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Malnutrition

Women as potential agents of reduction of malnutrition and Covid 19's consequences in Guatemala

INTRODUCTION

Nowadays, more than 650 million people are suffering from malnutrition, and this is getting worse due to Covid 19. Guatemala has one of the highest malnutrition rates on the whole planet, affecting almost half of its population. In some rural areas, particularly in the Department of Chiquimula, it reaches 80% [1]. In these areas, children's malnutrition is the most frequent cause of mortality, along with hypertension, diabetes, asthma and other chronic obstructive lung diseases. These all are risk factors that cause vulnerability to Covid-19. Furthermore, malnutrition is the outcome of insufficient food consumption and consequently leads to the constant appearance of infectious diseases [2].

Moreover, the immune system of malnourished children is weakened, increasing the mortality rate when facing Covid-19. In addition, the lack of health resources and access to treatments or medicines within these affected areas are other factors that make it even more difficult for them to survive Covid or similar diseases.

The lack of interest by the Government, the absence of aid and the inequality between classes, aggravates the low standard of living of this Central American country.

One of the best ways to put this situation to an end would be the immediate enforcement of the first three aims of the Sustainable Development Goals (SDG): ending hunger, poverty and ensuring well-being to every person in the world [3].

Involving women in the solution would be a convenient option due to their high ability on food security and rural economic development, this way giving women a voice and increasing their power in a country where they are so undervalued.

COUNTRY AND FAMILY

Guatemala is a country formed by almost 18 million inhabitants. This population is divided into two sectors: the urban group, composed of 51.44% of the population, and the remaining 48.56%, who live in the underdeveloped rural areas. There are indeed large differences between them in terms of wealth, access to education and basic services such as food, clean water and sanitation or healthcare, as explained below [4].

Regarding the political organization, the government of Guatemala is a representative democratic republic. Furthermore, there is a President, a Vice-President, a Congress with 160 deputies which belongs to the Legislative Power, and the Supreme Court of Justice and Constitutional Court, as the Judicial Power [5] [6].

Guatemala's geographical position in Central America, bordering the Caribbean Sea and the North Pacific Ocean, allows the country to possess three distinct climate zones depending on the region, which are cold, tempered and warm climates. This is why it is well known as the Eternal Spring country [7].

During 2017, the average number of children per woman was 2,97 in the whole country, but it depends on the area. The typical family size in rural areas are from 6 to 8 children, all of them carrying malnutrition and being badly bred in poor home conditions [8].

Corn is the major crop of this country, followed by other seeds such as wheat, sesame or coffee [9]. In terms of production, the most productive crops are sugar cane or banana [10]. However, small peasants or farmers usually plant corn, beans and vegetables, because those are the foods which provide them with energy to survive. Indeed, in Guatemala people consume a tremendous amount of corn or its derived products, preferably tortillas, which make the basic meal of many families, accompanied with beans and eggs. The most abundant foods are cereals, whole grains and tubers, followed by fruits and vegetables. Animal-source foods such as meat and dairy products are not so usually consumed. Guatemalans do not use sugar very often. In rural areas, food is, as said, mainly obtained from their own crops or from stores, and they use firewood stoves for cooking their meals [11].

Therefore, in Guatemalan rural areas it is typical to work as a farmer, maintaining their own crops, or those of others if the family can not afford having their own land. Additionally, the livestock industry is also common in these areas, which demonstrates that the primary sector is the most usual source of work in the countryside. Moreover, there are five mines dedicated to metals in Guatemala, which would be a great benefit, if it did not pollute the soil and the rivers as it does [12].

Regarding education, illiteracy reaches 75% of the population in many rural areas. It is not easy to overcome this situation, as public schools work poorly in remote villages and many children do not attend school at all [13].

In most cases and further away from the main cities, Guatemalans do not have any access to clean water or sanitary services. In 2011/2012, 70% of the Guatemalan homes had access to the basic services, this is to say clean water in the urban populations. But meanwhile, in the rural areas only 30% had access to these services [14]. Hospitals are only in big cities and, although there are Health Posts in the countryside or in small towns, they are very basic and not easily accessible for all the rural population, which explains why healthcare is extremely underdeveloped in this country [15].

Many resourceless inhabitants do not have any access to electricity. As a consequence, it is not usual to have Internet access. The families that can afford getting this privilege, nowadays have at least one electronic gadget, even though it is the simplest model.

CHALLENGE AND IMPACT:

During the lockdown because of the Covid19 pandemia, malnutrition worsened owing to the forced isolation that made it impossible to travel to larger villages to get other kinds of food, especially between March and June 2020. 500.000 new malnourished inhabitants were suffering from this serious condition, in total 1.2 million people needed emergency food aid in a country of 17 million inhabitants [16].

As stated above, the most affected population lives in rural areas. Among them, malnutrition affects especially on marginalized people and unemployed families, because of their lack of money, food and health, so that is why a solution must be implemented to help these people who can't afford getting essential services. In Guatemala, 49,8% of children suffer from chronic malnutrition, this means one every two children. This problem decreases the concentration capacity of children, and this results in dropping out of school, when they have access to it. In the elderly population, malnutrition affects the progressive decline in health, raises the need for healthcare services and their mortality increases. Guatemalan women also suffer more from malnutrition as they usually get less food and of a lower quality than men [14] [17].

It is necessary also to take into account that food production systems cause approximately between 25-30% of the greenhouse emissions in Guatemala. And this, in turn, affects agriculture, as it causes raises in the average temperature, sudden changes in rains, bigger number of floods and lack of water. All these are facts that affect individual or commercial plantations and food production [18].

SOLUTION AND RECOMMENDATION

Taking into account all the factors above, the following solutions are suggested:

An immediate solution could be designing and preparing emergency boxes with the necessary products for the diet of the undernourished population, those that could meet their needs, including corn and beans, which are the basis of their meals, and other foods such as chicken or pork in order to provide them with proteins [19]. These boxes would be given to the families who really need it, depending on the family composition, number of members and state of health. The families would be monitored to see their evolution and to assess the effectiveness of this temporal solution. Furthermore and as a very important point, all these products should be produced within their own communities in order to promote their economic development, which is directly related with the next step.

In order to find a longer term solution, it would be necessary to work in every community to provide them with the tools for their own development. The Guatemalan women's ability in nutrition and health topics is incredibly high, women are responsible for looking after all the family, getting food directly for them by working on their own crops and family farms. Thereby, if women receive education and formation, every family member will benefit from this fact, and the family will be better organised. As a consequence, nutrition, health and hygiene levels will improve.

To put this into practice, a small group of women from different rural towns should be taken in order to widen their knowledge on how to obtain food from their own crops, teaching them more effective agricultural tools to improve their crop's yield. Some other basic skills such as farming could also be addressed. Moreover, a basic knowledge about nutrition and a well-balanced diet would be highly important to improve the nutritional state of all the family and to reduce malnutrition little by little. A coordinator would elaborate a study program that would include all the necessary knowledge, from agricultural techniques and suitable crops according to Guatemala's climate to nutrition and health. The coordinator would select the teachers, experts in those different fields, and both theoretical and practical lessons would take place. They could meet in meeting points, that might be universities (The Universidad Rural de Guatemala could be a good option), because they have appropriate facilities to develop courses such as these. The courses would be completely free for the women, with all the expenses included, funded by the Government and participating NGO's.

Once this small group of women have put that in practise reaching good results, they will be able to start spreading those new skills, so as the rest of the population can take advantage of these innovations, i.e., if one part of the population learns the basic skills to obtain the necessary products, they could gradually teach all the rural areas. So little by little, everyone will incorporate this knowledge to their daily lives to overcome poverty and get enough food to eat and solve malnutrition.

In order to develop this project it would be necessary the leadership of the Government, with the help of international and experienced non-profit organisations (NGOs).

The Government's role will be mainly to accept the idea, considering how important it is to solve malnutrition in their country. It is of course important in itself, to provide the population with longer and better lives, but also in terms of improving their general health, thus reducing the expenses in healthcare. The Government would also be responsible for spreading the idea, in case other organisations could collaborate, for instance by raising funds to buy the seeds needed to cultivate the crops. The Government

should design and ensure an extraordinary financial program to provide the project with a larger quantity of money so more plantations can be planted. In this line, promoting a tax increase for the most favored classes could be a source to obtain funds to help the development of the poorer rural communities. In a certain way, urban citizens will favor their country and this fact will contribute to the decrease of the social gap in Guatemala.

Organisations such as NGOs could take part in the search for volunteers who are prepared to teach the Guatemalan rural inhabitants some innovative agricultural practices, with the use of more modern machinery, in order to increase the yield of the crops. Teaching this part of the population will not be easy, so people with experience in agriculture and with at least basic Spanish skills will be the perfect ones.

This project has a very difficult obstacle to overcome related to the idiosyncrasy of the Guatemalan tradition and culture: the undervalued role of women. It will therefore be necessary to plan how to achieve equality. So serious education programs should be undertaken from an early age to adulthood to fight against the male chauvinist ideology predominant in this country. But this will not be easy due to the fact that they have lived in an atmosphere in which women have always been thought inferior to men. Moreover, the illiteracy rate is 18,5%, which is equivalent to almost 2,3 million of people who are not able to write or read [20]. This fact makes it even more difficult to undertake education programs for grown-up people. A well planned program and a serious implication by the Government would be necessary to meet the educational goals. In short, the Government should adopt new policies to favor the social acceptance of women's leadership and this way make them respected as agents of change and improvement of their communities.

Last, but not least, the sustainability of these measures must be taken into account. As stated above, food production is an important source of environmental degradation. This project can easily be sustainable by using natural methods and not using pollutant machinery. Agricultural experts should design it very carefully to implement the best measures according to this goal. Forbidding the use of insecticides or chemical and synthetic products would benefit both the environment and the people's health [21].

CONCLUSION

To summarize the above, in Guatemala malnutrition affects almost half of its population, and this situation has been further worsened by the difficult access to food caused by the Covid19 pandemia, making it more necessary than ever to undertake effective action to alleviate this problem. A fast short term solution could provide emergency boxes with the necessary food, until the point when the Guatemalan rural inhabitants have widened their knowledge about how to incorporate a well balanced diet, obtaining the necessary resources from their own crops. Furthermore, the suggested actions would enhance women's empowerment as active agents for the improvement of the nutrition of their families, and as a direct consequence, of their general state of health.

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