

**"VICTOR BABEȘ" UNIVERSITY OF  
MEDICINE AND PHARMACY TIMIȘOARA  
DOCTORAL SCHOOL  
MEDICINE DOMAIN**



**Women's health concerns during a global public  
health crisis**

**ABSTRACT**

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## ABSTRACT

My name is Cîtu Ioan Cosmin, and I was born in Timișoara in 1977. After graduating high school in the "Colegiul National Bănățean" from Timișoara in 1995, I was admitted, in the same year, to the Faculty of Medicine at the University of Medicine and Pharmacy "Victor Babeș" Timișoara.

I was attracted to the field of Obstetrics and Gynecology since my university studies, following the practical internship in this field at the Clinical Hospital of Obstetrics and Gynecology Dr. Dumitru Popescu Timișoara. Later, after finishing my university studies, I opted, following the residency exam, for this domain as my specialty. Consequently, after completing my residency training, in 2006, I successfully passed the specialty exam and became a specialist in obstetrics and Gynecology, and since 2012, I have been a primary care physician in this specialty.

I started my Ph.D. studies in 2006, my doctoral thesis being entitled **"Premature placental rupture with normal insertion. Clinical, structural and experimental aspects."** This thesis was awarded in 2009, under the scientific supervision of Prof. Univ. Dr. Ioșif A. Szucsik and was confirmed by the Order of the Minister of Education no. 4698 / 14.08.2009.

The habilitation thesis, entitled **"Women's health concerns during a global public health crisis"** is the quintessence of my scientific, professional and academic activity, referring especially to the achievements obtained after obtaining the title of Ph.D. in Medicine (2009 - present).

This paper is divided according to academic standards into four parts: (i) the first part is devoted to scientific work, (ii) the second part is devoted to academic work and achievements, (iii) the third part is devoted to professional work and (iv) the last part contains an academic career development plan.

**Chapter 1** covers the main postdoctoral scientific research achievements and covers the primary areas of research, presenting original studies, books, articles published in international journals, indexed ISI or BDI, and scientific papers presented at national and international congresses, in the current scientific context of Obstetrics and Gynecology. In this chapter, we also find materials of interest other than those directly related to Obstetrics

and Gynecology. These are original and innovative works in the areas of secondary research of which we were the main author and important methods of mass dissemination, such as textbooks or course materials.

This chapter also contains the evolution of my scientific development, achievement, and national or international professional recognition. Throughout my professional, medical, scientific, and academic career, I have attended a considerable number of national and international congresses, participated in poster sessions, oral presentations, and as an invited speaker. I am also a reviewer for numerous Clarivate Web of Science indexed journals of high international prestige, including Scientific Report (Nature), iScience (Cell Press- Elsevier), Plos One, Diagnostics (Basel), Vaccines and Viruses.

Regarding the relevance and impact of my scientific results, the chosen research topics address multidisciplinary directions and aspects of Obstetrics and Gynecology, with complex integrative and multidisciplinary interferences, proven in published books and articles that attest originality, topicality, integration of scientific concepts, high scientific level, synthesis capacity and a complex approach to the topics in the field.

As regards the scientific papers, I have published 37 in extenso articles, as the main author or in collaboration with other authors, in Clarivate Web of Science indexed scientific journals and 15 in extenso papers in BDI, international databases indexed in scientific journals. In addition, I have published 30 articles in ISI, BDI indexed journals with ISSN / ISBN. The publications in the various international ISI journals have had a scientific impact and are recognized, accumulating a total of 292 citations in the ISI Web of Science system and a Hirsch index= 8. I have held scientific events and participated in the patenting of an electronic medical device. In addition, I have written and published 2 monographs and 5 book chapters in CNCSIS-recognized publishers.

Recently, I have been particularly interested in the controversies concerning women's health issues during a global public health crisis, considering the current context of the SARS-CoV2 pandemic. Thus, the first section of this chapter presents the scientific achievements on the three research directions followed recently, namely, maternal health research during pregnancy during a public health crisis, gynecological concerns during a global public health crisis, and insights on SARS-CoV-2 infection.

The research is original, innovative, and valuable as it contributes to our understanding of the field of Obstetrics and Gynecology, particularly concerning the COVID-19 pandemic.

*First*, based on the knowledge gained during the preparation of my Ph.D. thesis, I have continued my research on the spectrum of pathology in the field of Obstetrics and

Gynecology, emphasizing infectious pathology. With the onset of the global crisis represented by the COVID-19 pandemic, I have focused on the implications of this infection on women's health, both obstetrically and gynecologically.

Thus, in view of the uncertainty of SARS-CoV-2 transmission, we conducted a study on the assessment of vertical transmission of this virus and neonatal complications. This study, the results of which were published in the article *“Assessing SARS-CoV-2 Vertical Transmission and Neonatal Complications”* (J Clin Med. IF= 4.242), concluded that SARS-CoV-2-positive pregnant women do not put their babies at additional risk of infection through breastfeeding and breast milk.

With the advent of a vaccine against this virus, a worldwide controversy arose about the safety of its administration to pregnant women. We, therefore, considered it necessary to study the risk of vaccination on the normal course of pregnancy and physiological neonatal development. Following two studies whose results were published in the articles *“Immunogenicity Following Administration of BNT162b2 and Ad26. COV2. S COVID-19 Vaccines in the Pregnant Population during the Third Trimester”* (Viruses. IF= 5.048) respectively *“The Risk of Spontaneous Abortion Does Not Increase Following First Trimester mRNA COVID-19 Vaccination”* (J Clin Med. IF= 4.242), we concluded that the negative impact profile and short-term obstetric and neonatal outcomes of pregnant women who received the vaccines at any stage of pregnancy are not of concern. Most organizations in the field of Obstetrics and Gynecology, including the Romanian Society of Obstetrics and Gynecology, as well as the World Health Organization have recommended the vaccination of pregnant women against SARS-CoV-2. However, there has been some reluctance on the part of these women, as the vaccination rate among pregnant women and the general population in Romania is extremely low. Therefore, we considered it necessary to conduct a study to investigate the prevalence and degree of the hesitancy of the COVID-19 vaccine among pregnant women in Romania and the factors influencing their decision. This research highlights the critical need to offer immunization against COVID-19 to the whole community, including pregnant women who may have concerns about vaccination.

Additionally, with the increasing prolongation of this global crisis period, which has involved restrictions on routine activities and in-hospital preventive measures, the need for mental health investigation has emerged. Given the known fact that pregnant women are predisposed to these disorders, I considered it necessary to turn my attention to this less studied pathology in pregnancy at the national level. Thus, in the article *“Prevalence and Risk Factors of Postpartum Depression in Romanian Women during Two Periods of*

*COVID-19 Pandemic*" (J Clin Med. IF= 4.242), I conclude that the COVID-19 pandemic represents an impact on women's mental health in the postpartum period, further increasing the risk of developing postpartum depression.

More recently, within this line of research that I have focused on in recent years, I wanted to investigate aspects of nutrition during pregnancy in the context of the pandemic. Thus, I contributed to the development of two studies whose results were published in the articles *"The Influence of Nutritional Supplementation for Iron Deficiency Anemia on Pregnancies Associated with SARS-CoV-2 Infection"* (Nutrients, IF= 5.719) and *"The Additive Value of Micronutrients on Maternal Immune Response after SARS-CoV-2 Infection"* (Nutrients IF=5.719). It is imperative to screen for iron and folic acid deficiency in pregnant women at risk of complications, and supplementation of nutritional intake of these two elements is recommended to promote normal newborn development and growth and to avoid multiple complications during pregnancy in the context of the COVID-19 pandemic.

In the second line of research that I have addressed in recent years, I have focused on gynecological concerns during a global public health crisis. Unfortunately, the COVID-19 pandemic has put enormous pressure on health systems and access to cancer screening and care. Thus, we considered it necessary to develop research among the Romanian population on the impact of the pandemic on cervical cancer diagnosis and management. Thus, by publishing two articles, *"COVID-19 Pandemic Impact on Surgical Treatment Methods for Early-Stage Cervical Cancer: A Population-Based Study in Romania"*. (Healthcare, IF=2.645) and *"COVID-19 Pandemic Effects on Cervical Cancer Diagnosis and Management: A Population-based Study in Romania"* (Diagnostics, IF=3.706), we provided a comprehensive analysis of the effects of the COVID-19 pandemic on medical and surgical management, disease-free survival, and overall survival in patients with early-stage cervical cancer. Additionally, we demonstrated that cervical cancer screening tests performed by Pap smears, HPV tests, and colposcopy, and treatment volumes decreased significantly in the first 24 months of the COVID-19 pandemic compared with the pre-pandemic period.

Finally, even though my interest in this virus was primarily concerning pregnant women, I decided to get involved in a few other issues concerning COVID-19 in the general population or other groups of patients. In this subchapter, which has been the third area of study in recent years, I present studies that have mainly aimed to determine diagnostic and predictive methods for COVID-19 complications. Although these studies have been carried out on the general population, they can also be adapted to pregnant women.

Chapter 1 also presents all the postdoctoral scientific work carried out, representing studies on an extremely broad spectrum of obstetric and gynecological pathology. The postdoctoral research included, besides the implications of infections in obstetrics and gynecology, other topics, especially related to pregnancy complications, among which I list placental abruption, umbilical cord pathologies, amniotic fluid pathologies, allopathic treatments, phytotherapy, thrombophilia in pregnancy, pre-eclampsia. Secondary interests of postdoctoral research are various therapeutic methods, in particular phytotherapy.

**Chapter 2** includes aspects of academic developments and achievements. Thus, we have gone through all stages of the academic hierarchy. In 2002, I became an assistant professor in the Department of Obstetrics and Gynecology at the University of Medicine and Pharmacy "Victor Babes" in Timisoara. In 2006 I became a University Assistant in the same discipline, and in 2017 I obtained the title of Head of Papers. I have been involved in the adaptation and modernization of teaching activities following current European and international requirements and models. I have developed teaching materials, and new courses. I also coordinated papers presented by students/resident doctors at various scientific events and numerous diploma papers. I have been part of committees for specialist examinations, primary examinations, and licensing examinations.

**Chapter 3** includes the development and main post-doctoral professional achievements. In 2007 I became a specialist in obstetrics and gynecology, and since 2012 I have been a primary care physician in this specialty. Also, my managerial experience is proven by the fact that in 2009 I held the position of manager of the "Dr. Dumitru Popescu" Clinical Hospital of Obstetrics and Gynecology in Timișoara.

**Chapter 4** elaborates my plans for the evolution and development of my teaching and research career. Teaching is a noble profession, which can only be achieved with dedication and passion. Maintaining, improving, and developing the quality of a teacher can only be achieved through personal development that is born from a burning motivation and a strong inner desire for continuous improvement. Therefore, I must continue research in the field of obstetrics and gynecology along with the development of current and future clinical and scientific practices.

The integration of graduates into the medical labour market, by making use of the skills acquired during their studies, is a great achievement of university activities. It is therefore important to adapt the educational offer to the quality and performance requirements of modern medicine. Personally, this means high-level professional training. It is imperative to continuously develop the method of training students in the field of obstetrics and

gynecology, towards teaching and learning of specialist concepts in accordance with European and international standards.

Through the future coordination of doctoral theses, I believe that I will be able to stimulate the work of new doctoral students, which will lead to the dissemination of the results of doctoral research in the scientific environment, both nationally and internationally. Last but not least, this opportunity will also help increase the visibility of the University. Interdisciplinary collaboration, multidisciplinary and innovative evidence-based research are at the heart of my desire to be able to guide and help future PhD students.

Bibliographical references, used to describe the research activities described in the previous sections, can be found at the end of this paper.