From: Lili R
To: Grp. City Council and City Web Site
Subject: Open Letter, regarding Covid19 in our vulnerable population
Date: Saturday, April 3, 2021 5:58:25 AM

I am reaching out to you regarding Covid19, and how we may be able to save the lives of many in our vulnerable population. As you may have heard there are several strains emerging that are resistant to antibodies, as well as the vaccine. Luckily the vaccine is not our only defense, many scientific studies are now underway proving that there is more we can be doing to help those who are vulnerable prepare their bodies in advance of contracting the virus, so their immune systems can better fight it.

In Spain, such a study was conducted on the use of Vitamin D. It was found that adequate Vitamin D blood levels reduced the chance of death by 64%, and reduced ICU admissions by 82%. They concluded that adequate vitamin D status could also play a role in preventing Covid19 infection. The form of Vitamin D used in this study was activated Vitamin D, called Calcifediol.

Vitamin D, is not readily bioavailable. First Vitamin D is produced in the skin and from there it goes to the liver where it is converted into Calcifediol, which can take one to two weeks to be converted. From there it goes to the kidneys, turning into the hormone that our body uses. The beauty of Calcifediol, is that it skips that step where it has to take the time to be converted by the liver. It can be administered in a form that our body can use right away.

There have been many studies conducted to date, one study from Spain, on a small group was very promising. There were 76 participants, 50 of them were given Calcifediol, out of that group only one was admitted to the ICU, and there were no deaths. In the control group of 26 who did not receive Calcifediol, 13 of them were admitted to the ICU, and 2 died.

It was concluded that administration of high dose Calcifediol greatly reduced the need for ICU admission, and was able to reduce the severity of the disease.

The findings were so significant, that in Andalucía, Spain, they called for it to be used as a preventative method to be administered to the elderly in care home settings, within a month the death rates dropped from 60 per a day to 3.

While many studies have been conducted to see if administering vitamin D could change the outcome of those hospitalized from Covid, there are other such studies aiming to show that low levels lead to poor outcomes with the disease. In one study in Italy it was found that 81% of patients with acute respiratory failure had a vitamin D deficiency. It was found that those with severe deficiency had a 50% greater chance of death.

In another study, it was found that there was a correlation between having low vitamin D levels and contracting the virus. Those with low levels were twice as likely to contract the virus.

In Spain, over 80% of 200 Covid19 patients had low vitamin D levels. Those who had lower levels also had raised serum levels of inflammatory markers.

Researchers at Queen Elizabeth Hospital found that those with lower levels of Vitamin D may be more likely to die from the virus. They compared the death rates and vitamin D levels of 20

European countries, and found a significant relationship between low Vitamin D levels and deaths from Covid19.

The researchers concluded, "The most vulnerable group of population for Covid-19 is also the one that has the most deficit in Vitamin D. Vitamin D has already been shown to protect against acute respiratory infections and it was shown to be safe. We believe that we can advise vitamin D supplementation to protect against Sars-CoV2 infection.".

One would imagine that findings such as these would prompt worldwide attention and action. Sadly, it hardly makes a few headlines. Quietly under the radar the studies go on. In this study it was found that Vitamin D supplementation could reduce the incidence, severity, and risk of death from Covid19 infections. Those who had sufficient Vitamin D levels, had lower blood levels of inflammation, less lung damage, and shorter hospital stays.

In a study in New York it was found that those who had lower Vitamin D levels were at greater risk for needing oxygen support.

The point here is that studies have shown time and time again, that those with vitamin D deficiencies are more prone to poor outcomes with Covid, and those who supplement have better outcomes. What harm could it do, to test the vitamin D levels in our at risk population, and have them supplement accordingly if their levels are low?

I am not alone in this thinking, many doctors and scientists from all around the world have been working to spread the word. Here you will find a call to action, on eliminating Vitamin D deficiency during the pandemic.

Long before the ravages of Covid, science already knew that those with nutritional deficiencies, were prone to having a weakened immune response, and that the risk increases with age. Nutrients are the building blocks of our immune system, without them we cannot have proper cell creation and function. Vitamin D is one of the nutrients that are critical for immune function, inhibiting inflammatory cytokines. When a person gets sick, a proper cytokine response is necessary, and needed. In a healthy, functioning immune system, our cells will put the brakes on that response before it gets carried away. Vitamin D is one of the critical building blocks for that function. Researchers found the Vitamin D receptor binds to DNA activating a gene that interferes with the cascade of cytokines. Sadly many in our vulnerable population are lacking in nutrients, and their bodies are not able to stop the cytokine response from getting out of control. The good news is that studies have been done in the past that show how replenishing those nutrients restores immune function, and lowers susceptibility to succumbing to disease, and illness.

When a person is low in micronutrients, it can lead to a lower white blood cell count, impairing the way cells function. Low vitamin D levels can also negatively affect your white blood cell count. Your immune system consists of these white blood cells, they are what protects the body against infection, and viruses. Previous research has found Vitamin D to be a safe and effective treatment for the prevention of fatal lung attacks, and acute respiratory tract infections by boosting levels of antimicrobial peptides in the lungs.

Vitamin D is only one of the critical nutrients that our body relies on for immune function. all vitamins and minerals are important for our body to function optimally, and in the case of Covid, help to prevent a runaway cytokine storm.

Although the CDC and WHO have not yet recommended replenishing nutrients regarding Covid in our vulnerable populations, any good doctor knows that proper nutrition is vital for health and function of the body. There is no harm in giving these people a little extra nutrition during this time to give their bodies that extra help for proper immune function. Surely something so simple as this, can't be against the rules. The role of nutrition and the immune system is backed by science, as I have attempted to show in this letter.

Combating nutritional deficiencies in the elderly can sometimes require a multipronged approach. Malnutrition is common in the elderly, up to 85% who are homebound, in a nursing home, or hospitalized are malnourished. One of the underlying causes is often a lack of gut bacteria that can cause malabsorption leading to malnutrition. It has also been found that when the elderly supplement with probiotics it improves immune function, increasing Natural Killer cells, lowers inflammatory cytokines, increases ant-inflammatory cytokines, helping to fight off infection.

What's more, is that those who have age related immune deficiency known as Immunosenescence, have been found to have significantly impaired vaccine efficacy, making the role of nutrition, and probiotic repletion, all that more important during our mass vaccination campaign currently underway.

There is one potential health concern with taking Vitamin D in high doses, it can cause hypercalcemia, causing calcium build up in the soft tissues. However, this can be mitigated by taking K2 along with Vitamin D. When taken together it is considered safe. K2 has been found to move calcium to the bones preventing calcium toxicity.

When supplementing with Vitamin D it is vital to also supplement with Magnesium, it aids cells in converting Vitamin D so it can be used by the body.

As a final note on this essential nutrient, I would like to mention that Vitamin D deficiency is common, not only in the elderly, but also in persons who live in poor communities, are obese, and have dark skin color, all of these demographics have been disproportionately affected by complications from Covid.

Lastly I would like to cover a drug that has received little media attention, but that has had astounding results in studies thus far, that is the drug Ivermectin. It is an anti-parasitic drug that has been considered one of the safest medications in the world, dubbed by the WHO as an essential medicine. It has been in use since 1987, and 3.7 billion doses have been administered.

In one study, Ivermectin was shown to be 100% effective as a prophylaxis. 788 people were administered Ivermectin, and not one of them contracted the virus. In the control 407 did not receive it, and 48% contracted the virus.

In Tlaxcala, Mexico, another promising study was conducted with a combination multi-drug therapy, including Ivermectin, and the results were astounding. Nearly 85% of the cases recovered within 14 days. Those who received the Ivermectin combo in ambulatory cases, were 3.4 times more likely to recover. It reduced the risk of hospitalization by 75%, and reduced the risk of death by 81%.

In recent news, Slovakia has become the first EU nation to approve the use of Ivermectin as both a prophylaxis and treatment for Sars-CoV2. It has been approved for a 6 month period.

People are said to be buying the drug en masse. As stated in this article by DUNAV MOST, "Ivermectin has been reported to block the virus's transport protein from entering the nucleus of the cell making it difficult to multiply.".

In August India began to hand out Ivermectin drug combination kits as a prophylaxis, to their vulnerable population, as well as those who were exposed to the virus, and for early treatment in asymptomatic Covid-19 patients. In September and October India experienced a dramatic decline in cases months before the vaccine roll out, baffling scientists. In August deaths were topping out at over one thousand per day, and are now in the low hundreds.

I believe it is critical for all rational minded people to take a look at the science for themselves.

To see more ongoing studies on Vitamin D, Ivermectin, Zinc, and other drugs please see this link, and also this link.

Thank you for taking the time to read my letter. It is my greatest hope that we learn everything we can about all effective treatments for Covid-19, and save as many lives as possible.

[End letter]

Sources, Medical Journals & Medical Science:

Hopsital Del Mar Research Institute, Barcelona Spain. Authors: X. Nogues, D. Ovejero, J.M. Quesada-Gomez, R. Bouillon, D. Arenas, J. Pascual, J. Villar-Garcia, A. Rial, C. Gimenez-Argente, ML. Cos, J. Rodriguez Morera, I. Campodarve, R. Guerri-Fernandez1, M. Pineda-Moncusí and N. Garcia-Giralt.

The Journal Of Steroid Biochemistry and Molecular Biology. "Effect of Calcifediol Treatment and best available therapy on intensive care unit admission and mortality among patients hospitalized for Covid-19: A pilot randomized clinical study". Authors: Marta Entrenas, Castilloa Luis, Manuel Entrenas, Costaa José, Manuel Vaquero, Barriosa Juan, Francisco Alcalá, Díazb José López, Miranda b Roger, Bouillon c José, Manuel Quesada Gomez d.

National Library of Medicine NIH. "Vitamin D deficiency as a predictor of poor prognosis in patients with acute respiratory failure due to COVID-19". Authors: G E Carpagnano, V Di Lecce, V N Quaranta, A Zito, E Buonamico, E Capozza, A Palumbo, G Di Gioia, V N Valerio, O Resta.

JAMA Network Open. "Association of Vitamin D Status and Other Clinical Characteristics With COVID-19 Test Results". Authors: David O. Meltzer, MD, PhD; Thomas J. Best, PhD; Hui Zhang, PhD; et al.

Science Daily. "Over 80 percent of COVID-19 patients have vitamin D deficiency, study finds. Source The Endocrine Soiety". Source: The Endocrine Society. "Over 80 percent of COVID-19 patients have vitamin D deficiency, study finds: Vitamin D deficiency was more prevalent in men." ScienceDaily. ScienceDaily, 27 October 2020. <www.sciencedaily.com/releases/2020/10/201027092216.htm>.

Research Square. "The role of Vitamin D in the prevention of Coronavirus Disease 2019

infection and mortality". Authors: Petre Cristian Ilie, Simina Stefanescu, Lee Smith. The Queen Elizabeth Hospital Foundation Trust, King's Lynn, University of East Anglia, Anglia Ruskin University.

Journal of Medical Virology. "Vitamin D deficiency is associated with COVID-19 positivity and severity of the disease". Authors: Mustafa Demir, Fadime Demir, Hatice Aygun.

Journal of the American College of Nutrition. "An Evaluation of Serum 25-Hydroxy Vitamin D Levels in Patients with COVID-19 in New York City". Authors: Elizabeth Marie Gavioli, Hirotaka Miyashita, Omar Hasaneen & Even Siau.

MDPI, Open access Journals. "High-Dose Cholecalciferol Booster Therapy is Associated with a Reduced Risk of Mortality in Patients with COVID-19: A Cross-Sectional Multi-Centre Observational Study". Authors: Stephanie F. Ling, Eleanor Broad, Rebecca Murphy, Joseph M. Pappachan, Satveer Pardesi-Newton, Marie-France Kong and Edward B. Jude.

Metabolism Clinical and Experimental. "Commentary. Eliminating vitamin D deficiency during the COVID-19 pandemic: A call to action". Authors: JoAnn E. Manson, Shari S. Bassuk.

NCBI, National Center for Biotechnology Information. "Immune Function and Micronutrient Requirements Change over the Life Course". Authors: Silvia Maggini, Adeline Pierre, and Philip C. Calder.

MDPI, Open Access Journals. "A Review of Micronutrients and the Immune System–Working in Harmony to Reduce the Risk of Infection". Authors: Adrian F. Gombart, Adeline Pierre and Silvia Maggini.

NCBI, National Center for Biotechnology Information. "Vitamin D Inhibits Monocyte/macrophage Pro-inflammatory Cytokine Production by Targeting Mitogen-Activated Protein Kinase Phosphatase 1". Authors: Yong Zhang, Donald Y. M. Leung, Brittany N. Richers, Yusen Liu, Linda K. Remigio, David W. Riches, and Elena Goleva.

NCBI, National Center for Biotechnology Information. "The Anti-Inflammatory Effects of Vitamin D in Tumorigenesis". Authors: Wei Liu, Lei Zhang, Hui-Jing Xu, Yan Li, Chuan-Min Hu, Jing-Yan Yang, and Mei-Yan Sun.

Science Daily. "How vitamin D inhibits inflammation". Authors: Yong Zhang, Donald Y. M. Leung, Brittany N. Richers, Yusen Liu, Linda K. Remigio, David W. Riches, And Elena Goleva. Source: National Jewish Health. "How vitamin D inhibits inflammation." ScienceDaily. ScienceDaily, 23 February 2012. <www.sciencedaily.com/releases/2012/02/120223103920.htm>.

NCBI, National Center for Biotechnology Information. "The Role of Nutrition in Enhancing Immunity in Aging". Authors: Munkyong Pae, Simin Nikbin Meydani, and Dayong Wu.

The BMJ. "Vitamin D supplementation to prevent acute respiratory tract infections: systematic review and meta-analysis of individual participant data". Authors: Adrian R Martineau, professor of respiratory infection and immunity1, David A Jolliffe, postdoctoral research fellow, Richard L Hooper, reader in medical statistics, Lauren Greenberg, medical statistician, John F Aloia, professor of medicine, Peter Bergman, associate professor, Gal Dubnov-Raz,

consultant paediatrician, Susanna Esposito, professor of paediatrics, Davaasambuu Ganmaa, assistant professor, Adit A Ginde, professor of emergency medicine, Emma C Goodall, assistant professor, Cameron C Grant, associate professor, Christopher J Griffiths, professor of primary care, Wim Janssens, professor of pneumonology, Ilkka Laaksi, chief administrative medical officer, Semira Manaseki-Holland, senior clinical lecturer, David Mauger, professor of public health sciences and statistics, David R Murdoch, professor of pathology, Rachel Neale, associate professor, Judy R Rees, assistant professor, Steve Simpson Jr, postdoctoral research fellow, Iwona Stelmach, professor of paediatric allergy, Geeta Trilok Kumar, associate professor, Mitsuyoshi Urashima, professor of molecular epidemiology, Carlos A Camargo Jr, professor of emergency medicine, medicine, and epidemiology.

BMJ Journals, Thorax. "Vitamin D to prevent exacerbations of COPD: systematic review and meta-analysis of individual participant data from randomised controlled trials". Authors: David A Jolliffe, Lauren Greenberg, Richard L Hooper, Carolien Mathyssen, Rachida Rafiq, Renate T de Jongh, Carlos A Camargo, Christopher J Griffiths, Wim Janssens, Adrian R Martineau1. Correspondence to Professor Adrian R Martineau, The Centre for Primary Care and Public Health, Blizard Institute, Barts and The London School of Medicine and Dentistry, Queen Mary University of London, London UK.

NCBI, National Center for Biotechnology Information. "Malnutrition in the elderly: the Mini Nutritional Assessment". Authors: Y Guigoz, B J Vellas.

Science Direct, Journal of Clinical Gerontology and Geriatrics. "The aging gut and the role of prebiotics, probiotics, and synbiotics: A review". Authors: Pragnesh J.PatelMD, Shailesh K.Singh MD, Siddak Panaich MD, Lavoisier Cardozo.

Science Direct. "Natural Killer Cell". Authors: Mark J. Smyth QIMR Berghofer Medical Research Institute, Brisbane, Australia, Jacob A. George Kaplan Medical Center Israel, Rehovot, Israel, Mary N. Carrington Leidos Inc., Reston, United States, Andreas G. Tzakis.

NCBI, National Center for Biotechnology Information. "Beneficial Effects of Probiotic Consumption on the Immune System". Authors: Carolina Maldonado Galdeano, Silvia Inés Cazorla, José María Lemme Dumit, Eva Vélez, Gabriela Perdigón.

Cambridge University Press. "Ageing alters the impact of nutrition on immune function". Author: Parveen Yaqoob
Affiliation: Department of Food and Nutritional Sciences, School of Chemistry, Food & Pharmacy, The University of Reading,UK.

NIH U.S. National Library of Medicine. "Hypervitaminosis D". References: Aronson JK. Vitamin D analogues. In: Aronson JK, ed. Meyler's Side Effects of Drugs. 16th ed. Waltham, MA: Elsevier; 2016:478-487.Greenbaum LA. Vitamin D deficiency (rickets) and excess. In: Kliegman RM, St. Geme JW, Blum NJ, Shah SS, Tasker RC, Wilson KM, eds. Nelson Textbook of Pediatrics. 21st ed. Philadelphia, PA: Elsevier; 2020:chap 64. Updated by: Brent Wisse, MD, board certified in Metabolism/Endocrinology, Seattle, WA. Also reviewed by David Zieve, MD, MHA, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

Science Direct, International Journal of Infectious Diseases. "Vitamin D3 and K2 and their potential contribution to reducing the COVID-19 mortality rate". Author: Simon Goddek, Mathematical and Statistical Methods (Biometris), Wageningen University, The

Netherlands.

Web MD. "Vitamin K – Keeping Calcium in Your Bones and Out of Your Blood Vessels". Author: Joe Pizzorono, JR., ND.

The Journal of the American Osteopathic Association. "Role of Magnesium in Vitamin D Activation and Function". Authors: Anne Marie Uwitonze, BDT, MS; Mohammed S. Razzaque, MBBS, PhD.

FLCCC Alliance, Front Line Covid-19 Critical Care Alliance. "Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis and Treatment of COVID-19". Authors: Pierre Kory, MD, G. Umberto Meduri, MD, Jose Iglesias, DO, Joseph Varon, MD, Keith Berkowitz, MD, Howard Kornfeld, MD, Eivind Vinjevoll, MD, Scott Mitchell, MBChB, Fred Wagshul, MD, Paul E. Marik, MD.

Science Direct, International Journal of Infectious Diseases. "Effectiveness of a multidrug therapy consisting of ivermectin, azithromycin, montelukast and acetylsalicylic acid to prevent hospitalization and death among ambulatory COVID-19 cases in Tlaxcala, Mexico". Authors: René Lima-Morales, Pablo Méndez-Hernández, Yvonne N. Flores, Patricia Osorno-Romero, Elizabeth Cuecuecha-Rugerio, Adrián Nava-Zamora, Diego Rolando Hernández-Galdamez, Daniela Karola Romo-Dueñas, JorgeSalmeróni.

Real-time database and meta analysis of 332 COVID-19 studies.

Real-time database and meta analysis of 332 COVID-19 studies, ongoing trials.