Acta Scientific Women's Health (ISSN: 2582-3205)

Volume 8 Issue 5 May 2026

Editorial

Adolescent Pregnancy as a Topic of Exceptional Importance for Public Health in DOHaD Paradigm

Viktor I Goudochnikov*

Member of ISOAD and LA-DOHaD, PhD in Biochemistry, Santa Maria – RS, Brazil

***Corresponding Author:** Viktor I Goudochnikov, Member of ISOAD and LA-DOHaD, PhD in Biochemistry, Santa Maria – RS, Brazil.

Received: April 09, 2026

Published: April 29, 2026

© All rights are reserved by **Viktor I Goudochnikov.**

Abbreviations

LA-DOHaD: Latin-American Chapter of International Society for Developmental Origins of Health and Disease; ISOAD: International Society on Aging and Disease; PhD: Philosophy Doctor, RS: Rio Grande do Sul, HPA: Hypothalamo-Pituitary-Adrenal (axis); SES: Socio-Economic Status; HIV: Human Immunodeficiency Vírus; AIDS: Acquired Immunodeficiency Syndrome.

This short Editorial serves as continuation of our previous communications in the same journal, especially of two earlier Editorials [1,2]. In fact, after observing higher morbidity from anemias in the whole fertile period for women [3], we tried to differentiate in this period the parts with several unfavourable problems in adolescent and premenopausal age decades. The present Editorial aims at detailing such problems especially in adolescence.

But not only the importance of this topic to public health is valid. On our opinion, it is extremely important also to enforce the link of women's health to DOHaD paradigm. In this regard, we should remind in brief that this paradigm began to be elaborated at the end of eighties of the last century with a series of investigations of English epidemiologist David J.P. Barker and his colleagues, revealing mainly the higher risk of cardiometabolic disorders in the individuals with lower birthweight (< 2.5 kg).

More than 35 years later, DOHaD paradigm is already well established all over the world, having many ramifications, first of all in life-course epidemiology and in biomedical studies on the mechanisms of programming/imprinting and embedding-like phenomena [4,5].

As for us, we joined this paradigm officially at the beginning of current century, performing several investigations of morbidity and mortality mainly in the Southern region of Brazil. These studies combined well with some results of our earlier works on experimental models of laboratory animals and primary cell cultures.

Let's turn the focus of attention finally to adolescent pregnancy as the main theme of our present Editorial. First of all, although adolescence occupies the age decade of 10-19 years, adolescent pregnancy is considered usually to occur only in the second half of this age period (15-19 years). What adverse conditions and factors can complicate adolescent pregnancy and its consequences in the long term? Some of them were already mentioned briefly in our earlier article on anemias [3]. As matter of fact, higher predisposition to anemias in the whole fertile period, together with the naturally increased anemic risk provoked by the pregnancy itself, may be greatly enhanced in several world regions, such as Sub-Saharan Africa, because of several infections, being malaria to be mentioned in the first place.

Nevertheless, unfortunately the same macroregion is distinguished, as referred to adolescent pregnancy, probably because of several other adverse factors and conditions, as follows:

- Higher fraction of population with low socio-economic status (SES), together with poor and sometimes, criminalized neighbourhood;
- Malnutrition, resulting in higher competition of maternal and fetal growth, especially in the ages close to pubertal growth spurt;
- Other infections, with a primary focus on HIV/AIDS that is well known to provoke catabolic trend.

However, even in more developed countries the adolescent pregnancy is a topic of highest priority for public health, especially in poorly developed microregions of these countries. Here we should remember about psychological peculiarities of adolescence, with higher propensity to novelty seeking and risky behavior, including unprotected sexual intercourse and drug abuse, resulting respectively in sexually transmitted diseases such as HIV/AIDS and in chemical dependence or abstinence syndrome.

What for DOHaD paradigm, our main contribution in the past was related to the role of glucocorticoids and stress in the phenomena of programming/imprinting and embedding [6,7]. It is clear to us now that the same etiopathogenic factors may operate in at least some cases of adolescent pregnancy, since accompanying malnutrition, especially with low protein content in the diet, may provoke higher degree of activation in the hypothalamo-pituitary-adrenal (HPA) axis.

On the other hand, several infections may do the same via pro-inflammatory cytokines (interleukins 1 and 6, tumour necrosis factor type alpha and probably, some others) [8]. Finally, psychosocial stress as a result of low SES and HPA activation, occuring together with drug abuse and chemical dependence [9], may greatly enhance the risk of intra-uterine growth restriction, resulting in low birthweight.

In conclusion, even higher attention should be devoted to adolescent pregnancy both in developed and especially, in developing countries. In this regard, earlier we have offered to elaborate phylo- and ontopathogenic conceptual models, as referred to DOHaD paradigm [10]. Our recent contribution to this journal (in press) outlines the power of experimental models on laboratory animals and primary cell cultures, particularly when the investigations on humans cannot be performed, because of bioethical constraints. Unfortunately, till the present moment experimental studies on adolescent pregnancy are quite scarce and should be promoted with much greater rigor in the near future.

Bibliography

1. Goudochnikov VI. “Gender differences and age-related morbidity and mortality indicate the urgent necessity for higher attention to women’s health in life-course mode”. *Acta Scientific Women’s Health* 7.10 (2025): 1-2.
2. Goudochnikov VI. “Maternal age during pregnancy: How important is it?” *Acta Scientific Women’s Health* 7.11 (2025): 1-2.
3. Goudochnikov VI and Santos Goudochnikov NV. “Anemias in the South of Brazil: Higher predisposition of women in fertile age categories, with considerations for DOHaD paradigm”. *Acta Scientific Women’s Health* 7.10 (2025): 12-16.
4. Goudochnikov VI. “Role of hormones in early postnatal development: Possible contribution to programming / imprinting phenomena”. *Russian Journal of Developmental Biology* 46 (2015): 237-245.
5. Goudochnikov VI and Prokhorov LY. “[Important contribution of perinatal nutrition and hormonal programming / imprinting to pathogenesis of age-related diseases]”. *Problemy Stareniya Dolgoletiya* (Kiev) 25 (2016): 50-58.
6. Goudochnikov VI. “Translational and some other aspects of DOHaD concept: A polemic overview related to endocrinology and public health”. *Endocrinology and Metabolism International Journal* 11 (2023): 4-7.
7. Goudochnikov VI. “Central positions of glucocorticoids and stress in the phenomena of hormonal and metabolic programming / imprinting”. *Journal of Endocrinological Science* 5.1 (2023): 1-7.
8. Goudochnikov VI. “The contribution of stress and its mediators to the ontopathogeny of infections: A focus on the interactions of cytokines and glucocorticoids”. *Advances in Gerontology (St. Petersburg)* 7 (2017): 25-28.
9. Goudochnikov VI. “[Drugs of abuse and stress hormones: Interrelationship in ontogeny]”. In: 9. Congresso de Stress da ISMA-BR. Porto Alegre, (2009) (in Portuguese).
10. Goudochnikov VI. “Environmental pollution: Considerations from the onto-and phylopathogenic models”. *Journal of Biomedical Research and Environmental Science* 4.4 (2023): 651-653.