



Memo n°20: DAMIAN VERZENASSI

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Biography :

Prof. Dr. Damian Verzeñassi, Director of the Institute of Social and Environmental Health, Faculty of Medical Sciences at the National University of Rosario and Director of the School of Medicine at the National University of the Chaco Austral (Argentina).

My name is Damian Verzeñassi, I am a Doctor and Tenure Professor, through public competition, of the "Networks and Health Systems" Unit of the School of Medicine at the National University of the Chaco Austral (located in the province of Chaco, Argentina). In this University I am also Director of the School of Medicine.

I also work as a lecturer at the Faculty of Medical Sciences at the National University of Rosario, where in 2004 we created the subject Socio-environmental Health, offered in the third year of the medical degree (of which I am in charge) and since 2009 I have been in charge of the final practical component of the Medicine Degree (final stage of training a student must pass to gain a medicine degree). In this faculty, I am the Director of the Institute of Socio-Environmental Health, created in 2013.

Since December 2010, in the School of Medicine of the Faculty of Medical Sciences at the National University of Rosario, Argentina, we have put in place a final degree assessment component, called "Health Camp".

As part of this, (the final assessment that a student must pass to gain a medicine degree) we move the whole group of students to be assessed and the teaching staff to a town of about 10,000 inhabitants, or less, for five days.

This component includes various activities that the student must take to pass: epidemiological survey, monitoring the health of school children aged 4 to 12, workshops about health or disease prevention that are open to the community, and finally, reporting back to the community on what we found.

During the first two days, each student is assigned a block of houses, where all the inhabitants should be interviewed, using a prescribed form, with the aim of covering 100% of the houses.

Once this survey is completed, the responses from each house are uploaded to a computer system to analyse data and build a "Local Epidemiological Profile" (i.e., we build information about health problems and causes of death of the community in question, from the evidence given by the people themselves).

In technical terms, we conduct a "Diagnosis of Health Situation" with a "Sweep" methodology, using a semi-structured open-and-closed questionnaire designed to identify morbidity (illness) and causes of death reported by the community. The questionnaire does not have suggested answers to the questions regarding illnesses, with answers being noted down for each respondent. To avoid double registration of mortality and morbidity, respondents are told that the questions and answers are limited to household members who were living at the home at the time of death and, in the case of chronic diseases, at the time of the survey. NO surveys are taken of under 18s, and all those who respond are told they can stop the questionnaire at any time they wish.

Today we have 27 towns in Argentina, from 4 different provinces that have been studied. The total number of people living in these cities is 151,799, of which we have managed to obtain data from 96,874, which are those belonging to families who agreed to interviews, responded to us and thus allowed us to build a "Epidemiological profile "of each of the towns surveyed.

That is to say, we surveyed 63.82% of the total people in these 27 towns.

From this work, we have found that, contrary to what the statistics of the Ministry of Health say, there are diseases that are more prevalent in these towns than at national level.

Specifically, there are endocrine problems and mainly problems of the thyroid gland, which in our records is the second most frequent chronic disease, above non-insulin dependent diabetes (which is the second most frequent nationally).

Hypothyroidism, which people state as a health problem and in terms of medication consumed (which gives more strength to the first answer), is undoubtedly the second most frequent disease across all these towns.

We have also found that there has been an increase over recent years in allergic respiratory diseases, such as asthma or COPD (chronic obstructive pulmonary disease), there has been an increase in neurological disorders (people 65 or under 60, between 50 and 59 who already have Alzheimer or Parkinson's diseases – which usually appear at a much more advanced age). We are also seeing with great concern that cases are increasing of women who do not carry pregnancies to full-term, miscarry and suffer multiple miscarriages.

An example of the latter can be seen in the results of the towns of Acebal, Alcorta and Chabás (all of the Province of Santa Fe).

In the town of Acebal, in the period 1995-1999, for every 100 pregnancies 5.5 ended in miscarriages, while in the period 2000-2004 the rate was 2.56/100, in 2005-2009 it was 5.7/100 and the five-year period 2010-2014 were 7.7 miscarriages per 100 pregnancies.

In Alcorta, the increase of miscarriage rates per 100 pregnancies (for five years) is exponential between the five-year periods from 1995-1999 (6/100) 2000-2004 (3.8/100) 2005-2009 (7.5 /100) and 2010-2014 (22.5/100)

Chabás showed an increase in this rate too for the periods 1995-1999 (5.8/100) 2000-2004 (6.6/100) 2005-2009 (8.2/100) and 2010-2014 (11.5/100).

Another fact that caught our attention was an increase in congenital malformations.

Again taking the three locations mentioned as an example, the incidence rates of congenital malformations per thousand live births, is as follows:

Location	1995-1999	2000-2004	2005-2009	2010-2014
Alcorta	10.1 / 1000	6.1 / 1000	6.2 / 1000	7.6 / 1000
Chabás	No data	2.8 / 1000	5.7 / 1000	6.2 / 1000
Acebal	9.7 / 1000	8.8 / 1000	21.9 / 1000	17.9 / 1000

With respect to diseases such as cancer, lymphoma, leukaemia, we also find data that concerns us greatly.

While in Argentina (according to the Nation's Ministry of Health), in 2008 the annual incidence of cancer expressed in gross rates per 100,000 people was 206, our first 11 Health Camps produced an average rate of 368.2 per 100,000 inhabitants (with a range of 211.7/100,000 to 713.7/100,000), i.e. our average is 1.79 times higher than the national average.

Concerned with this fact, when we tried to graph the evolution over time of this incidence, (to see if these communities always had such high rates) we found that the incidence of cancer per 100,000 inhabitants, over five-year periods, in the localities we evaluated, have had sustained growth since the 1995-1999 five - year period, until today. New cancer diagnoses in the period 2007-2011 match and even exceed the sum of all cases diagnosed in the period 1997-2006 (always expressed in rates per 100,000 inhabitants).

The last comparison we made referred to official data from 2012 that gave Argentina an annual cancer incidence rate of 217 per 100,000 inhabitants (with an expected range of 172.3-242,9 / 100,000 population range) and we found that in 2013 the average annual incidence rate of cancer in localities where Health Camps visited that year is 397.4 / 100,000 inhabitants, i.e. 1.83 times more than the national average, and 1.63 times higher than the maximum expected for our country.

Due to the repeating patterns of these health problems, whose statistical movements occur similarly in most towns that we have studied, and seeing that the epidemiological the profiles we created in the communities do not match official statistics at national level, our concern was to identify other things (besides the epidemiological profiles identified) that these localities had in common.

Then a very strong point in common emerged: almost all of them (except one) in the last twenty years had been at the centre of areas for transgenic poison-dependent production.

This model of agro-industrial production was put in place in our country and in our region, radically altering lifestyles and ways of production and land management.

Where food had been produced before, where there were, for example, dairy farms because there were dairy cows, now there are pesticide-dependent transgenic plants. Where cattle used to pasture, walking the plains and eating the grass, now there are poison-dependent transgenic plants.

The short-sightedness of biotechnology transformed the territories where we did the Health Camps. We began to wonder if there could be some link between people's health problems and this change in the production model.

As this model depends on poisons, we looked for scientific literature that showed whether these poisons used for agro-industrial production of transgenics had any impact on biological systems, either on humans or mammals or other species, which could help explain the epidemiological profiles we found.

To our unpleasant surprise, we found there is literature, even since 1979, about some of the chemicals that are used in our territories, and in fact were presented to us as new technology (when it was not really new, the new GMOs was resistance to these poisons). These new chemicals were said to be much gentler than previous chemicals, when in fact we were lied to.

We were lied to because the classifications were changed, in an underhand way, a few years before filing the patents for these transgenics that are dependent or resistant to poisons. We were lied to because we were not told that there were already scientific papers from the 70s, specifically 1979, which document and demonstrate the association of being exposure to these chemicals, mainly glyphosate and its adjuvants, with the development of DNA changes and tumour cells.

We were lied to because we were told that these substances had a very low toxicological classification, when in fact, until 1986, the international toxicity classification agency, classified them as category III, and in the year 1993, three years before the transgenic "glyphosate surfactant resistant soybean " is patented, the classification changes mysteriously to a IV, and then in 2015 it had to admit that no, it was class IIA or even III as it was before. This information was already known to the industry and they refused it, hiding it, deliberately knowing what they were doing.

The scientific work of Professor Dr. Andres Carrasco (who would be here in my place had he not died two years ago), proved without doubt the mechanism by which the preparation of glyphosate and its adjuvants interferes in the regulation of retinoic acid, an essential element for the correct expression of the genes responsible for organogenesis of vertebrates. This great researcher also found references which showed that glyphosate, contrary to what the company Monsanto and Monsanto-funded laboratories said, if it reaches the placenta, can lead to difficulty in pregnancy for women exposed to this substance either directly to indirectly.

The work of Professor Seralini will be better explained by himself before the Court, so I shall limit myself to saying that this work undertaken has been and remains a reference for understanding the impact of chemistry and transgenics on our health. It is not only a great example of *Ciencia Digna*, but has become a beacon for all those who believe around the world that it is worth standing up for our convictions; despite the punches we take for it.

I will make the words of researcher Adolfo Maldonado my own: "Science is taking between 40 to 60 years to show how toxic pesticides are and always manages to prove it when there are other products that can replace the profits of the product banned. This is the case of DDT, Lindane, DBCP, endosulfan, ... the same with glyphosate. Today these products banned or severely questioned. From the outset they were announced as products with no negative effects for humans, but decades later showed their aggressiveness. "

It is true that, from the paradigms of Normal and Positivist Science, we cannot state categorically that glyphosate is the "cause" of damage to the health of communities that have been studied.

That is so absolutely true, that until today not one single study has been done to evaluate the cumulative impact on more than three generations of humans of the chemical released, among others and mainly by Monsanto (now Bayer). This was released exponentially in volume following the commercial introduction of genetically modified products to resist their poisons.

It is true that Positive Law requires the demonstration of the "causal relationship" between a noxa and its harmful effect to establish a "wilful or negligent" link. It is also true that since late last century there is evidence and scientific health models, which have broken to the linear logic of "cause and effect", and even the WHO understands today's health problems from the perspective of complex models of determination and conditioning of health and disease processes.

In Argentina, since the installation of the model of transgenic plants which are addicted to poison (in 1996), the area of agro-industrial production grew by 50%, while

the use of poisons for the agricultural industry grew by 848% according to official data. This increase is excessive. It has no relation to anything ...

Sorry, I was wrong, it does have a relation to something: increasing health problems of people exposed to them as we have demonstrated with our Health Camps as part of the social commitment that those of us feel as health and health education workers. We must be at the service of the people, not companies, corporations or governments.

Because the health of humans is intrinsically linked to that of each form of life and material structures of this planet. Because the health of human beings and Mother Earth is One Single Health.

We are the result of a permanent dialogue of over 15 billion years between the different structures that make up matter in the universe, which is being organized and moving over time, which is a dimension that today we are forgetting about and which I think we need to rediscover: the TIME dimension, which is what allows evolution to be, and for us to be. Along with the other dimension which seems to be forgotten or denied by a part of science, which is DIVERSITY.

Monsanto is part of a complex corporate architecture that has managed to thrive in this world through a strategy of dispossession, elimination of Diversity, the "burning" of Time, altering the entire fabric of life on this planet.

That is why we are saying today that the chemical industry, the biotechnology industry led by MONSANTO (now Bayer) is responsible for the ecocide that we are witnessing today in this, our only home, where we belong and which is looking at us, like a Mother to her children, hoping we react in time so that Life, as we know it, remains possible.

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