

Dedicated to Vitamin A Deficiency Research
An Interview with Keith P. West
by Laurie Lindsay Aomari

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Keith P. West, Jr., DrPH is a professor in the Division of Human Nutrition, Department of International Health at the Johns Hopkins School of Hygiene and Public Health in Baltimore, Maryland, USA. Dr. West has worked in international health for two decades concentrating on the epidemiology and prevention of vitamin A deficiency and nutritional blindness, child mortality, and protein-energy malnutrition. Dr. West is principal investigator of a large vitamin A research program at Johns Hopkins, a member of the IVACG Steering Committee, and a member of the editorial board of the Journal of Nutrition. He has published many scientific articles and reviews.

"If you really want to tackle a public health issue, you go to where the problem is. Then you seek solutions to pertinent questions so you can turn them right back to the population that stands to benefit. We've done that with vitamin A deficiency research and it is one of the reasons underlying our success," says Dr. Keith P. West, Jr., one of the most well-known and successful researchers today in the field of vitamin A deficiency prevention and control.

Dr. West tells how this approach came into play in 1986 after a vitamin A supplementation trial in Aceh, Indonesia. Dr. West was a coinvestigator for that trial. The first published results showed a 34% reduction in child mortality following vitamin A supplementation. Dr. West says it was a good trial but it was only one trial. It had to be replicated.

Getting Started in Nepal

According to Dr. West, doing follow-up research in Nepal was the product of opportunity. "There was a very willing group of Nepalese investigators and a team there who was anxious to work with us to do something about the country's vitamin A deficiency problem after it was uncovered during a national survey." He adds, "They saw the impact vitamin A had in Aceh and reasoned that this must be a problem in South Asia as well. To their credit they seized the opportunity to request that a mortality trial be done there."

Many factors came into play in making the decision to launch research in Nepal. "There was a very positive and congenial working environment that was offered to us; genuine efforts to collaborate on the part of the Nepalese; considerable vitamin A deficiency; and accessible, population-dense areas in which to work," says Dr. West, "These were the makings of a very successful trial: the Nepal Nutrition Intervention Project Sarlahi (NNIPS)."

Nearly two-thirds of the population of Nepal lives in the Terai, or plains, of the country. The area forms the northern bounds of the vast Gangetic flood plain so there is the possibility of some meaningful application of the results to a broader area of central and south Asia.

Organizing and Building Trust

During the two and a half years that it took to prepare for the trial, the project staff worked well to build community trust and a strong organization. There was an effort to address other health needs of the community while carrying out the research as well. Dr. West believes this sort of sensitivity on the part of the staff contributed to the Nepalese communities becoming genuinely interested to continue partnering in different nutrition research projects over the years. **"We moved from the childhood vitamin A issue into looking at the impact of vitamin A and beta carotene on maternal health and survival, and now multiple micronutrients on infant mortality, and, next year, zinc and child mortality,"** says Dr. West.

Making a National Impact

With a project staff of more than 130 people and a trial population of almost 200,000, Dr. West notes the importance of these studies to the country. "It has become an enterprise that is a national resource that people look to for research findings that are relevant to child and maternal health and nutrition."

Enthusiastically, Dr. West describes what followed as a result of their research in Nepal. **"It's a great example of research to policy and action.** In the late 1970's there were sporadic reports of xerophthalmia in hospitals, then two national surveys showed xerophthalmia to be a problem. That led to interest and joint collaboration to answer the question of whether it had an effect on mortality. The findings of our study, along with those of a study in Jumla, Nepal, stimulated the national interests to create a prevention program that continues to be very successful."

The country developed a national plan of action for vitamin A deficiency prevention that was supported financially by USAID. His Majesty's Government, with

collaboration of nongovernmental organizations and the communities themselves, implemented the program.

It has evolved over the past six years so it now reaches almost the entire country and is saving approximately 25,000 child lives a year. "We could see the program unfold in the period of 20 years from nothing going on to it becoming what is considered one of the best national programs in the world," says Dr. West. "It's been very satisfying to be part of that."

"It was scary to have the Aceh work criticized after 1986 but, at the same time, it was invigorating and exciting to see trials start up around the world to either prove or disprove those findings and to see them come up one after another with an impact that was not the same, but consistent with what was found in Indonesia. It gives one a sense of relief and accomplishment when it turns out that a true biologic impact may have been revealed that can have tremendous effects on child survival."

Advocating and Persisting

Dr. West emphasizes the need for advocacy once the weight of evidence is convincing to the scientific community. **"You don't publish and then go on to something else. When you find something important, persistence is essential. You have a duty to advocate the findings and generate interest in wider circles."** He credits Dr. Alfred Sommer, his colleague and Dean of the Johns Hopkins School of Hygiene and Public health, with encouraging this philosophy. "One cannot work in this environment on these topics and not learn an incredible amount from him on how to keep an issue current, on the burner, and cooking until it's done!"

Dr. West puts it this way, "You address an important question and a population in need. You make a career commitment to solving problems that don't lend themselves to being solved in a short time. You persevere when you find a result. You advocate the research to have programmers pay attention and to have governments pay attention in their policy making and funding provision. All of these must go forward at the same time if the problem is to be solved."

According to Dr. West, it is not just the responsibility of one group of researchers to make this happen. "A research group can have some great findings but there must be a prevention network that gets infused with energy and enthusiasm. That network has to pick up the issues and press them across different sectors---research, private industry, government, NGO's, communities themselves. Without that kind of integration an issue, like vitamin A and child survival, can lose momentum. The worst thing for an issue is for it to be displaced on the agenda before it's solved."

When people ask Dr. West why there is such an exclusive interest with vitamin A for children, he answers this way: "We have a clear view of the consequences of vitamin A deficiency in early childhood and we are gaining a view of this for women in their reproductive years. **Everyone needs vitamin A but for public health initiatives we need to address the problem most vigorously in the age groups and life stages where the deficiency is most widespread and has the most serious health consequences. We must work most where we can have the greatest potential for benefit.**"

Garnering Financial Resources

While some in research today feel that there is less financial support available than in earlier times, Dr. West reports something different for vitamin A research. He believes that there are more sources of funds today for international health research than there were 20 years ago. "Today the environment is very different and it is much more exciting. Twenty years ago one of the goals for USAID-funded activities was to generate broad interest and funds so that meager resources could be leveraged to answer questions afflicting the poor. That's been really successful." He remarks on the benefit vitamin A research and programs have had from the particular increase in support from private industry and foundations. "This is exemplified by the long-term support of groups such as Task Force Sight and Life and more recently the substantial support from the Bill and Melinda Gates Foundation."

USAID support has been essential for micronutrient deficiency prevention research, and particularly for the fight against vitamin A deficiency, says Dr. West. **"USAID has been the principal funding agency that has been consistently there to help push the agenda forward.** The core research-vitamin A, child survival, and now maternal survival---couldn't have been done without the Agency's continuous support."

Collaborating Successfully

Dr. West cites the importance of sincerity when collaborating with colleagues in other countries. **"The research question is critical and a prime reason for launching a project but that scientific and public health question has to be posed and addressed within the political, social, and economic and cultural context of a country. If one ignores any of those contextual facets you stand a good chance to fail. It means that you tread lightly and with purpose and in as honest a way as possible throughout the entire collaboration."**

He also emphasizes the need for credibility. "Earning credibility right from the beginning, right from day one, right from the very first research project that one does,

is extremely important since everyone would like to work with people who are competent. You form a unique chemistry that encourages the reactions to occur that allow the work to go on."

All of this takes time and it is not uncommon to underestimate the amount of time required to begin a project or study, says Dr. West. He notes what has happened with a new trial currently in the start-up phase. "In Bangladesh, we're on the brink of starting a new 54,000 woman trial to confirm in a second population the impact of vitamin A or beta carotene supplementation on maternal mortality. It's taken two and a half years of discussions and meetings and negotiations. It's all been done in a collegial way but it just takes time because these trials are huge. There are all sorts of communities to meet with: the residents in the trial area and also political, social, and educational communities. Groups of scientists, technical review committees, and other institutions all need to be spoken with.

“Knowing how long it takes to get ready, when you are ready, when you must push back a start up, and how to keep the ball rolling through political and social turbulence that inevitably occurs--a lot of these lessons are not scientific. They're human relations. They're political. They're about working with diversity. They are human organizational issues that are no different when one starts up a massive project overseas or in your own country.”

Creating Opportunities

As he looks back over the first 25 years of his career, Dr. West says he probably would not do things differently if he had a chance to start over. "Everybody in international health has their own path to clear. It seems like very few clear it the same way in the same direction at the same time." Working as a United States Army dietitian and then as a nutritionist with the Irish NGO Concern in Bangladesh provided invaluable experience. But opportunity was critical in his own path and he believes you have to be ready to take opportunities when they arise. In his own case, a range of unique opportunities arose from choosing Johns Hopkins for graduate work and then joining its faculty.

Transformation of his own career continues. "I find myself growing in the area of opportunity creation. I appreciate the mentors that came before me and allowed me to be on the front line to do important work. As you go further in your career you see that somebody is setting up the opportunities for others to be creative and productive in science and public health. Then you realize that you have to spend more of your time creating opportunities for others to get that same experience that you were blessed with and exposed to. I'm still a scientist but I can now leverage what I've done

and expand important areas of work if I can engage, excite, and enthuse younger people to pick up that baton and run with it. That's exciting and challenging.

"As you get older you can reach deeper into other circles to inform and advocate the scientific evidence for the particular problem-in this case vitamin A deficiency prevention. You don't let up but persist in keeping those circles informed so that they can take up the issue in their own context and do something, for example, industry fortifying food or an NGO starting supplementation or dietary counseling or gardening. They won't do that unless the people who are generating the knowledge infuse the information into their context."

Dr. West tells the story of meeting Dr. Cicely Williams 20 years ago when she spoke at Johns Hopkins. Dr. Williams was credited with being the first to describe Kwashiorkor. In her view the public health researcher needs to be a jack of all trades, that is you have to be a little bit of everything in order to have an issue become important. At more than 80 years old, she had just finished an amazing presentation and discussion. Dr. West continues, "I went up to her because I had to say hello and she said, 'Oh, very nice, young man, and what do you do?' I said, 'I'm a nutritionist.' And she said, 'That's interesting. That's a start.'

"Her whole talk came alive to me. The theme was you have to go beyond one area of interest. **At the end of it all you are a concerned human being** but you start out as a nutritionist, or a biostatistician, or an epidemiologist and then you expand from there."

It's clear that Dr. West believes his own work is fulfilling and enriching. "This is serious work but it should be fun. If you don't find it enjoyable you're not in the right field. It doesn't mean that you don't spend lots of hours or have frustrations along the way, but at the core of it you need to enjoy it!"

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About the author:

The author and photographer for this article, Laurie Lindsay Aomari, has 21 years of professional seasoning as a registered dietitian. She has been a nutrition counselor, a radio show host, a trainer, a writer, an editor, a conference manager, and a world traveler. Ms. Aomari is now an entrepreneur with a focus on nutrition communications. Readers may know her from her many years of work with the IVACG Secretariat.

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