages of the Southern Hills who subsist on vermin and jungle products.

Scattered up and down amongst this welter of races are a few thousand Europeans employed in a great variety of occupations. They form an important section of Indian life, and though numerically so inferior to their Indian fellow citizens, I may be pardoned if I refer in the first place to the babies of these foreigners.

There is a vague impression in most people's minds that the climate of India is extremely fatal to European child life. This is a mistake. On the contrary, "the Indian climate does not in any way injure the health of the European infant during the first year of its life" (Birch's Management and Medical Treatment of Children in India, 6th Edition, p. 5). As I am dealing to-day with babies further special reference to those of European parentage need not be made. They die in comparatively small numbers but it is different with Indian infants amongst whom the mortality rate varies from 20 to 80%. This means that from 1 in 5 to 4 in 5 die before the end of the first year. Two millions of babies perish year by year, and this appalling death rate does not end in this holocaust of innocents but spells a high damage rate of sickly ill-developed citizens. The wealth of a nation is healthy children—its true poverty is weakly sons and daughters.

During the brief time at my disposal, I propose to say a few words to you on the following points:—

1. Baby's Arrival.
2. Baby's Food.
3. Baby's Teeth.
4. Baby's Bath.
5. Baby's Growth, Exercise and Rest.
6. Baby's Mind.
7. Baby's Indian Ailments.

I. BABY'S ARRIVAL.

Six points are often neglected when baby arrives in India:—

(1) *The need of warmth.*—The baby has, before birth, been kept at the unchanging temperature of his mother's blood which is hotter than the hottest Indian day. If, after birth, his skin is exposed too freely; heat is readily lost, and the chilling that results may lead to congestion of internal organs.

(2) *The need of gentle handling.*—The skin is sensitive, the bones are fragile, and the head may have been bruised during birth, so the little stranger must be handled as carefully as an egg-shell.

(3) *The need of keeping the child's nose and mouth uncovered* at all times, so that air may freely enter his lungs, and of seeing that the air thus used is both fresh and cool. *Baby's head of all must not be wrapped up in the chudder or sari.*

(4) *The care of the eyes.*—The trained *dai* or midwife will have bathed the eyes with lotion before they were opened, and except to guard them from the glare of light there is nothing more for the mother to do. If, however, there is an unhealthy discharge from the mother's vagina, the eyes require special attention by a trained *dai* or nurse, as neglect to apply the correct treatment in such cases is the commonest cause of blindness in India.

(5) *Clothing*.—On the plains of India in hot weather, the garments needed by a baby are only two in number :—

(a) a knitted vest, or a *kurta* long enough to reach his feet.

(b) a napkin.

In hot weather the best material for the *kurta* is *mulmul* and for the vest silk and wool mixture. If wool only is preferred it must be the finest and softest, and very loosely knitted. In cold weather a flannel *kurta* or thicker wool vest is required. The napkins are usually made of twilled cotton as supplied by any of the Indian mills, but diaper cloth is better as it is more absorbent. The first size of napkins is 18 inches square, but many people prefer to make them larger, *i.e.*, 25 inches square from the start.

Napkins are not much used by Indian mothers, but they are a great aid to cleanliness, and recommended by all experienced Indian midwives.

2. BABY'S FOOD.

As soon as practical after birth, the baby should be put to the breast. The sucking of the baby usually brings on "after pains," and these are often so intense as to make the mother quite alarmed unless she has been told that the pain is beneficial, as they are caused by blood clots being expelled from the womb, and moreover the stimulus of sucking expedites the return of the womb to its normal size.

About the middle of the third day what is known as the "draught" appears. The breasts become hard and tender, the mother has difficulty in moving her arms, and there is a sharp cutting pain in both breasts, often associated with a slight amount of fever.

The breast only secretes whilst the sucking action goes on and rapidly becomes softer if this stimulus is removed.

The milk flows from the breast very quickly during the first three minutes, but during the latter part of the sucking period the flow is slow. A baby weighing only eleven pounds may take three ounces of milk during four minutes, and the rapid flow may cause the child to choke. The mother need not be alarmed if this happens.

The best food for the first nine months of a baby's life is, generally speaking, its mother's milk, but unfortunately, in India there are three causes which prevent many mothers from nursing their babies, *viz.* (1) malaria, which produces debility and lack of secretion, (2) bad feeding which is all too common, and (3) the immaturity of so many young mothers. A girl of thirteen rarely has sufficient milk. Frequently therefore a mother must seek for some other means of feeding her infant, and generally speaking ordinary wet milk is unsuitable for nursery use in India.

The position of the milk problem in India is succinctly stated in the following resolution of the Government which declares that :—

"The adulteration of milk is almost universal in Indian bazaars, and a large amount of the milk consumed is contaminated. In most cities the milk supply is in the hands of men ignorant of the elements of sanitation and addicted to uncleanly practices. Moreover, the milk when stored and in transit to

market is liable to contamination in several ways. On the other hand, the price of milk is already high, and the problem of improving the purity of the supply without increasing the price to such an extent as to cause hardships to the poorer classes is a difficult one."

Pure milk produced from well-fed cattle and kept clean until its consumption is the ideal to be aimed at, but in the tropics this ideal seems unattainable at present. It is little wonder, therefore, that the physician and sanitarian have turned with relief from the white sewage nicknamed "milk" to the attractive substitutes which have been placed on the market. Condensed milk was the first of these milk modifications, and its popularity was eloquent testimony to the demand for some substitute for the local product. For tropical use the keeping qualities of unsweetened condensed milk are not much superior to fresh milk, and the large proportion of cane sugar in the sweetened variety renders it undesirable as an infant's food. Some 17 years ago my attention was drawn to a form of dried milk which since that time has steadily advanced in public favour. I carried out a series of experiments and analyses on behalf of the Government of India and formed such a favourable opinion of the product that I have ever since advocated its adoption for tropical use, and am in agreement with Professor Dreyer, of Oxford University, that it may present us with the best solution of the milk problem. To quote from the professor's paper at the National Milk Conference in London:

"Dried milk will keep for some months; it is very easy to manipulate cleanly in the home; there is little or no wastage from souring, etc.; it does not appear to be inferior to raw milk for feeding." (Report of National Milk Congress, p. 158.)

In the discussion which followed a paper on "Dried milk as a food" which I read before the Royal Sanitary Institute, the speakers agreed that they had never seen a case of rickets or scurvy in a child fed on dried milk, and as these speakers were mostly medical officers of health of important towns, their evidence must be regarded as conclusive.

The position of waterless milk as an infant's food in the tropics may be summarized as follows:—

All authorities are agreed that it is eminently suited for warm climates, and the well known tropical physician, Doctor Harston of Hongkong, emphasizes the advantage of dried milk over condensed milk in China.

Dried milk is superior to fresh tropical milk in nutritional value and especially adapted to supplement breast feeding.

All experience shows that dried milk is more digestible than fresh milk, and it is therefore indicated in digestive troubles. I have found it of special value in infants who have been doing badly on other milk preparations and have seen ricketty children steadily improve on dried-milk diet.

I do not think that it is sufficiently realised that the product varies considerably in characteristics according to the method by which it is prepared. Two processes of manufacture are now in use. The first of these consists in the rapid drying of fresh milk on rollers heated by water or steam, and the subsequent powdering of the solids thus obtained with or without admixture or

lactose ; the second in the projection of milk in the form of a fine spray into a chamber with a current of hot dry air, so that the milk solids fall on the floor in the form of fine powder.

The powders produced by these two processes differ not only in physical characters but also in their reaction to rennet. Roller process powders, for instance, are not soluble in cold water, whereas spray powders are soluble ; but the most important difference is the fact that whereas the addition of rennet to reconstituted milk prepared from the former variety produces a fine flocculent curd, its addition to a solution of spray process milk powder forms a dense mass identical with that formed in raw milk. This difference is important, for it was the character of the curd described by French writers as "just like human milk" which first led most of us to advocate the use of milk in this form for infant feeding. Another characteristic of dried milk which has always appealed strongly to me is the constancy of its composition. Nothing is more notorious than the variation in the composition of the milk of one cow, but Dr. James Crowther has drawn attention to the remarkable variation in the milk of small herds as well. In a paper read at the National Milk Conference he pointed out that the variation of fat from day to day is not great in either morning or evening milk when considered separately, but as between morning and evening milk the range of variation is relatively enormous.

It is most important to see that the daily total quantity is right and that the intervals between the feeding times are regular. "Feed by the clock."

When the child is being fed it should be taken on the knee and held there with one hand while the bottle is held with the other. As soon as the child has taken what it wants the remainder of the feed should be poured away. Feeders must be washed twice daily in boiling water and rinsed out after each feed. They should be kept in boiled water, to which a little salt has been added, when not in use.

Chusnis, or baby soothers, are the cause of much diarrhœa and sickness in children, as they fall on the ground and are often put straight back in the baby's mouth without cleaning. They tend to deform the palate and make teething difficult. If the baby is never given a *chusni* he never misses it.

Even the youngest infant requires water several times daily, and the demand increases with age. The water should not be given too cold. In the hot weather, however, water cooled with ice can be allowed without harm, but ice itself should never be added to the water as the conditions under which it is produced in the places where it is most required, are often far from ideal.

3. BABY'S TEETH.

Teething is a natural process and should cause no trouble to the healthy infant. Under ordinary care in diet and clothing the operation of teething proceeds kindly in the climate of India, and speaking from my personal experience, I should say that severe teething irritation is seldom a primary affection, but that on the contrary it generally follows upon previously existing gastric, intestinal or febrile disorder ; and it is not too much to say that in 18 cases out of 20 these last are but the results of mismanagement or weakness.

There is no disease for which dentition has not been held responsible but in the vast majority of cases, teething is a mere coincidence.

An Indian text book quotes Abernethy who laid down as a maxim that "the legion phenomena of teething were dependent on alimentary upset, associated with a common cold and that castor oil emulsion and careful dieting would obviate trouble and anxiety in most cases." (Management and Med. Treatment of Children in India, p. 75.)

4. BABY'S BATH.

Filth is the mother of sickness, says an Eastern poet in the Gulistan, and babies should have a bath every day, and if strong, may have two in hot weather. But complete immersion should not commence until the navel string or cord has fallen off. Very little soap is necessary and so long as a pure soap is used its name does not matter.

Disinfectants in soap are quite useless and never do any good.

The water for an infant's bath should be at a temperature when the nurse's elbow can be comfortably borne in the water. Cold water should not be used for children of any age. Those who use it with an idea of hardening them will probably succeed in weakening them from cold and lowered vitality. The best way to give the bath is as follows :—

1. Mix hot and cold water in a tub until it is just warm enough for the mother to put her elbow into it comfortably.

2. Sit down in front of the tub, put a piece of flannel and some soap at your right hand, the clothes and baby's powder at your left. Spread one of the towels on your lap, put the other behind you.

3. Lay baby on the towel on your lap. Dip the flannel in the tub water, sponge his face carefully, especially the corners of the eyes and nose. Then dry the face with a towel.

4. Having removed the child's *kurta* and napkin rub some soap on the damp flannel, then wash the top and back of baby's head, his chest, arms and legs. Turn him over on his face and wash the back.

5. Put your left hand under his back, supporting his head on your arm, and your right hand under his knees and lift him into the tub. Continue to support his head out of the water and rapidly remove the soap. Lift him out at once in the same way as you put him in, lay him on the towel in your lap and dry with the other towel. Remember his skin is delicate, so do not rub it; rather dab it dry. Dry carefully all the parts which rub on each other, such as the armpits, between the legs, under the knees and about the neck, and dust a little powder on *when quite dry*. Now dress baby, feed him and let him sleep.

The adage "never to allow anything smaller than the elbow to enter the ear" is excellent advice, though during the bath should water get in and be allowed to remain it may lead to earache and abscesses and in extreme though not rare cases to deafness. In the event of this a blunt cone formed out of a piece of *mulumul* will quickly absorb the moisture, and will do no harm if inserted but a very short distance within the ear.

The nose can readily be cleaned with a soft cone-shaped piece of cotton, especially if a little cocoanut oil be added to facilitate the process.

After the child has been patted dry it should be gently rubbed all over with the hand until a faint glow is produced, as this modified massage is very good for his muscles and internal organs.

If any child develops a rash see a trained nurse or a doctor without delay.

(To be continued.)

A MAN DAI.

BY MISS E. M. ROSEVEARE, LADY READING HOSPITAL, SIMLA.

He was the dearest old man, gentle and quite sure of his vocation and very keen on his job, and he brought a patient to this hospital, as the case was beyond him, so I know there is at least one man dai and am keen to know if others have come across any such.

We got him to talk about his work.

"How many babies have I brought into the world? I cannot say—as many as the hairs of my head perhaps. I cannot read or write: no one has taught me: I have no instruments to help me: but the women are in trouble and they call me and God has blessed my hands. He did that when I was young and knew nothing and He still blesses them. Yes! the mothers and babies live. God has blessed my hands. This woman's bone is sticking out, I have done my best but the baby can't be born: so I have brought her here. We have heard your name even in our Hill village, so we have come. You have great advantages. God has blessed you indeed. You have everything to help you: that is why we have come."

The woman was brought in a wooden sort of dandy, very roughly made, carried on the shoulders of many men turn and turn about for days, escorted by an influential English speaking official and the man dai.

His diagnosis was quite correct. It proved to be a case needing craniotomy and the old man was as delighted as any of us when it was safely over. He had evidently given deep thought and interest to the case, and insisted on being told all about it.

The difference between his keenness and the ordinary indigenous dais' indifference was very marked.