

## **Bonnisan - Metabolic Tonic of the Newborn**

**(Mrs.) A.B. Desai, M.D., D.C.H.**

Professor and Head of the Department of Paediatrics,

**(Mrs.) A.A. Shah, M.D., D.Paed.,**

Asst. Prof. of Paediatrics,

**A.R. Shah, M.D., D.Paed.,**

Asst. Prof. of Paediatrics,

and

**(Mrs.) S.N. Vani, M.D., D.Paed.,**

Asst. Prof. of Paediatrics,

B.J. Medical College and Civil Hospital, Ahmedabad, India.

The period of life extending from conception to adulthood is characterised by growth. The rate of growth declines with age till adolescence. In the extra-uterine period of life, growth is at its peak in the first two years and out of these, the first six months of life are most important. Growth is measured in terms of increase in weight and other criteria such as height, head, chest and mid-arm circumference. Amongst the various factors which affect growth, nutrition is extremely important. In the first six months of life the sources of nutrition are limited and consist mainly of milk. However, each child as an individual has variations in acceptance, tolerance and utilisation. The supply of good nutrition alone is not enough. Its utilisation and assimilation are equally important. These in turn depend upon various digestive juices and enzymes.

The alimentary system though anatomically perfect at birth, is physiologically immature and certain secretions like hydrochloric acid of the stomach and enzymes and secretions like lipase and diastase are deficient for several weeks after birth. Hence digestive disturbances like regurgitation and vomiting, constipation, diarrhoea, flatulence are not uncommon in the first six months of life. Three months colic, though its aetiology is not defined, is a well-established entity.

A drug which can help in the digestion and assimilation of food could be of great help not only for reducing the digestive disturbances but also for promoting growth. The ingredients of Bonnisan are carminatives which relieve gastrointestinal upsets, stimulants which increase appetite<sup>1</sup> and anabolic agents<sup>3</sup> which promote growth. Dhurandhar<sup>2</sup> has described and discussed the composition of Bonnisan in detail. The second important characteristic of any drug is its palatability. Any drug offered to children should be palatable so that it is easily accepted by the child and does not create, by its administration, a nucleus of trouble between the mother and the baby. Bonnisan is very well accepted by all babies because of its pleasant sweetish taste. The other aspects to be considered are possible side-effects and the cost. No side-effects of Bonnisan are reported and the cost is very moderate.

### **MATERIAL AND METHODS**

This study was conducted in the neonatal follow-up clinic. All the babies born in the hospital are checked every 15 days in the follow-up clinic. Hundred babies attending the clinic were given Bonnisan. Half to one teaspoonful of Bonnisan two to three times a day was recommended.

The weight of all babies was recorded on each visit on a standard Detecto weighing scale for babies. Length, head and chest circumference and mid-arm circumference were also recorded.

Appetite in small babies is mainly judged by the satiety which permits the newborn to sleep undisturbed, to remain cheerful when awake and by the weight gain in the absence of any specific disease. Information on the type and number of stools, vomiting, distension of abdomen, crying was elicited by specific questioning. Distension of abdomen and the liver size were noted on clinical examination. The babies were followed up at fortnightly intervals upto the age of six months.

## OBSERVATIONS

Age	Less than one month	1-2 months	2.1 - 3 months
No.	48	34	18

The age of the babies when Bonnisan was first started was as follows:

Amongst these, 58 were male and 42 were female babies.

In the majority of babies, the birth weight was known, and recorded. However, in those who were delivered at home and in some others, the birth weight was not available. The distribution of the babies according to the birth weight was as shown in Table II.

	Group I	Group II	Group III
Birth weight	Less than 2.5 kg	2.5 to 3 kg	More than 3 kg
No.	35	34	22

The birth weight in 9 babies was not known as they were delivered at home. Out of the total 100 babies, 85 babies were followed up at fortnightly intervals for a period of 2-3 months. The gain in weight as well as complaints, if any, were noted on each follow-up.

The range of gain in weight and the average daily gain are shown in Table III.

	Group I	Group II	Group III	Birth weight not known
No. of babies	29	28	24	4
Range	9 - 58 g/day	15 - 55 g/day	9 - 60 g/day	25 - 45 g/day
Average gain	26 g/day	30.5 g/day	27 g/day	32 g/day

In all the groups the average daily gain in weight is almost identical. Even the babies in the low birth weight group gained weight satisfactorily. A large number of babies had common complaints related to the first 3 months of life: Constipation 18, Diarrhoea 16, Cough and cold 12, Crying 8, Vomiting 6, Distension of abdomen 2, Liver enlargement 8.

Nine other babies had other infections and congenital defects: Skin and other infections 4, Abscess 1, Otitis Media 1, Congenital heart defect 2, Meningococcele 1.

The large majority were breast-fed. In addition to breast feeding in 11, additional artificial feeds were also given and 2 were entirely artificially-fed.

All the babies who were given artificial feeds had some complaints as described above. The infections were also more common in artificially-fed babies. Liver enlargement was noted in 3 breast-fed and 5 mixed or artificially-fed babies.

## DISCUSSION

Weight gain is an objective criterion of adequate nutrition and growth. Adequate supply of nutrition alone does not pave the way to better growth. The proper utilization of nutrients supplied is more useful. Bonnisan by its digestive qualities helps in better utilisation of the nutrition supplied and thus promotes growth.

The average daily gain ranges from 15<sup>4</sup> to 30<sup>6</sup> g/day in the first 3 months of life. At the end of 10 days, the weight is equal to the birth weight and only thereafter the weight gain begins and continues at the same rate till 3 months of age. With Bonnisan the average gain was on the higher side. In some babies due to the associated infections or some congenital defects the weight gain was not satisfactory. Those babies who needed supplementary feeding or were entirely breast fed posed problems because of the inadequate knowledge of feeding and the poor hygiene of the mothers who belonged to the low socio-economic group. However, when Bonnisan was started their problems were minimised and the babies gained more weight as compared to the previous record<sup>5</sup>.

The common complaints of early infancy such as frequent stools, vomiting, constipation, distension of abdomen, flatulence were reduced considerably. No statistical value was attached to these complaints as more often they are subjective, depending upon maternal attitudes, anxiety and impressions. On questioning about the progress of the infants 90% of mothers of their own accord volunteered information about the improved appetite and general well-being of the baby.

Liver enlargement which was noted in 8 babies regressed and except in one baby it completely disappeared within 4 weeks of follow-up.

No side-effects were observed in any babies.

Gripe mixtures are popular household panaceas used by most mothers. However, it is desirable to have a scientifically assessed safe, effective remedy for the common ailments seen in the first few months of life. Bonnisan is an effective, safe, palatable, appetite- and growth-promoting remedy useful for early infancy.

## REFERENCES

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