

Lucerne Leaf Concentrate (LLC) Trial undertaken in the municipality of Samaipata, province of Florida

Samaipata is a village of about 2700 inhabitants, located approximately 120km south-west of the city of Santa Cruz de la Sierra (to which it is linked by a tarmac road), altitude 1650m.

The population comprises mainly peasant farmers, who grow potatoes, corn, yucca, beans and seasonal fruits such as citrus fruits and peaches. They also raise animals (poultry, pigs, cows ...)

Each community has its own school up to 6th year. In the village of Samaipata, there is a college up to Baccalaureate level. With the exception of Samaipata, the communities do not have electricity; some do not have potable water.

The municipality of Samaipata has a hospital located in the village with basic services comprising two generalist doctors (there is no anaesthetist) and two clinics at Cuevas (20km) and Bermejo (60km), each run by a nurse.

The children tend to suffer from malnutrition: 35% of children under 5 years old are undernourished (source: Samaipata Florida Hospital) owing to a diet that is insufficiently diverse and is lacking in essential nutrients (diet based on potatoes and rice).

Another important factor is the lack of hygiene linked to the poor quality of the water, which encourages infestation by parasites; diarrhoea is very common amongst the children (on average 10 episodes of diarrhoea per small child during the hot season).

The population has to travel many hours by foot to obtain medical care and often uses traditional medicine. Infant mortality is still very high owing to the inability to arrive at hospital in time. Main causes of death: diarrhoea, dehydration, pneumonia.

Target populations

1) School children

- Nursery schools in Samaipata = 138 children, 3 to 6 years old
- Primary schools in the communities of Cuevas, Bella Vista, Lagunitas, Lajas, Paredones = 135 children, 6 to 12 years old
- total = 273 children

Distribution of LLC in the nursery schools in Samaipata and the primary schools in the communities started between February and March together with blood tests and monthly measurement of weight and height.

The results are all very positive:

- Increase in weight and height
- Improvement in different types of dermatitis:
 - Allergic (eczema, dry and/or scabby skin ...) caused by mainly lack of vitamins and minerals, but also lack of protein
 - Infectious (mainly golden staphylococcus), healing of pustules, reduction or absence of recurrence of skin infections

We have observed a clear improvement in the condition of the children's skin, which allows us to testify to a strengthening of the bodily defences of numerous children afflicted by skin problems even though we have not been able to undertake laboratory tests.

- Reduction of diarrhoea, catarrh and pneumonia
- Several parents have also noticed a reduction in constipation of those children who have chronic constipation due to a diet that is insufficiently diverse and lacking in fibre: white bread, pastries, rice, potatoes
- Reduced school absenteeism; improved attention in class

As a general rule, the improvement in the bodily defences of the children is very clear, linked to the provision of vitamin A, the treatment of anaemia and an increase in the intake of protein. All the doctors have offered their support and are unanimous in testifying to the results observed in their children (summaries in the questionnaires).

2) Pregnant and breast-feeding women

From the communities of Cuevas, Laja, Bermejo, Paredone Samaipata, Bella Vista (ASOPEC) – total: 43 women

Amongst the pregnant and breast-feeding women, about 53 women received LLC according to the stage of their pregnancy. It is often difficult to identify pregnancy at the start, as the communities are very scattered and the women do not attend clinics regularly. Sometimes they do not receive LLC until 3 or 4 months into their pregnancy, when they have realised that they are pregnant.

All those who have taken it (LLC) have accepted it well, in contrast to iron sulphate, which they do not tolerate, and they testify that their pregnancies progress well, without any of the previous tiredness.

Not a single woman has had any problems in childbirth: healthy babies of normal weight; mothers with plenty of breast-milk (all the women in the countryside breast-feed), faster recovery from the birth.

Some women have also noted an improvement in their bowel movements during pregnancy and afterwards.

3) The ill and elderly

- 12 children from the communities not in school, between 2 and 4 years old (ASOPEC)
- 35 people either ill or elderly (several communities)

Independently of the programmes for children and pregnant women, for 2 or 3 months we distributed LLC to various people who were either ill or elderly:

Diverse chronic illnesses such as osteo-arthritis, Chagas disease, gastritis
Weakness and lack of energy

One can talk about an improvement in the general state of health, in the sense that the LLC has enabled the addition of protein, vitamins and minerals to a deficient diet, most of all for the elderly, the majority without teeth, who eat white bread soaked in soup, who have little appetite, and who all say that it (LLC) has been good for them ... increase in appetite, more energy.

The results that we have are good; the anaemia is largely corrected. But it takes time to change attitudes and beliefs and we have to accept the limitations in this regard. It is up to us to demonstrate, little by little, the effectiveness (of LLC) so that the people will believe it.