Seeds for a Future

Creating Better Lives - Today!

Seeds for a Future and The First 1,000 Days Training

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Reducing Chronic Illness and Disease During The First 1,000 Days

Creating the critical nutrition window from conception to a child's second birthday.

In many regions of the world, health and well-being are available to only a fortunate segment of the population, with the less fortunate suffering generational upheaval as entire segments of communities are born stunted, malnourished, and understrength.

Rural Guatemala leads the world in the incidence of stunting. Depending on where you are in Guatemala, stunting rates range from 50 to 90% of children under 5 years old.

The effect in communities suffering from these stunting rates is dramatic, with infant mortality rates four times higher and IQs down an average of 11%, along with the economic fallout of a high percentage of the population not operating at capacity.

Efforts to resolve stunting and undernourishment have met varying levels of success, and there is still a long way to go toward eradication.

One of the most successful worldwide approaches to stunting and undernourishment is a program called “The First 1,000 Days”, which is an integral focus of Seeds for a Future.

What is The “First 1,000 Days”?

The First 1,000 Days represent the 270 days from conception to birth and the 730 days from birth until the end of the child’s second year.

Within these 1,000 days, a child’s nutrition will be a prime determinant of their future health and cognitive abilities. It’s said that the first 1,000 days set the foundation for the following 30,000 days.

Due to generational cycles of food insecurity and limited opportunities in rural Guatemala, achieving the nutritional needs for creating healthy pregnancies, babies, and children can be difficult.

Poor nutrition in rural Guatemala isn’t isolated, affecting only a child or family here and there.

Entire communities are affected, creating multi-generational cycles of poor health and diminished opportunities, generating a backdrop of unnecessary suffering and unrealized potential.

Adequate nutrition and healthy nurturing are prime movers for solid and enduring family and community development.

With adequate nutrition as a community baseline, the community can reliably implement the organization, methods, and practices required to create opportunities and independence for its current members and future generations.

Nutrient Deficiencies During The First 1,000 Days Will Create Many Physical and Mental Challenges Later in Life.

Poor nutrition almost always translates to poor outcomes.

With poor nutrition, children often suffer from stunted growth and/or impaired brain development.

Long-term consequences include lower IQ and school performance, reduced earnings and adult employment options, and higher disease risk.

Exposure to stress during the first 1,000 days can also alter brain and body development, increasing the risk of chronic diseases later in life.

These findings are particularly relevant in countries like Guatemala, where one in two children suffers chronic malnutrition.

Earlier, we discussed that stunting rates have been reported as high as 90% in some rural communities. Many families subsist on a diet of primarily beans and tortillas, with the occasional addition of seasonal, locally available fruits and vegetables. Animal-based protein is prohibitively expensive for many.

In rural Guatemala, chronic malnutrition often manifests as chronic micronutrient deficiency, with iron deficiency and anemia being particularly common.

Both conditions disproportionately affect young mothers, as pregnancy and lactation increase the body's demand for iron. Nutrient-deficient mothers may pass deficiencies on to their newborn children. As a result of food insecurity and a lack of dietary diversity, young children will retain these deficiencies indefinitely.

How does Seeds for a Future Teach and Implement its First 1,000 Days Training?

Seeds for a Future interacts directly with families to increase access to a dependable and highly nutritious diet.

Our process begins with a diagnostic of a family's unique nutritional needs, followed by a customized garden designed by our agronomy specialists and community nutrition educators, together with the family.

During design, our Field Team is attentive to the nutritional vulnerabilities of mothers and young children, particularly children under the age of two.

For a family with a pregnant woman, our team of extensionists will typically prioritize iron-rich leafy greens like chard, spinach and beet greens. Mushrooms and beets are also rich in iron.

Training in sustainable permaculture techniques is a critical aspect of the Seeds Program, ensuring the family and community generate enduring agricultural practices for generations to come.

The Field Team and Extensionists typically supply the family with the initial seedlings for their garden, and provide hands-on training for 12 months to ensure the family has a full understanding of permaculture gardens from planting to harvesting.

They would also likely provide the family with 'starter animals' such as a pair of breeding rabbits or laying hens. Families will have ongoing access to iron-rich animal protein and training with best practices for small animal husbandry.

How Can Robust Nutritional Practices be Achieved in Underserved Communities?

The Seeds for A Future 1,000 Day Training provides nutritional training to families in ten states and nineteen communities throughout rural Guatemala.

Since many rural diets lack critical variety in their nutrients, the training includes essential information about the fundamentals of a varied diet and the essential vitamins and minerals needed for healthy mothers and children.

To help overcome the lack of variety, the Seeds for a Future training breaks nutrition into two types of nutrients:

1.) Nutrients that the body needs in larger quantities, such as ***Carbohydrates, Fats*** and ***Proteins****.*

Carbohydrates: These provide energy for the functioning of all organs and performing daily activities, such as walking, working and studying.

Carbohydrates are obtained mainly from vegetables and crops, where they are abundant.

Fats: These are the most concentrated sources of energy. They help in the formation of hormones and membranes, and in the absorption of vitamins.

Fats can be of animal and vegetable origin.

Proteins: Their primary function is the formation of all tissues, from hair, skin and nails to muscles, and are critical for growth.

Proteins can be of animal or vegetable origin.

2.) Nutrients the body needs in smaller quantities, such as ***Vitamins*** *and* ***Minerals.***

Vitamins help regulate the different functions of the organism, including immune responses, tissue growth, cellular function, digestion and healthy teeth and bones. The body only needs vitamins in small quantities, but they directly affect health if they aren't consumed or in insufficient quantities.

Minerals are essential for enzyme and hormone production, performing critical roles such as forming healthy bones and teeth, muscular contraction, nerve function, and healthy insulin and hemoglobin levels.

Vegetables and minerals are present in many foods, both of vegetable and animal origin.

Green vegetables contain vitamins A, C, E, K and B-complex, micronutrients, healthy fatty acids and essential amino acids.

Vitamin A contributes to night vision, maintains healthy skin and mucous membranes and strengthens the immune system.

Vitamin E prevents membrane damage and the destruction of red blood cells and regulates cholesterol levels.

Vitamin C is critical for immune defense, healthy cells, and healthy prenatal development, including iron absorption.

Vitamin K is essential for blood clotting.

B-complex vitamins help avoid anemia and foster healthy prenatal development, such as healthy brains and spines.

Green Vegetables also provide minerals such as calcium, iron and potassium.

Calcium is beneficial for bones and teeth and prevents osteoporosis (especially in women). It also helps blood pressure and menstruation, while the lack of calcium can increase fat storage. Calcium absorption is linked to vitamin D.

Iron is involved in the proper functioning of respiration. It's distributed in the blood and muscles and is stored between the liver and spleen. Iron helps avoid anemia and provides a good energy level and mood.

Potassium is indispensable for the functioning of the body's cells, tissues and organs. It aids in metabolism, is basic for muscle formation, and vital for heart activity.

Green vegetables such as Chard, Yellow Flower, and Spinach contain a lot of calcium and a good amount of **fiber**.

Fiber fights constipation and helps prevent colon cancer and heart disease while being recommended to help control diabetes and cholesterol.

Green vegetables also contain **Chlorophyll**, the pigment that gives plants their green color and allows them to photosynthesize, but it also has multiple health benefits.

Chlorophyll is beneficial for building new blood cells and is effective against cancer. It promotes regeneration, healing, regular bowel movement and ensures a pleasant body odor. Chlorophyll also helps eliminate iron deficiency and corrects magnesium deficiency.

Green vegetables should be washed and disinfected if consumed raw. When cooked, it is better to put them directly into boiling water so they do not lose their color.

Combining greens and vegetables with protein sources such as chicken, rabbit, pigeons, ducks, fish, and others provides the necessary nutrients for a child's growth after weaning.

Vegetables or legumes have almost twice as much protein as grain cereals and are important foods for different regions where meat or dairy products are difficult to obtain.

Thanks to their high iron and fiber content, legumes help transport oxygen to the whole organism, eliminate toxins and cholesterol, and favor intestinal transit.

The nutritional values of legumes include:

- They're rich in fiber and help reduce the risk of cardiovascular disease while improving digestive health.

- They help stabilize blood sugar and insulin levels.

- They are a source of folate, a type of vitamin B essential for the function of the nervous system and important during pregnancy to prevent fetal abnormalities.

- They are rich in iron. For improved iron absorption, it's recommended to combine the legumes with foods containing vitamin C.

- They promote bone health and are a source of vegetable protein.

- You can increase the amount of protein in cooked legumes by combining them with cereals such as rice, Protemás, chicken livers, etc.

Why the Seeds for a Future 1,000-Day Training Works

Since 2009, the Seeds Program has successfully addressed nutrition and health challenges in communities throughout Guatemala because of the model of its Program and its dedicated staff.

Seeds for a Future doesn't just provide aid.

Instead, it incorporates a long-term strategy of self-reliance. Each family is unique, and the implementation of the Program is customized for each family's specific needs and resources.

Staff extensionists work with a family for a year, training and mentoring them with their new gardens using permaculture principles and how to raise protein animals.

Seeds for a Future also provides the starter seedlings and animals that best serve each family's nutritional needs.

The Nutrition and Health Training of the First 1,000 Days' is critical to the Seeds Program. The training provides the building blocks for new meal planning, while each family's unique nutrition needs will determine their garden's initial seedlings.

This combination of targeted information, resources, and ongoing training provides a foundation for reducing many health challenges facing rural Guatemalans while creating new income opportunities as participants sell their excess plant and animal production.

Because of the inherent cultural flexibility of the Seeds for a Future model, it can succeed in a variety of conditions across the world.

The INCAP Research Study of the Seeds for a Future Program.

In 2018, the Institute for Nutrition of Central America and Panama (INCAP) completed ***an independent study*** of our integrated approach to family nutrition.

The study followed 259 families for 30 months as they participated in our signature Casa Granja or 'backyard farm' program. Participating families were selected to include at least one pregnant woman and/or mother with an infant less than 12 months of age.

The INCAP study found that participation in our Casa Granja program drastically reduced maternal and infant anemia.

Effects were lasting, with reports showing stable iron levels in mothers and children 20 months after the study's conclusion.

In Guatemala, rural communities may struggle to access nutrient-dense, culturally appropriate foods for many historical, economic, and social reasons.

Lack of access to nutritious foods early in life can severely impact child development and the community's overall health.

Health educators and nutrition interventions must consider these factors and seek to provide holistic nutrition education to young parents and extended family members.

For more information about the Seeds for a Future, please connect with us here:

https://seedsforafuture.org/connect/

The Seeds for a Future Nutrition Training and Education page is located here:

https://seedsforafuture.org/nutrition-and-health-education-guatemala/

For a general outline of the Seeds for a Future Program, please visit the Program Outline and FAQs page:

https://seedsforafuture.org/food-security-program-overview-guatemala/