

Dimensions of Truth in Cardiology Consultation

Las dimensiones de la verdad en la consulta cardiológica

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The clinical practice of consultation requires an interpretation of the conditions reported by the patients, their diagnostic characterization, eventual therapeutic indications and an explanation of what can be expected and what should be done. My intention is to propose a reflection on the dimensions of truth in each of these steps of the consultation and to what extent each of them is guided by a solid scientific support that legitimizes our practice.

How close can we get to the truth about the real suffering of patients? I report a case. An 83-year-old female patient, whom I have been treating for many years for easily controlled high blood pressure, referred to me multiple recent symptoms: dyspnea on exertion, nocturnal palpitations, and frequent sighs.

- Do I have an enlarged heart? At my age there are many people who have enlarged hearts. With my age and all that happens to me, it seems to me that something is going to happen to me, I have little life left.

From a phrase from her husband present at the consultation, she hinted that he suffers from cognitive problems, an initial Alzheimer.

I examined her, initially ruling out cardiac problems that would explain her symptoms, and I was encouraged to say:

- I am not a psychoanalyst, but it seems to me that all these comments about an enlarged heart, the arrhythmias, the sighs, the fear of death, perhaps hide the desire to get sick and not have to suffer what you see as a nightmarish future.

Table. Dimensions and questions about the truth in the doctor's office

- About the real suffering of my patients
- About the disease that I can diagnose
- About the benefits that my treatments or recommendations will exert
- About what we communicate about the disease and the future scenario

- Don't think I haven't thought about it, doctor.

The fear of death is a frequent reference in cardiology consultations. The book *Staring at the Sun* by Irvin Yalom, (1) a psychotherapist with experience in terminally ill patients, proposes this metaphor about thinking of death: you can stare at the sun for brief moments, but holding your gaze burns your eyes. The main conclusion of the book is that this fear indicates a lack of perspective of personal developments, a scenario in which it is difficult to imagine future pleasant contexts, as reflected in this patient.

This is a close-up of the truth, the relationship between the symptom and an eventual disease that must be distinguished from what we could call life ailments, symptoms that inform us of particular emotional moments. A very arduous task in the cardiology office, both in healthy people and in patients with known diseases. Thus, a patient who underwent heart surgery can also consult for pain, palpitations or dyspnea, and we must explore what is really happening in his/her life.

About the disease that I can diagnose

This field is closer to the "scientific truth", with the help of diagnostic methods, a relevant part of cardiology science. We know their sensitivity, specificity and predictive value, and we apply them on a daily basis. In Figure 1 we exemplify an excellent method, with 90% sensitivity and specificity, applied in a check-up to an asymptomatic person (1% prevalence). When it is positive, most people are healthy, they are false positives.

Here lies the clinical capacity to listen and define symptoms and risk, to detect candidates for studies in which they yield the best benefit, and in the common uselessness of indiscriminate check-ups applied to healthy people. When we start from a suspected probability of 40% with the same method, most of the positives are true and false positives are greatly reduced.

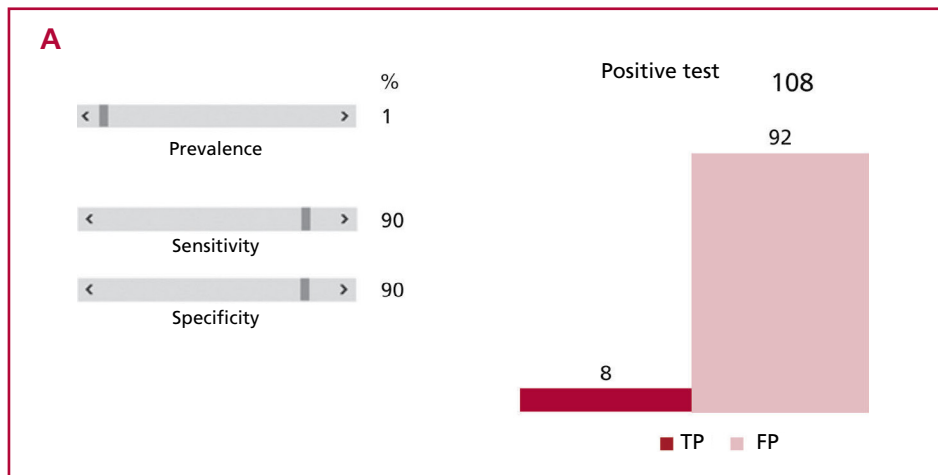
This selection is essential; it implies approaching the disease through the symptom and the epidemiological context. The complexity is even greater; the disease does not always justify the symptom: patients

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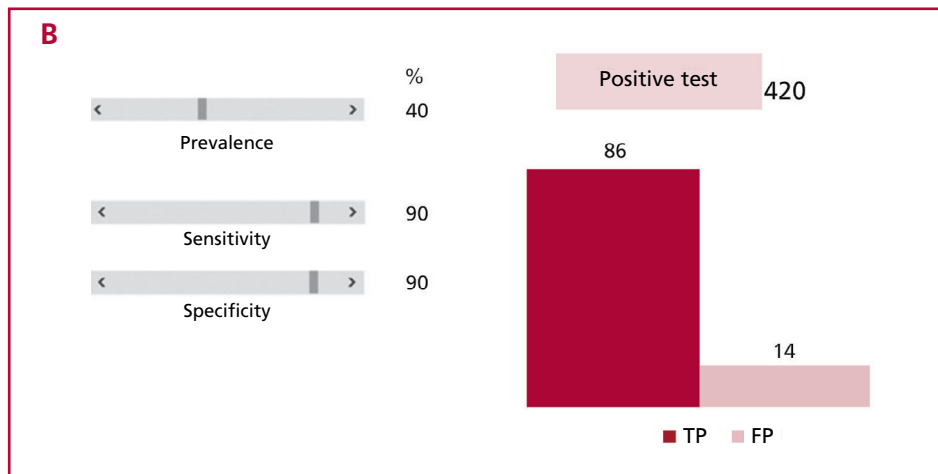
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TP: true positive. FP: false positive.



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Fig. 1. 1A. In a population of 1000 people with a low prevalence of disease (1%), a method with 90% sensitivity and specificity, when it is positive, results in a rate of 8% true positives and 92% false positives. **1B.** The same method applied to a population of 1000 people with a disease prevalence of 40%, when it is positive, raises the rate of true positives to 86% and the rate of false positives to 14%.

with coronary heart disease have chest pain from any other cause. Or an elderly person with aortic stenosis who is breathless when climbing a flight of stairs, but perhaps due to lack of exercise the dyspnea is not related to the disease, with the serious implications the symptoms have that could lead to a surgical indication.

As a summary, these first two reflections on true diagnoses and the level of truth that we can achieve through careful listening and diagnostic methods show us a very complex task, which requires distinguishing the ailments of life from a serious symptom, where a mistake can be catastrophic. It is possibly the most relevant role of clinical experience.

About the benefits that my treatments or recommendations will exert

There is solid scientific data to decide treatments in different clinical contexts, the powerful arsenal of evidence-based medicine. Large clinical trials are in many scenarios undisputed scientific evidence that leads us to a more comfortable perspective that is ap-

proached with confidence. As explained in Figure 2, with the same degree of conviction as Tulp in body mechanics and clockwork, we trust the probabilistic approach and the significant p-value for therapeutic evaluation. (2)

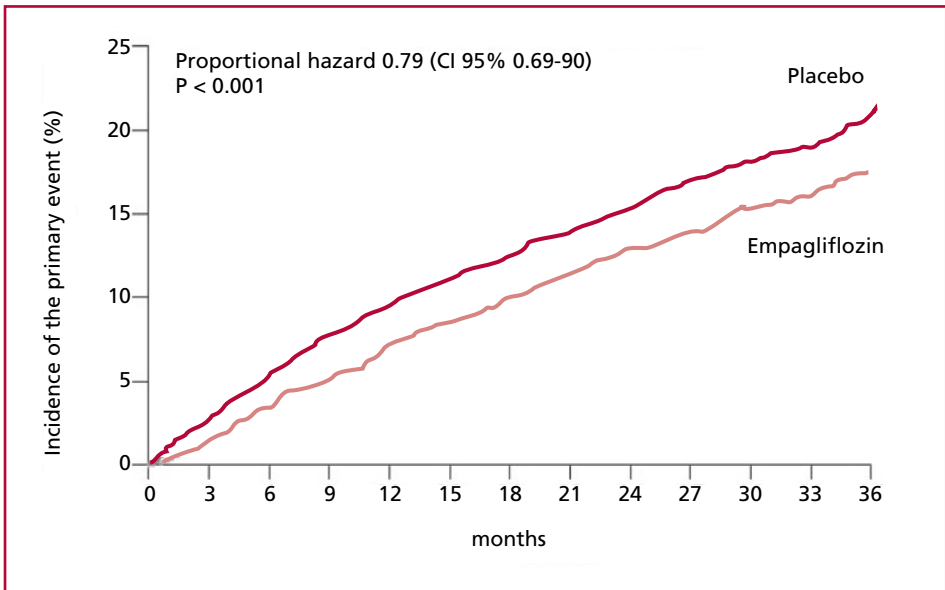
As an example, we will consider the EMPEROR-Preserved study (3) (Figure 3) which reduced the composite event by 21%, with a highly significant p. This finding guarantees us that empagliflozin is better than placebo, and we feel confident with its indication. How do we interpret this information for decision-making in the individual patient? In the first place, the benefit in a large study will be reflected in the guidelines as an indication with Class I recommendation, so we start from a strong conviction of its usefulness.

Evidence-based medicine has been of great importance in the professional life of a cardiologist my age. In my first years of residence, after an uncomplicated heart attack, a patient was discharged with recommendations for rest and diet, without any additional treatment. Today patients are discharged with at least four medications that reduce mortality by 80% and

Fig. 2. Rembrandt's painting, Doctor Tulp's Anatomy Lesson. Dr. Tulp pulls an arm tendon with the forceps and with his left hand he moves the finger. The message is clear: I understand the mechanics of the human body, I know that pulling this tendon will move this finger. We added our new conviction at the p level.



Fig. 3. EMPEROR study. Empagliflozin in heart failure with preserved systolic function. A reduction in the cumulative incidence of major events is observed with a highly significant p. The incidence of the event was 13.8% vs. 17.1% in favor of the drug.



prolong life for many years, (4) and we clearly perceive this improvement in the outcome of our patients.

But even with this strength of evidence, the problem is the dimension of truth to apply to an individual patient.

The empagliflozin trial lowered the incidence of the main event from 17.1 to 13.8%, an absolute reduction of 3.3% compared with placebo, a highly statistically significant reduction. What does this reduction mean in terms of what we now call population medicine? If 100 people with this disease consulted us, 17 would be hospitalized or have cardiovascular death in the next 26 months, and when we applied empagliflozin

we would reduce this risk to 14.

It is clear that 97 of those 100 patients who consulted us will not change their outcome with the treatment. No complications will occur in 83 patients, 14 will develop complications despite the treatment and we will change the course of 3. (Figure 4)

Does that give us authority to say that we should prescribe empagliflozin to all patients with this same problem? Is this true? The Handbook of the Philosophy of Medicine, (5) dedicates a juicy chapter to evidence-based medicine. I will only take the epistemological critique regarding the validity of our demonstration of the truth and its application to the individual patient.

Do clinical trials, on which evidence-based medicine stands, prove causality? We believe so, without any doubt. In other words, if we evaluate a comparative treatment in two groups, and the two groups are the same except for the treatment and this is associated with lower mortality, this effect is causal.

A first objection that is raised is that causality does not prove a mechanism. We know that aspirin administered in the first hours of an infarct reduces mortality, but we do not know why it does so, or whether we can extend this beneficial effect to other drugs with similar mechanisms. But a more complex and relevant aspect is whether the evidence from a controlled trial can assure me that if I prescribe this treatment to a patient, it will be beneficial for him.

With the same conceptual line, the philosopher Nancy Cartwright published in *The Lancet* a critique of the truth of randomized clinical trials. (6) She claims that the logic of clinical trials assumes a first premise, that the probabilistic effect in favor of a treatment requires a causal explanation. That is, if I reduce mortality probabilistically, that is caused by the intervention. Why? Because the second premise tells us that the out-of-treatment parameters are the same, since the treatment assignment was random and the groups were equal. The only possible logical explanation for the result of the treatment is the change of outcome in some members of the group. This is very clear. But this statement brings us a great difficulty: it changed the outcome of the group by changing the outcome of some of its members.

How do we translate this knowledge that a proven treatment in the final result of a clinical trial is proof that it will cause this result in our patient? The result of the trial is only part of an evidentiary argument.

We can tell the patient: this drug empagliflozin is very good; I'm going to indicate it to you because it is generally beneficial for the health, but it doesn't do anything to some and it is probably harmful for others. We do not have a hard truth in that regard. We start from an argumentative basis for decision making, but it is very difficult to go from these probabilistic results supported by clinical trials to the detailed and particular knowledge that we require in the clinical context for an individual person.

We know that it is feasible to reproduce these positive results in some of our patients. Could we step up and try to identify those participants who will benefit? What methods do we have?

From subgroup analysis to precision medicine

One tool is subgroup analysis. In the empagliflozin study, it was observed that patients with left ventricular ejection fraction more than 60% and those under 70 years of age obtained less benefit than the others. But this observation arouses immediate mistrust in us, at least in cardiologists of my generation, due to the memory of the ISIS II study. (7) *The Lancet* required them to publish effects on subgroups, and researchers who did not wish to do so introduced a misleading analysis. Aspirin lowered mortality by 20% in the general population; grouped according to the zodiac signs, Gemini and Libra patients had a 9% increase in mortality and patients with other zodiac signs had a 28% reduction. (8) The message was very clear: it is fun to analyze subgroups, but do not believe what it looks like, it is almost always fictitious. This knowledge left us with a positive methodological mark, not believing or mistrusting the subgroups, but on the other hand it increased our uncertainty because each

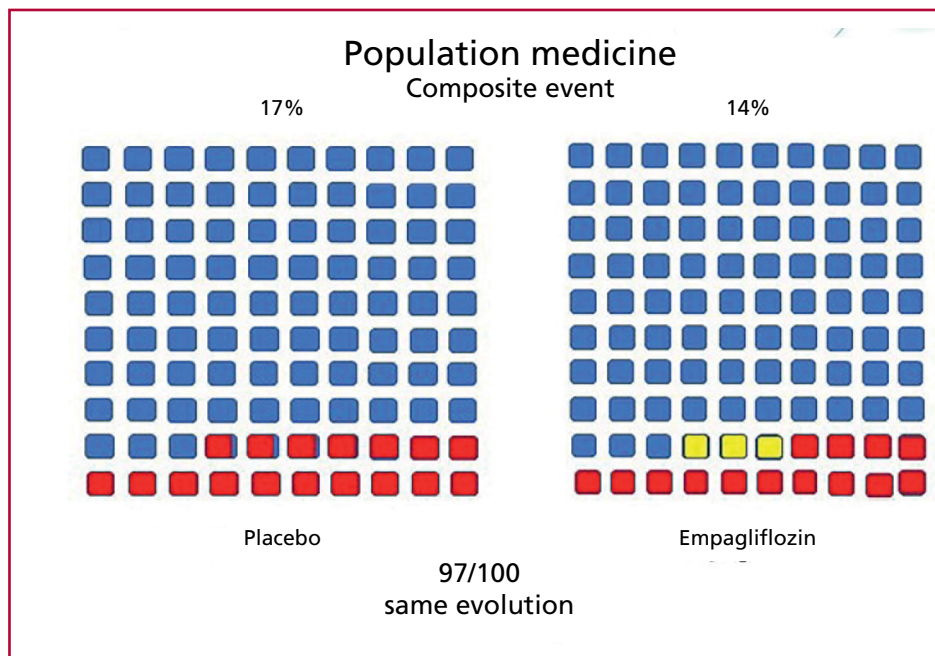


Fig. 4. Conceptual diagram of the impact of population medicine. On the left, in the placebo group, 100 patients are represented, 83 with blue boxes that will not undergo hospitalization or cardiovascular death, and 17 with red boxes, who will have this composite event. On the right, the three patients who modified their course with empagliflozin and avoided the event are seen with yellow boxes.

patient has a particular age, gender and history, that is, each patient belongs to certain subgroups.

In an analysis scheme on the sources of evidence in relation to the individual case, Upshur (9) proposed dividing into qualitative aspects that require what we call medical humanism, the quantitative population aspects, which can be sustained on evidence-based medicine, and the quantitative personal ones, which we could identify today with precision medicine (Figure 5).

Could we build precision medicine in cardiology? (10) This approach tends to recognize that we can resort to immense information in the individual case, from the genome, transcriptome, proteome, metabolome, exposome, concentrate millions of data, do stratified analyses and conclude that aspirin will be beneficial for this person.

The application of genetic markers has had an important development in oncology, since they condition the natural evolution and responses to treatments. In cardiology the development is lower and for now without any practical application. (11) An implicit limitation is the magnitude of the information: in order to process, analyze and decide with this future approach, we will need another way of practicing medicine, supported by artificial intelligence or even robotic medicine. The analysis of this magnitude of information for the individual case is beyond the reach of our brain.

To summarize this third reflective step on the truth in the office in front of an individual case, evidence-based medicine gives us confidence to adopt behaviors, scientific truths that are population and general truths. But there is a limited amount of evidence for many more problems that are not studied, and in turn we have the limitation that we practice popula-

tion medicine; we do not know what will happen to this person with this new treatment.

Here I allow myself a small digression on the recommendations that I try to avoid in the office. It is common that after a heart attack the patient is told: from now on you have to eat without salt, eat less fat, change your diet; if you have low vitamin D you should receive a supplement and you have to lose those extra kilos even if you are not obese. Since each one lacks evidence or has evidence against it, I do not make these recommendations; at least I prefer not to tell lies or add unnecessary care.

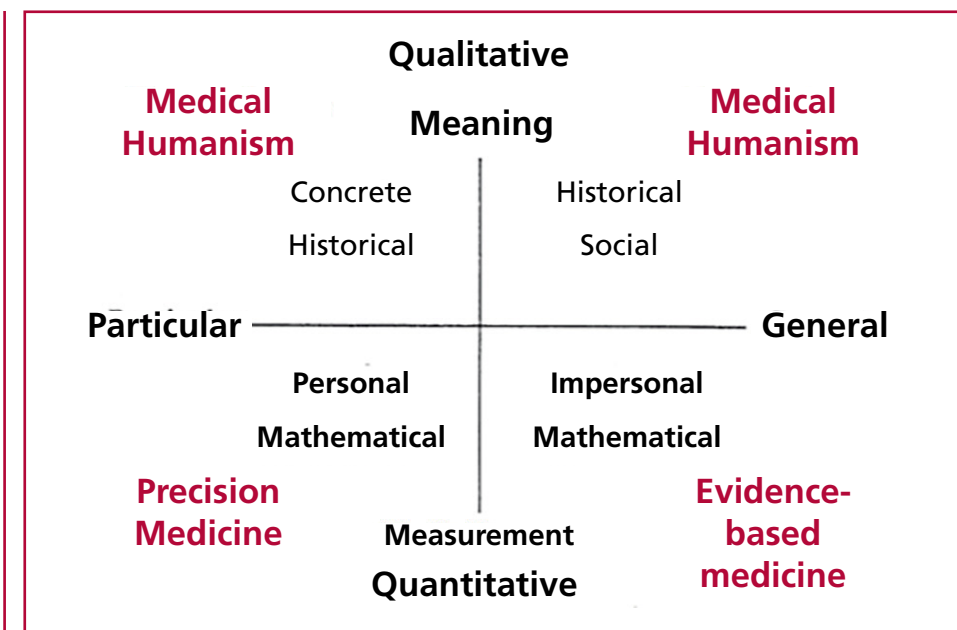
About what we communicate concerning the disease and the future scenario

This last reflection is aimed at exploring the dimension of the truth of what we communicate about the disease and future prospects. We are entering a different terrain, that of discourses and metaphors. Lakoff and other authors brought a revolutionary change in the understanding of metaphors as essential resources of thought. (12) We cannot think about complex aspects of life without metaphors, and what is most exciting is the definition that “we inhabit our metaphors”. As an example, we can ask ourselves what medicine is and what are we doctors: Artists? Priests? Warriors against disease? Mechanics that repair malfunctioning organs?

If I inhabit the metaphor of medicine as art, I live the relationship with patients in that way. As an exaggeration, I am the artist and the patient is a canvas on which I paint my work. We inhabit different metaphors as ways of dealing with the relationship with patients and relatives from a medical perspective.

What role does the metaphor play? It allows us to understand one aspect of one domain through a dif-

Fig. 5. Dimensions of the sources of evidence. Upshur (9).



ferent domain. If I state that *the paths of life take us here or there, that this journey that we have begun together will take us wherever it leads*, I describe life as a journey. I use the conceptual metaphor *life is a journey* through multiple expressions. When I inhabit the metaphor of *life is a journey*, just as when I selected to inhabit medicine with the metaphor of the artist, correspondences are generated that stick from one domain to another. If life is a journey, it has meaning, destiny, speed, obstacles, risks, crossroads. Anything that a journey has can be referred to as a metaphor of life. But life cannot be summarized only as a journey, it can admit many other metaphors, which is usual for complex subjects.

Metaphors are very relevant to interpret the patient's story and communication, to recognize how he explains his condition, his illness and his future scenario.

In turn, metaphors are a very relevant resource for medical rhetoric, that is, the discourses that we elaborate a priori, or often improvise, in order to address the questions and concerns of patients and family members.

It is a challenge to become aware of the possibility of building more appropriate metaphors to explain diseases and treatments, which contribute to generating a more pleasant life and better adherence.

I am going to read you a brief story from a book by Juan Forn, *I will remember for you*. (13)

"He came to see doctors for an ailment that did not leave him. It was a terminal cancer, but no one dared to tell him. They had admitted him to Hospital de Clínicas with an outpatient permit, while they made him believe that they were submitting him to studies and preparing him for an operation. One day wandering through the basement of the hospital, Horacio Quiroga found a patient named Batistessa. They had him hidden there because of his physical appearance, caused by a neurofibromatosis known as elephantiasis. Quiroga demanded that Batistessa be taken out of the basement and transferred to his room, and in idle hours he told him stories of the jungle. One day Batistessa heard the doctors talking and went to tell Quiroga that the supposed operation they had promised him was actually a simple and painful postponement of death. Quiroga said that he was going for a walk, went to a hardware store to buy cyanide, returned to the hospital, mixed the powder in a glass with whiskey and swallowed it."

Tell the truth.

In medical ethics it implies the moral duty to be honest with patients about health conditions, medications, procedures and risks, and this can often be unpleasant, but it is usually necessary.

How do we say it's true? How do we raise it? How do we empathize with patients?

What is the future scenario that we project to the patient and his family?

Everything we communicate about the disease and

the future scenario must be true. Hiding implies a metaphor for the horrendous, the ineffable, what cannot be said or spoken. It is counterfactual, but they could have informed Horacio Quiroga better, helped him to a better death or perhaps a last story that would have brightened our lives.

How do we cultivate this subject? One possibility is to generate metaphorical scenarios through research. The metaphor menu for people living with cancer is a contribution from linguists that proposes 17 metaphorical scenarios as opposed to the usual metaphor of the war against cancer. (14)

We can choose from the menu a metaphor according to what we perceive in the patients. Living with cancer can be a stone in your shoe: you will have a stone all the time that will bother you, but it will not prevent you from walking. Or a difficult path, with obstacles, slopes, crossroads and deviations. Or a roller coaster: you will have a moment of chemotherapy or perhaps surgery, have dizzying ups and downs, but we will always be here waiting for you to give you a hand.

These are possible metaphors in cancer communication. We have a lot of evidence in everyday medicine about the power of language and narrative to heal, but it can also harm. (15) Words and metaphors are more prone to harm when we do not have narrative competence, when we say it wrong. I had the evil of collecting some medical verbal abuse, (16) hundreds of terrifying phrases that all doctors say, unfortunately, including myself.

How do we acquire narrative competence?

The first step is to approach the subject with humility, recognizing that we have deficiencies in this sense, and supplying them with training in reading, writing, and group reflection workshops. With a group of colleagues in July 2022 we founded the Society for Narrative Medicine and we are hopeful that it will grow as a discipline in the coming years. (17)

What is the truth and what is the source of legitimacy of medical practice?

Throughout the article I referred to the truth, without trying to define it. It is a key question of philosophical thought. We can resort to one of Aristotle's definitions: "*to say of what is that it is not, or of what is not that it is, is false. To say of what is that it is and of what is not that it is not, is true.*" The truth is a correspondence between what we say and an objective reality that we know. The conception of truth has had an infinite number of questions and approaches. One of Nietzsche's famous phrases there are no facts, only interpretations accompanies the synthesis that Darío Sztajnszrajber makes of his conception: *What is truth? The most efficient lie*. (18) Truth is thus a cultural, temporary and relative construction.

As a final thought

It is not easy to reach a firm conviction about our access to the truth in the four dimensions raised with

the limitations that I have tried to point out, to which is added the great philosophical complexity of the subject. In the consultation practice, we try to find the truth and thus reach the most solid scenario, but we go through slippery terrain, from the uncertainty in the interpretation of the symptoms, in the indications, in the interpretation of the patients' speech and in the elaboration of our medical rhetoric. This fragility may question whether we practice true and valuable medicine.

I will resort to the help of another contemporary philosopher, Fredriksen, (19) who in his article *Diseases are Invisible*, explains that medicine is not a positive science, based on unquestionable facts, but rather a normative science, a practice with values. *Values such as care, compassion and solidarity guide and legitimize medicine, not precision or truth as such.*

I move on to a last metaphorical scenario, medicine for Pérez Tamayo, which is the one I try to inhabit. (20) *Medicine is a space for the encounter between a being that suffers and another that tries to alleviate it.* This relief comes from a practice with the greatest dimension of scientific and technical truth, based on the values of care, compassion and solidarity that legitimize it.

Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web/Additional material.)

REFERENCES

1. Yalom I. Mirar al sol. Editorial Destino.2021
2. Rembrandt . Lección de anatomía del Dr. Nicolaes Tulp. 1632. La Haya.
3. Anker SD, Butler J, Filippatos G, Ferreira JP, Bocchi E et al. EMPEROR-Preserved Trial Investigators. Empagliflozin in Heart Failure with a Preserved Ejection Fraction. *N Engl J Med* 2021;385:1451-61. <https://doi.org/10.1056/NEJMoa2107038>
4. Yusuf S. Two decades of progress in preventing vascular disease. *Lancet* 2002;360:2-3. [https://doi.org/10.1016/S0140-6736\(02\)09358-3](https://doi.org/10.1016/S0140-6736(02)09358-3)
5. Rogers W, Hutchison K. Evidence-Based Medicine in Theory and Practice: Epistemological and Normative Issues. 851-872. En Schramme T, Edwards S. Handbook of the philosophy of medicine. Springer. 2017. https://doi.org/10.1007/978-94-017-8688-1_40
6. Cartwright N. A philosopher's view of the long road from RCTs to effectiveness. *Lancet* 2011;377:1400-1. [https://doi.org/10.1016/S0140-6736\(11\)60563-1](https://doi.org/10.1016/S0140-6736(11)60563-1)
7. Randomised trial of intravenous streptokinase, oral aspirin, both, or neither among 17,187 cases of suspected acute myocardial infarction: ISIS-2. ISIS-2 (Second International Study of Infarct Survival) Collaborative Group. *Lancet* 1988;2:349-60. [https://doi.org/10.1016/S0140-6736\(88\)92833-4](https://doi.org/10.1016/S0140-6736(88)92833-4)
8. Sleight P. Subgroup analyses in clinical trials: fun to look at- but don't believe them! *Current Control Trial Cardiovasc Med* 2000;1:25-7. <https://doi.org/10.1186/CVM-1-1-025>
9. Upshur RE. If not evidence, then what? Or does medicine really need a base? *J Eval Clin Pract* 2002;8:113-9. <https://doi.org/10.1046/j.1365-2753.2002.00356.x>
10. Tajer C. Medicina de precisión o medicina personalizada en Cardiología. ¿Utopías o distopías? 31-42. En Doval H, Tajer C. Evidencias en Cardiología. Ediciones GEDIC. 2019
11. Antman E, Loscalzo J. Precision medicine in Cardiology. *Nature Reviews Cardiology* 2016;13:591-602. <https://doi.org/10.1038/nrcardio.2016.101>
12. Lakoff F, Johnson M. Metáforas de la vida cotidiana. Ediciones Cátedra. 2005.
13. Forn J. Yo recordaré por ustedes. Emecé. 2021.
14. Semino EA. Metaphor menu for people living with cancer. *Lancaster University*
15. Coulehan J. Metaphor and Medicine: Narrative in Clinical Practice. *Yale Journal of Biology and Medicine* 2003;76: 87-95.
16. Tajer C. Maltratos verbales médicos. <https://www.intramed.net/contenido.asp?contenido=86545>
17. Página de la Sociedad Argentina de Medicina Narrativa. <https://socmedicinanarrativa.wixsite.com/site>
18. Sztajnszrajber D. La filosofía en 11 frases. Editorial Paidós.2014.
19. Fredriksen S. Diseases are invisible. *J Med Ethics: Medical Humanities* 2002;28:71-73. <https://doi.org/10.1136/mh.28.2.71>
20. Perez Tamayo R. Serendipia: ensayos sobre ciencia, medicina y otros sueños, Siglo XXI Editores. 1980