



Substitute Milk Product Based on Oleaginous Seeds (Almonds, Ajonjoli, and Sunflower Seed) for Infants from 0 to 5 Years Old

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Abstract. In Mexico, important changes are currently happening that involve our quality of life, especially because of the feeding we are having. Since we are born, we have been thought that the more milk we consume the better development and growth we have. This information is inherited from generation to generation. This so accelerated kind of life we live makes us not to pay enough attention to our kind of feeding, starting with that of our children. In this case we are referring to those parents who are incapable of breastfeeding to their children, so they decide to feed them with formula the one that sometimes causes rejection on children or children are lactose intolerant. So, their parents must spend more money to buy products from this line. Tlaxcala is a Mexican republic state recognized for its culture and gastronomy. Despite there is knowledge of lactose intolerance there is no knowledge about the seriousness of this illness if it is not treated since the child shows early symptoms. Therefore, the substitute product of milk-based on oilseeds (almonds, sesame and sunflower seed) for lactose intolerance children has properties to replace breastfeeding part providing necessary nutrients for good development in their growth. Besides consuming it helps our immune system. A proximal analysis was made in fall 2018 through a prestigious institution in Tlaxcala state about the substitute product of milk-based on oilseeds for lactose intolerance children based on the norm NOM-051-SCFI/SSA1-2010.

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1. Substitute Milk Product Based on Oleaginous Seeds (Almonds, Ajonjoli, And Sunflower Seed) For Infants From 0 To 5 Years Old:

Primary of the lactase deficits are currently reported (Dugdali, 2014) as having no congenital hypo lactase, adult persistent lactase deficiency, hereditary de lactase deficiency. This is the cause of more frequent lactose intolerance in young people and adolescents. Produced by the relative relevance of the absolute activity of lactase, which is usually determined by genetics. The manifesto is between 2 and 7 years, with a range of views presented between 11-14 años. The presentation of the lactase first that is presented here has a relatively rapid initiation, with the most general and progressively stable and progressively more numerous.

Lactase Secondaries Deficits Seen individually by an enzymatically active enzyme, in which the intestinal mucosa diffuses from the intestinal mucous and reduces the activation of the lactase enzyme; the lesion of the intestinal mucous than the present-day secondary with comorbidities: gastroenteritis, inflammatory bowel disease, intestinal resection, etc. The evolution of the gravity and the deposition of the magnitude of the origin of the mucous.

The lactase deficiency congregation is originated by a recessive autocompletable cartridge that is currently unavailable. The characteristics of the total body and the important reduction of the lactase are that it does not have to be persistent or persistent to the point of failure. The gastrointestinal tract is generally the womb and the ponies in the veins of the children.

The vacuum leakage of the hormones of creation and of the assimilation of calcium into quantities. The vacuum leakage of the hormones of creation and of the assimilation of calcium into totally different from that of it takes to grow, 21 years. (Speziale & Torres, 2002) For the foregoing, a milk substitute is required that provides the same benefits as breast milk that can be consumed throughout the infant stage and in the long run does not harm as the formulas that, although minimal, have lactose or cost high. Due to the above we present a product based on oilseed oil substitute and its properties are very similar to that of breast milk contains Calcium, Iron, Vitamin E, vitamin K among others that we will see in detail later. The following table shows the components and variations within their nutritional values of the different kinds of milk for children aged 0-5 years and

the comparison between them and what is required by the human being.

Milk Composition of 100 kcal				
Nutritious	Breast Milk	Cow Milk	Formula	Requirement
Proteins	1.3-1.6	5.1	2.3	1.8
grease (g)	5	5.7	5.3	33
Carbohydrates (g)	10.3	5.7	5.3	
Calcium(mg)	50	186	75	50
Sodium (mg)	1	3.3	1.7	0.9
Chlorine (mg)	1.6	4.6	2.3	1.6
Iron (mg)	0.1	0.008	1.5	1
Vitamin A	250	216	300	250
Vitamin D	3	3	63	40
Vitamin E	0.3	0.1	2	0.7
Vitamin K	2	5	9	4
Vitamin C	7.8	2.3	8.1	8
Vitamin B1	25	59	80	40
Vitamin B2	60	252	100	60
Vitamin B3	15	66	63	15
Folic Acid	4	8	10	4
Vitamin B12	0.15	0.56	0.25	0.15
Zinc	0.1-0.5	0.6	0.65	0.5

Source: (Assia, 2012)

As we can see in the comparison of the table, the contributions are very variable between breast milk and cow's milk, the difference in the benefits that each one gives us and referring to what is required in nutritional value, breast milk is what it meets all those parameters. There are scientific studies from prestigious universities that prove the truth in the consumption of milk and its derivatives that is related to serious health consequences, such as cancer, obesity, osteoporosis, allergies, and digestive problems, among others. Lactose intolerance occurs when the body stops producing an amount of lactase enzyme which makes it insufficient for the body, and this, in turn, is necessary to break down lactose into two smaller sugars called glucose and galactose. and minerals such as calcium, potassium, sodium, magnesium, sulfur, phosphorus and chlorine. Speaking of the trace elements minerals that are the ones we need in less quantity: iron, zinc, iodine, fluorine, cobalt, manganese. All this set develops an essential role to perform numerous metabolic reactions and its lack causes serious diseases.

Therefore, it is proposed to produce a product that provides the necessary nutrients for the human body from the detachment of breast milk until 5 years of childhood providing the necessary vitamins, minerals, and antibodies that from the first years of life we require, avoiding diseases that ultimately complicate having a good quality of life. All these benefits are more than enough to be consumed by any type of person and not exclusively by vegetarians or people with lactose intolerance.

According to the information consulted to carry out the theoretical framework process, it is important to mention that the livelihood presented is the basis that together with the contextual framework is carried out the development of the model used in our methodology; o obtain the expected results in this research, evaluate the acceptance of our seed-based milk substitute product demonstrating the contribution to lactose-intolerant children, its benefits and the cost it manages in improving the economy of the families that present a case of childhood intolerance. In this section we present the results and recommendations based on Pareto's analysis of the evaluation of the market study, which was carried out in the present investigation. We start with his analysis of the total Pareto chart.

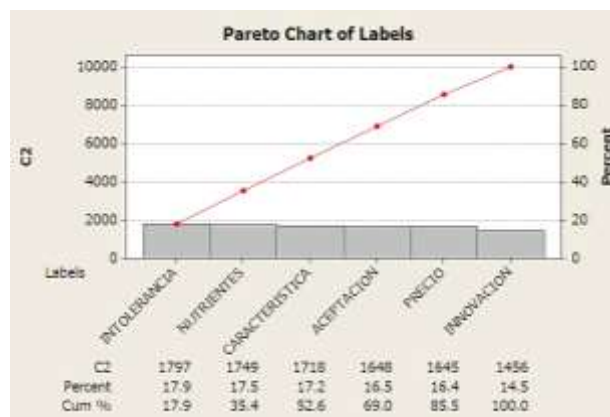


Figure 1. Pareto is a quantitative diagnostic tool, which serves to identify problems once they have been quantified and stratified by frequency.

In the present Pareto graphical analysis, it is important to mention that the values will be interpreted around the Likert scale, with which the instruments were made in which the minimum value of the scale is the least desired and the maximum value widely desired.

The analysis process was carried out taking the results of the applied surveys of the evaluation instruments, from these data a general concentrate was made in which the results that were related to each variable were combined, that is, intolerance, nutrients, and characteristics. Once the general database was completed, these were processed in the Minitab 16



software. The graphical and statistical analysis of each variable evaluated is presented below. From this investigation, we are going to take the first two points that are those that showed less knowledge of the product in the surveys of the study of the applied market.

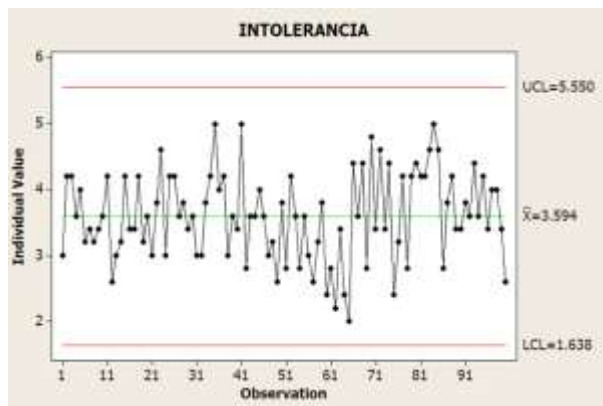


Figure 2. The present graph, for purposes of it is formulated in groups of 4, therefore, shows that 91 groups and in total there would be a sample population of 364 surveys.

In the control chart of the mean INTOLERANCE, it is observed that we have a result of (Average of 3,594) which indicates that it is within the expected range. The people surveyed, showed to have the necessary knowledge of this condition, its consequences and way of life. Although in the part of the age, in which it begins to manifest this condition if they have a wrong idea, since it is difficult for them to believe that from newborns it can be had, which makes us have the opportunity to provide the necessary information to meet your expectations 100% and get the desired range.

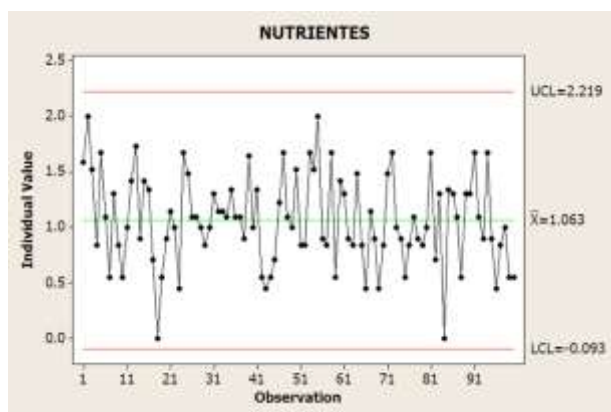


Figure 3. Unknown factor within the surveyed population and people do not pay attention to this variable.

Within the control of (Standard Deviation we have a result of 1,063), we can observe that it is an unknown factor within the surveyed population and people do not pay attention to this variable, how it affects the part of not knowing how to identify the difference between nutrients and nutrition. Concentrated in the part of the group of oilseeds, specifically within the substitute product of milk-based on oilseeds, the benefits that contribute to the human body from an early age, the number and type of fats, minerals, carbohydrates, sodium, calcium.

With the above, the market study is important to know the characteristics of product, price, place, and promotion. Establishing the quality of the product, its benefits and that justify the feasibility of this project. In compliance with the present investigation, the results of the formulated hypothesis and the objectives of the said project are specifically expressed. With four thesis chapters, we present the evaluation of the market study of the oilseed product for infants from zero to five years lactose intolerant. The acceptance that it has within the market in the state of Tlaxcala specifically in the municipality of Apizaco, we begin by providing the necessary information to increase the knowledge of this condition, its severity and its consequences when not being controlled, when intolerance begins to manifest itself, and this can be from zero months. Generating more knowledge for the state of Tlaxcala about the condition of lactose intolerance in infants from zero to five years. When we investigated, we realized that there was a lot of information that was not registered for this condition, that the more time passes, the poor diet and the way of life increase at an earlier age.

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