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himself in the film

Advanced nasal spray for B12 deficiency

is widespread in India in both vegetarians as well as non-vegetarians. This deficiency is defined as serum vitamin B12 levels less than 200 picogram per mL of serum. Several studies report low serum Vitamin B12 in up to 70 per cent of the studied population in India. This is due to dietary habits and medicines such as antacids Ranitidine Pantoprazole) or Metformin (used in diabetes of PCOD) or oral contraceptives.

Vitamin B12 is a very important nutrient, as it plays a vital role in various systems of the body. Initial symptoms of this deficiency can vary and may include fatigue, muscle weakness, muscle cramps, breathlessness, numbness, poor balance and memory problems. Patients may also experience personality changes, visual problems, psychiatric symptoms and blood disorders. It can also affect cardiovascular health, as well as lead to reproductive disorders.

Currently, Vitamin B12 deficiency is treated with tablets and injections of vitamin B12. However, absorption of vitamin B12 from tablets is slow and unpredictable. As a result, a patient has to take tablets for three to four months for B12 levels to gradually increase. But in some patients, tablets fail to increase Vitamin B12 levels. Vitamin B12 injections provide assured increase in the Vitamin B12 levels. However, injections are painful and can even trigger life-threatening anaphylactic reaction in some patients. One course of treatment com-

prises 10 injections. Scientists at Troikaa Pharmaceuticals Ltd., have recently introduced NASO B12, a nasal spray of Methylcobalamin, which is the natural form of Vitamin B12. This clever formulation, a novel drug delivery system solves long-standing problems. Clinical trials conducted in India proved that



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this formulation corrects Vitamin B12 deficiency in seven doses, without side-effects. Thereafter, a once weekly dose successfully maintains the serum vitamin B12 levels. The rapid absorption of Methylcobalamin from nasal solution is thanks to NasoMax technology developed at the R&D centre of the company after seven years of extensive research.

NASO B12 is backed by global patents in 90 plus countries including European Union and the US where the company intends to introduce this product. This nasal spray is to be selfadministered by patients. One puff in each nostril on alternate days up to seven doses and thereafter one dose every week for four weeks.

(*Procedures given are based on the expert's understanding of the said field)

NASO B12 enables correction of Vitamin **B12 deficiency in Rs** 325. In comparison, treatment cost of Vitamin B12 tablet is around Rs 900 and that of Vitamin B12 injection is more than Rs 1,000.



The idea is to pass on the benefit of this innovation to maximum patients

- Dr Ketan R Patel

(Chairman and Managing Director, Troikaa Pharmaceuticals Ltd.)

B12 is a vital part for nerve function and important for absorption of food and maintenance of a healthy life. In India, many people, particularly vegetarians, are prone to **B12 deficiency. Most** patients find it difficult to take injections. Further, B12 administration through oral route leads to poor absorption and unpredictable B12 levels in the body. Nasal route of administration is easy and effective

- Dr Roy Patankar (Gastro Intestinal Surgeon, Zen Multi Specialty Hospital)

In my opinion, NASO B12 is effective, efficient and easy to use in compare to injection of B12. Oral route is not that much effective



