

Perinatology – the link between Obstetrics and Neonatology

Vlad Dima

Department of Neonatology, Filantropia Clinical Hospital, Bucharest, Romania

ABSTRACT

Starting from the end of the XIXth century, a decrease in infant mortality was observed worldwide. Care of preterm infants became the domain of dedicated units inside hospitals and technology became more complex. Neonatal Intensive Care Units were created throughout the world, increasing infant survival chances regardless of age and pathology. Alongside Neonatology, better means of investigating the pregnancies were discovered. Ultrasound use during pregnancy improved the chances of identifying complex genetic syndromes, some incompatible with survival after birth.

It is considered that Stéphane Tarnier (1828–1897) is the architect of Perinatology, many of his inventions had a major role in the evolution of Obstetrics and Neonatology (the Tarnier forceps, the basiotribe, intrauterine balloon for inducing the labor, gavage feeding of the preemies).

But only in 1967 the term “perinatology” was mentioned for the first time in a German paper. Professor Emeritus Erich Saling is the father of perinatology. He introduced the evaluation of gas exchange for the fetus during labor and the examination of amniotic fluid during the last weeks of pregnancy.

Today, Perinatology is a widely used concept, but the road to creating this concept was long and needed the work of many prominent doctors.

Keywords: Obstetrics, Neonatology, Perinatology, high-risk pregnancies, preemies

High-risk pregnancies have always been the prerogative of Perinatology. Special follow-up during pregnancy is necessary for every complicated pregnancy. The best support in these cases is provided in tertiary maternity hospitals with highly trained staff in Obstetrics and Neonatology.

The pregnant woman at risk should be deferred until the end of pregnancy, with facilitated transit between health services, ensuring appropriate care in a timely manner. Risk assessment should take place on an individualized basis during history, with a reassessment of gestational risk in all antenatal consultations [1]. Worldwide, 10%–30% of pregnancies are estimated to be “at risk” [2,3,4,5].

In recent years, multidisciplinary teams consisting of obstetricians, neonatologists and geneticists have been able to improve the quality of high-risk pregnancy monitoring. Pregnancy can be felt as a

time of additional risk for women living with a chronic disease that requires increased monitoring or supervision [6].

Older primiparous women are more likely to be single, have chronic conditions, and have higher rates of gestational diabetes, gestational hypertension, and preeclampsia/eclampsia. Multiple pregnancies carry additional risk and may reduce the effect of age. In a multivariable analysis, age ≥ 45 was an independent risk factor for gestational diabetes, gestational hypertension, and preeclampsia/eclampsia. Preexisting and pregnancy-related hypertension is the most common complicating conditions, particularly due to their high prevalence in older and overweight women. The chances of being diagnosed with chronic hypertension are two to four times higher in women aged ≥ 35 years [compared to 30–34 years] [7,8].

Corresponding author:

Vlad Dima

E-mail: dima.vlad@yahoo.com

Article History:

Received: 2 September 2022

Accepted: 8 September 2022

Women with risk factors for high-risk pregnancies have a one-in-four chance of developing complications than those with low-risk high-risk pregnancies, who have almost a one-in-ten chance [9]. The central focus of maternal and child care programs has been on the detection of at-risk pregnancies to prevent women from developing obstetric complications at birth [10]. Risk assessment is a key component of antenatal care and has demonstrated benefits in improving maternal and perinatal outcomes [11,12,13].

Thoughtful messages about age diversity in health care settings and other maternal care settings can reduce negative perceptions of age-related reproductive health stereotypes and any potential for psychosocial, affective, behavioral, cognitive, psychophysiological, and relational harm. Similarly, positive public health information about the health of older mothers-to-be and their children can help reduce age-based reproductive health stereotypes [14].

Conflict of interest: none declared

Financial support: none declared

REFERENCES

1. Ministerio da Saude (BR). Portaria no 1.020, de 29 de maio de 2013. Institui as diretrizes para a organizacao da Atencao a Saude na Gestacao de Alto Risco e define os criterios para a implantacao e habilitacao dos servicos de referencia a Atencao a Saude na Gestacao de Alto Risco, incluida a Casa de Gestante, Bebe e Puerpera (CGBP), em conformidade com a Rede Cegonha [Internet]. Brasilia: Ministerio da Saude; 2013. Available from: http://bvsm.s.saude.gov.br/bvs/saudelegis/gm/2013/prt1020_29_05_2013.html
2. Medeiros FF, Santos IDL, Ferrari RAP, Serafim D, Maciel SM, Cardelli AAM. Prenatal follow-up of high-risk pregnancy in the public service. *Rev Bras Enferm*. 2019 Dec;72(suppl 3):204-211. English, Portuguese.
3. Jaideep KC, Prashant D, Girija A. Prevalence of high risk among pregnant women attending antenatal clinic in rural field practice area of Jawaharlal Nehru Medical College, Belgavi, Karnataka, India. *Int J Community Med Public Health*. 2017; 4(4):1257-9.
4. Mehta B. Prevalence and correlates of high risk pregnancy in rural Haryana: a community based study. *Int J Appl Basic Med Res*. 2013; 3(2):212-7.
5. Nesbitt RE Jr, Aubry RH. High-risk obstetrics: II. Value of semiobjective grading system in identifying the vulnerable group. *Am J Obstet Gynecol*. 1969; 103(7):972-85.
6. Tyer-Viola LA, Lopez RP. Pregnancy with chronic illness. *J Obstet Gynecol Neonatal Nurs*. 2014 Jan-Feb;43(1):25-37.
7. Jolly M, Sebire N, Harris J, et al. The risks associated with pregnancy in women aged 35 years or older. *Hum Reprod* 2000;15:2433-2437
8. Correa-de-Araujo R, Yoon SSS. Clinical Outcomes in High-Risk Pregnancies Due to Advanced Maternal Age. *J Womens Health (Larchmt)*. 2021 Feb;30(2):160-167. doi: 10.1089/jwh.2020.8860. Epub 2020 Nov 13. PMID: 33185505; PMCID: PMC8020515.
9. Prual A, Toure A, Huguet D, Laurent Y. The quality of risk factor screening during antenatal consultations in Niger. *Health Policy Plan*. 2000; 15(1):11-6.
10. Groot A, Slort W, Van Roosmalen J. Assessment of the risk approach to maternity care in a district hospital in rural Tanzania. *Obstet Gynecol Int J*. 1993; 40(1):33-7.
11. Jordan RG, Murphy PA. Risk assessment and risk distortion: finding the balance. *J Midwifery Womens Health*. 2009; 54(3):191-200.
12. Dujardin B, Clarysse G, Criel B, De Brouwere V, Wangata N. The strategy of risk approach in antenatal care: evaluation of the referral compliance. *Soc Sci Med*. 1995; 40(4):529-35.
13. Kolluru V, Reddy A. Study of high risk scoring in pregnancy and perinatal outcome. *IJOGR*. 2016;3(4):407-9.
14. Rajbanshi S, Norhayati MN, Nik Hazlina NH. High-risk pregnancies and their association with severe maternal morbidity in Nepal: A prospective cohort study. *PLoS One*. 2020 Dec 28;15(12):e0244072.
15. Wall SN, Lee AC, Niermeyer S, English M, Keenan WJ, Carlo W, Bhutta ZA, Bang A, Narayanan I, Ariawan I, Lawn JE. Neonatal resuscitation in low-resource settings: what, who, and how to overcome challenges to scale up? *Int J Gynaecol Obstet*. 2009 Oct;107(1):S47-62, S63-4.