

## EDITORIAL

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# Population changes in Peru in the 21st century and repercussions on sexual and reproductive health

## Cambios poblacionales en el Perú del siglo XXI y repercusiones en la salud sexual y reproductiva

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The National Academy of Medicine recently convened a Symposium on Population Changes in the World and in Peru: their impact on Public Health, with the participation of two Peruvian medical colleagues and four panelists, including the author of this editorial.

There is no doubt that current population changes and those that will continue with greater frequency in the coming years will affect individual health conditions and public health. At the same time, there are innovations in science and technology that will contribute to modify health conditions.

Variations in populations will depend on the fertility of women, mortality and migration. According to Mac Farlane, in his book *Global population and reproductive health*, the human species has probably inhabited the world for 200,000 years. The world population at the time of Jesus Christ was barely 200 million, to which approximately 300,000 were added each year. In the 17th century, the Black Death struck the world and caused a significant population decline. However, the industrial revolution of the 19th century brought the world's population to 1 billion, and by the 1920s it had grown to 2 billion. Since then, population growth has accelerated<sup>(1)</sup>.

If we review the United Nations book on *Global Growth and Sustainable Development*, we can read that the world's population in the mid-20th century stood at 2.5 billion and tripled to 7.9 billion by the year 2021. It is expected to reach 11 billion by 2100, at which point it will stabilize. This phenomenon is a consequence of increased longevity and the high level of fertility evident in many countries<sup>(2,3)</sup>.

However, population growth began to slow down after 1970 due to lower fertility rates in many countries, particularly in high-income countries. The demographic transition had begun<sup>(2)</sup>.

Population growth in Peru has followed the pattern of developing countries since the mid-20th century. Currently, the Peruvian population is around 33 million inhabitants, mostly concentrated on the Peruvian coast. According to the 2010 Peruvian Demographic and Family Health Survey (DFHS), the evolution of the total fertility rate (TFR) from 1988, when it was 4.3, varied to 4.5 in 1991-1992, dropped to 3.5 in 1996, continued at 2.9 in 2000 and reached 2.5 in 2010<sup>(4)</sup>. The latest DFHS of 2022 and 2023<sup>(5)</sup> find a TFR of 1.8 that modifies the population pyramid with a narrowing base of young people, a higher proportion of adults and



an increase in older adults, which will create new social, economic and social needs. This is not only a consequence of the use of contraceptives, but also of women's integration into professional life and the labor force, a progressive empowerment that contributes to changes in sexual and reproductive function, delay of the first pregnancy, limitation of pregnancies, increasing longevity and changes in family and social life<sup>(6-8)</sup>. It is a demographic transition that poses new challenges to our profession.

Gynecology and obstetrics is a medical discipline that cares for women's health and genital disorders, as well as care during pregnancy, childbirth and the postpartum period<sup>(3)</sup>. It is no stranger to changes in sexual and reproductive health care (SRH), which has been clearly identified and defined as an individual right since the World Population Conference in Cairo in 1994<sup>(9)</sup> and the Fourth International Conference on Women in Beijing in 1995<sup>(10)</sup>. The late Dr. Mamhoud Fathalla, former president of FIGO, proposed in 1997 to call it 'women's health'<sup>(11)</sup>.

The specialty of obstetrics and gynecology has evolved rapidly over the past few decades. After the development of perinatology as a subspecialty from the middle of the last century, fetal medicine and surgery has recently been added, which cares for the health of the fetus from the very early stages of pregnancy through technological advances in diagnosis and treatment<sup>(12)</sup>.

The specialty also addresses sexual and reproductive health of adolescents, with information, education and services to prevent, detect and manage genital tract infections, violence against young girls, and unwanted pregnancy at an early age. To this end, professionals must have a holistic and non-ideological vision of adolescent health. Likewise, the obstetrician-gynecologist (OG) helps women and men with infertility problems, which are becoming more common, gender-based violence against women, abortion, health, harmful habits and chronic diseases in adulthood, menopause and aging and mental health alterations. For these stages, the OG should apply person-centered health care with adherence to evidence-based medicine (EBM), humanism, biopsychosocial vision and ethics. These challenges require physicians to be prepared to meet them<sup>(3,13)</sup>.

The aforementioned changes in the population encourage women to become more involved in the workforce, which delays pregnancy and exposes them to more complications of pregnancy and childbirth, more comorbidities, a greater number of cesarean sections (which are already high)<sup>(14-16)</sup> and their risks, which determine the early detection and treatment of cases of extreme maternal morbidity to avoid maternal deaths<sup>(17,18)</sup>.

The delay in the childbearing age also entails the need for medically assisted reproduction, which is now highly effective, but with a high rate of complications<sup>(6-8)</sup>. The current low fertility rate of 1.8 in Peru will have economic and social repercussions beyond a change in the population pyramid.

New eating habits and the consumption of junk food will change the health situation of women. Obesity is known to be associated with reproductive dysfunction and higher rates of pregnancy, childbirth and neonatal complications<sup>(2,19,20)</sup>.

Climate change due to population density and the emission of greenhouse gases from the use of fossil fuels will also have adverse effects<sup>(2,19,21)</sup>. A recent study in the region of Piura, on the northern coast of Peru, finds the effect of lower birth weight in pregnant women exposed to high temperatures<sup>(22)</sup>.

Massive migrations, such as the recent migration of Venezuelan women, exacerbate health conditions. A recent study shows that the reproductive health problems of these women are greater due to the lack of migration regulation, lack of insurance and limited income. These women suffer from genital infections, lack of detection of gynecological and breast cancers, and difficulties in accessing contraceptive methods<sup>(23)</sup>. As with other migrations, tuberculosis, HIV, hepatitis B and C, and the risk of lack of medical care have been documented<sup>(24)</sup>.

A latent danger in current and future populations is epidemics and pandemics. We already have the experience of COVID 19, whose prolonged form in a significant number of people leaves traces in many organs and systems, including the nervous system<sup>(25)</sup>. We also have endemic dengue and the threat of MPox. New viruses may emerge, for which we must be prepared.



Artificial intelligence (AI) and its application in GO deserve special mention. In gynecology it can be very useful, because it helps to take anamnesis and conveniently perform clinical examination, interpretation of images and laboratory tests, early detection of gynecological diseases, as well as providing bibliographic information for diagnosis, treatment and prevention. It has a definite application in infertility to improve the results of assisted reproduction. In obstetrics it may be useful in pregnancy monitoring, image interpretation, genetic studies and guidance of interventions. Of course, AI has ethical limitations and could affect the SRR, which is why it requires reflection before it can be used in our medical field<sup>(26,27)</sup>.

Violence against women is part of the family and social violence experienced by our population. Gender violence is a product of power differentials between men and women and affects the physical, mental and sexual health of those who suffer it<sup>(28)</sup>. From civil society, the Ministry of Women's Affairs and the Ombudsman's Office also report on obstetric violence that occurs in maternity services; this issue is not yet accepted in medical institutions<sup>(29,30)</sup>. The OG should be interested in being adequately prepared on violence against women, the pathology that occurs most frequently in their specialty, particularly in girls and adolescents.

In our opinion, the greatest violence against women is maternal death, defined as that which occurs during pregnancy, childbirth and up to 42 days postpartum. It is a debt that the country owes and that still affects us, despite all the interventions that have been carried out; the country is committed to achieving this, one of the goals of the Sustainable Development Goals. Technology will contribute little to solving this problem if it is not accompanied by professional attitudes and evidence-based interventions and obstetric care with full respect for sexual and reproductive rights and ethical principles<sup>(31)</sup>.

Finally, in order to comply with the Code of Ethics of the Peruvian Medical Association, which defines medicine as a scientific and humanistic profession, in the face of the changes that are occurring today and that will continue to deepen, our claim is the application of a biopsychosocial model to understand the reality of the human being. This means applying person-centered medicine to obstetric and gynecologic care, for

which the Flexnerian model in medical education must be modified and the model of health services must be changed by strengthening the first level of care<sup>(3,32,33)</sup>.

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