



## **TO DETERMINE THE RISK FACTORS FOR PREMATURE BIRTH AND EARLY DIAGNOSE THEM.**

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<b>Article history:</b>	<b>Abstract:</b>
<b>Received:</b> October 4 <sup>th</sup> 2023 <b>Accepted:</b> November 4 <sup>th</sup> 2023 <b>Published:</b> December 6 <sup>th</sup> 2023	We use all the information about the risk factors of premature birth or preterm birth from the online resource websites, which are PubMed, MedScape, the World Health Organization, Elsevier, and other websites. By analyzing all the data, we are able to gain an understanding of all the risk factors for premature birth, all the diagnostic methods, and the latest information about them. We hope that by clarifying that the effectiveness of various interventions aimed at reducing preterm births is not maximally beneficial, which does not reduce the rate of preterm births, early detection and diagnosis of them, rather than at the last stage, will develop measures[1,2].

**Keywords:** premature birth, intact membrane, Chorioamnionitis, psychosocial stress, maternal primary hypertension, diabetes mellitus

### **INTRODUCTION**

Preterm birth is defined as babies born alive before the 37th week of pregnancy is completed and is a major public health problem. At the moment, according to the World Health Organization, there are sub-categories of preterm birth based on gestational age[1]:

- extremely preterm (less than 28 weeks)
- very preterm (28 to less than 32 weeks)
- moderate to late preterm (32 to 37 weeks).

This situation is the primary cause of perinatal mortality and morbidity in developed countries; preterm birth is the direct cause of 35% of all neonatal deaths worldwide. It is classified into two subtypes: (a) spontaneous preterm birth: the initiation of spontaneous labor or induction of labor following a preterm premature rupture of the membranes; and (b) preterm birth initiated by the provider: the initiation of labor or elective caesarean section before 37 weeks of complete gestation due to maternal or fetal indications (iatrogenic)[3,4].

Premature birth is linked to up to two-thirds of perinatal death and half of long-term neurologic

### **MATERIALS AND METHODS**

In this study, we selected all the one latest data from the top medical online websites. They are PubMed, MedScape, and other specific journals, the World Health Organization website. All the collected data were analyzed and compared to each other. The most basic ones were the ones that found their confirmation, and then modern thoughts and ideas were given. The main risk factors of preterm birth:

disorders, including cerebral palsy. Infants are delivered prematurely as a result of spontaneous labor with intact membranes (45%), preterm membrane rupture (30%), and labor induction or cesarean section for maternal or fetal reasons (25%)[5].

Babies may be delivered prematurely due to natural preterm labor or because there is a medical reason to plan an early induction of labor or caesarean delivery.

Preterm labor is currently understood to be a condition caused by a combination of factors such as infection or inflammation, uteroplacental ischaemia or hemorrhage, uterine overdistension, stress, and other immunologically driven processes.

The purpose of this article is to go over the risk factors for preterm delivery and analyze plausible reasons for all of them. This essay will concentrate on the vast majority of cases: Being black or African American, being under the age of 18 or over the age of 40, having a poor socioeconomic status, not receiving prenatal care, smoking tobacco, using narcotics, having a urinary or lower genital tract infection, experiencing high levels of stress, and suffering from anemia are all risk factors[9].

**Socioeconomic factors.** The population's social and economic status contributes significantly to the main cases of preterm birth. One of the biggest problems in developing countries is inadequate hygiene and undernourished mothers as a result of a low socioeconomic background, which is critical when considering the quality of child health<sup>(10)</sup>. Recent literature suggests that psychosocial stress during pregnancy plays a major role in the etiology of preterm birth[6,7,8]. In recent research on psychosocial stress during pregnancy, stress has constructs (i.e., exposures



measured independently of the individual's perception of them, such as a death in the family, becoming unemployed, natural disasters, or war-related violence) and subjective measures of stress levels. Although trait anxiety, numerous studies have identified a link between pregnancy-related anxiety and preterm birth or reduced gestation[10]. Although trait anxiety may protect against preterm birth, perceived stress and pregnancy-related anxiety appear to be the stress variables most consistently associated with preterm birth risk. These findings promote the investigation of pregnancy-related anxiety and perceived stress avoidance techniques in randomized clinical trials of pre-natal intervention programs.

**Inflammation/infection.** Although there are several underlying causes of pregnancy-related complications, it is well documented that infection and inflammation are a substantial risk factor in preterm birth. In reality, at least 25% of all preterm birth patients had infection. Notably, 79% of patients with severe preterm birth tested positive for an infectious insult, indicating that infection and infection-associated inflammation influence parturition time. Pathogens (including bacteria, viruses, and fungi) that spread systemically or through the placenta play a crucial role in the development of preterm birth. The detection of pathogens or endogenous ligands (discovered during tissue injury and/or inflammation) by innate immune receptors, followed by the induction of immune mediators, is critical for shaping the phenotype and activity of various innate immune cells that predominate in the decidua and are known to participate in the labor process. Furthermore, such findings show that an infection and/or inflammatory triggers alter homeostasis, either systemically or at the maternal/fetal interface, and lead to poor pregnancy outcomes. Furthermore, preterm birth is frequently caused by intrauterine infection/inflammation. The presence of such an unfavorable in utero environment might result in fetal damage. Chorioamnionitis, defined as bacterial infection-induced inflammation of the fetal membranes, is a risk factor for illnesses such as cerebral palsy, necrotising enterocolitis, and patent ductus arteriosus.

**Placental disorders.** Induction of labor or caesarean section done for maternal or fetal causes such as preeclampsia, haemorrhage, nonreassuring fetal heart rate, or intrauterine growth restriction account for around one-third of all cases[11,12]. Pathologists are regularly called upon to assess preterm placentas, ascertain the reason of spontaneous preterm delivery, and/or link placental abnormalities with clinical history. Induction of labor, with or without artificial membrane rupture, and caesarean section delivery in situations of

recommended preterm birth are commonly used to treat maternal hypertensive disorders of pregnancy, as well as non-reassuring fetal heart rate and IUGR. The pathology of the spectrum of pregnancy-induced hypertensive conditions as they relate to IUGR and the placental pathology associated with IUGR. These abnormal features in the placenta can be detected in both preterm and term placentas. Other disorders that predispose to maternal indications for preterm birth, such as vasculopathy and thrombosis associated with maternal primary hypertension or diabetes mellitus (maternal vascular obstructive lesions), are also closely related to those that result in underperfusion of the placental bed and risk of IUGR[15,16,17,18,19]. These abnormal features in the placenta can be detected in both preterm and term placentas. Other disorders that predispose to maternal indications for IPTB, such as vasculopathy and thrombosis associated with maternal primary hypertension or diabetes mellitus (maternal vascular obstructive lesions), are also closely related to those that result in underperfusion of the placental bed and risk of IUGR[13,14,20]. Thus, the placenta in preterm delivery represents not only a record of unfavorable intrauterine circumstances that resulted in SPB or necessitated an IPB, but it also likely provides clues to identifying which individuals will be at heightened risk of acquiring chronic disorders in childhood.

## CONCLUSION

It is critical to do more research that precisely defines the processes through which risk variables are associated to preterm birth. With a better knowledge of these pathways, doctors should be able to create suitable therapies to lower the incidence of preterm delivery and accompanying fetal and neonatal morbidity and death.

## REFERENCES

1. Ohuma E, Moller A-B, Bradley E (in press). National, regional, and worldwide estimates of preterm birth in 2020, with trends from 2010: a systematic analysis. *Lancet*. 2023
2. [www.who.int/news-room/fact-sheets/detail/preterm-birth](https://www.who.int/news-room/fact-sheets/detail/preterm-birth)
3. Blencowe H, Cousens S, Chou D, et al. Born too soon: the global epidemiology of 15 million preterm births. *Reprod Health*. 2013;10(suppl 1):S2. [PubMed: 24625129]
4. Blencowe H, Cousens S, Oestergaard MZ, Chou D, Moller AB, Narwal R, et al. National, regional, and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected



- countries: A systematic analysis and implications. *Lancet* 2012; 379: 2162-2172.
5. Goldenberg RL, Culhane JF, Iams J, Romero R: The epidemiology and etiology of preterm birth. *Lancet* 371, 75–84 (2008). Crossref. PubMed. ISI.
  6. Robertson PA, Sniderman SH, Laros RK Jr, et al: Neonatal morbidity according to gestational age and birth weight from five tertiary care centers in the United States, 1983 through 1986. *Am. J. Obstet. Gynecol.* 166, 1629–1641 (1992). Crossref. PubMed. ISI.
  7. Epidemiology and causes of preterm birth Robert L Goldenberg<sup>1</sup>, Jennifer F Culhane, Jay D Iams, Roberto Romero Affiliations expand PMID: 18177778 PMCID: PMC7134569 DOI: 10.1016/S0140-6736(08)60074-4
  8. Iams JD et al. (1998) The Preterm Prediction Study: recurrence risk of spontaneous preterm birth. National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. *Am J Obstet Gynecol* 178 (5), 1035–40. [PubMed: 9609580]
  9. Абдулазизова Ш. и др. Влияние физических факторов на морфофункциональные особенности вилочковой железы (обзор литературы) //Центральноазиатский журнал образования и инноваций. – 2023. – Т. 2. – №. 10. – С. 5-9.
  10. Ш Абдулазизова. Особенности применения противовирусных препаратов при H1N1-ассоциированной пневмонии. Современные медицинские исследования, 23-24, 2017
  11. Isaqova, N.R. Influence of constipation on anthropometric indicators of children. *Science and Innovation, Volume 1, Issue 8, pp. 888-892, 2022.*
  12. Tilyakhodzhaeva G.B. Hirudotherapy as a Method of Treatment of Arterial Hypertension, *Бюллетень науки и практики* 8(6), 452-455, 2022.
  13. N.X. Fattaxov, A.R. Abdulxakimov, G.B.Tilyaxodjayeva. Effects of diet on hirudotherapy. *New day in medicine.* 181-183. 2021
  14. Isakova N.R. The effect of constipation due to diseases of the colon on the anthropometric parameters of children. *Asian journal of multidimensional research, Volume:10, Issue 5, pp. 666-669*
  15. IN Raxmatjonovna. Effects of colonic diseases on children's health. *World bulletin of public health* 23, 101-103, 2023
  16. Y.Nishonov., A.Abdulhakimov., N.Madrahimova. Scientific bases of methods for studying anthropometry of the eye bowl. *Science and Innovation, Volume 1, Issue 8, pp. 1001-1006, 2022.*
  17. 7-18 ёшли болаларнинг кўз косаси антропометриясини ўрганиш. Ю.Н.Нишонов., А.П.Абдулхакимов., Н.П.Мадрахимова. *Scientific impulse* 1(5), 910-913, 2022.
  18. Palvanova M.S. Morphological changes in the bone tissue of the child's body in the age aspect. *World Bulletin of Public Health, 94-96, 2023*
  19. P.T.Юсупова, O.E. Шаланкова Репродуктивное здоровье девочек-подростков, проживающих в условиях Ферганской долины. *Университетская наука: взгляд в будущее, 612-614, 2020*
  20. Palvanova M.S., Akhmatov B.K. Chronic myeloid leukemia epidemiology in the Fergana region over decade from 2010 until 2020. *Science and innovation, Volume1, issue 8, pp. 1020-1025*